

McKinsey&Company

Evaluating Landspítali university hospital

MINISTRY OF WELFARE – ICELAND

Final presentation | September 7, 2016

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Background to this report

After the Icelandic financial crisis in 2008, healthcare spending was cut due to the state of public finances. As they have recovered in recent years, healthcare costs across the system have increased again at a rapid pace. During this tumultuous time, Landspítali's financial situation has been a subject of vigorous public debate. The debate intensified in 2015 and as a result, the Icelandic government made a decision in the fall of 2015 to conduct a review of the operational and financial efficiency of Landspítali resulting in this report.

The focus of this report is Landspítali's production, cost effectiveness, and labor force effectiveness, as well as resource utilization and quality of outcomes. In addition, some of the system dynamics relevant to Landspítali have been considered, such as the interplay with the primary care and private specialist systems. Results are structured and presented as four strategic themes most closely related to Landspítali's performance, and one section that covers the Icelandic healthcare system as a whole. The report follows this structure.



PRODUCTION AND PLANNING



COST AND LABOR FORCE
EFFECTIVENESS



STAFF STRUCTURE



QUALITY



ROLES IN THE SYSTEM



1. PRODUCTION AND PLANNING

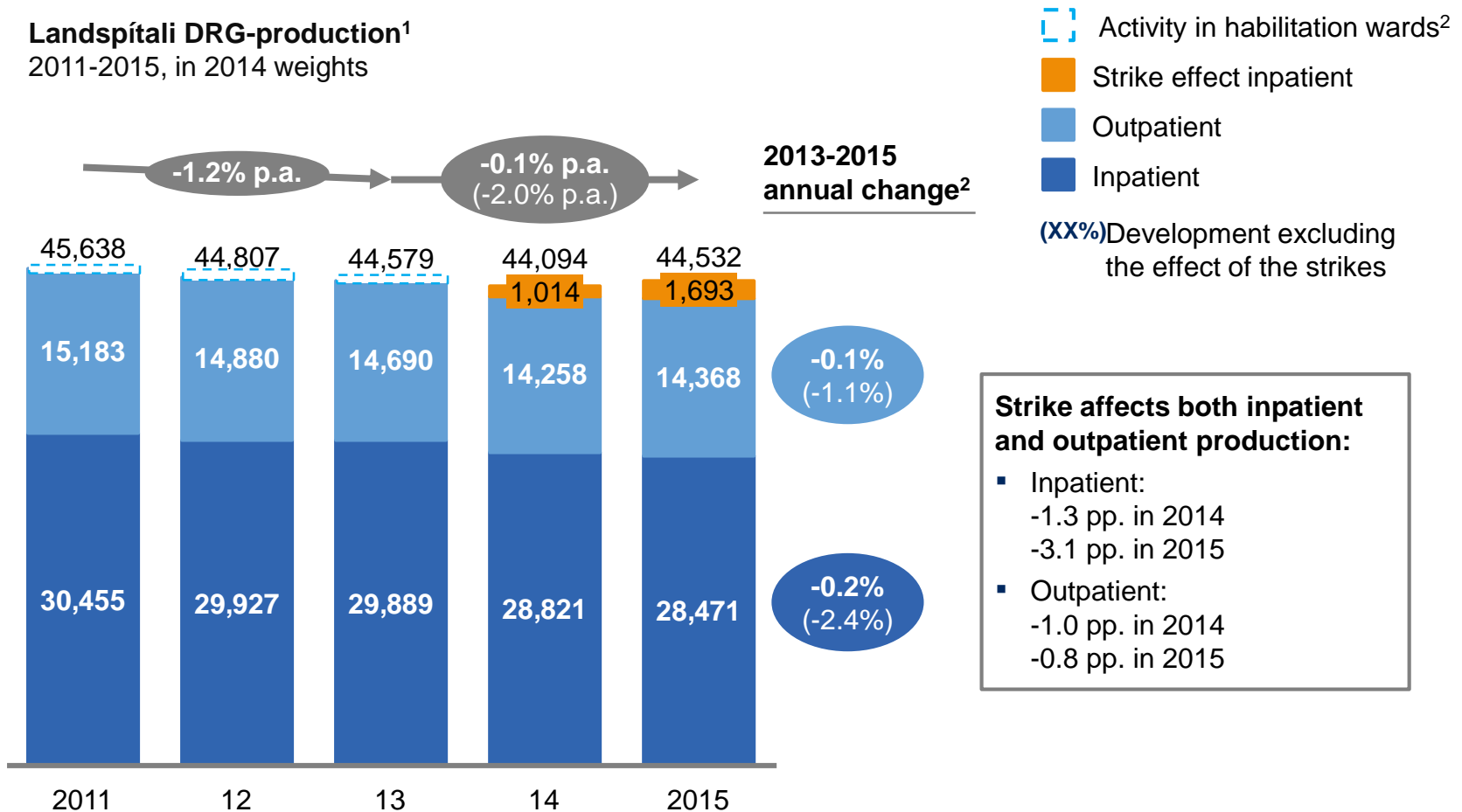


PRODUCTION AND PLANNING

- Overall, Landspítali production is declining, even when accounting for the estimated effect of the 2014-15 strikes, mainly driven by a decrease in the number of patients admitted to inpatient wards
- While much of this development is beneficial, there seems to be an overall lack of strategic direction to steer the development of services across the system
 - In internal medicine and women’s and children’s services, there is an overall decrease in activity at Landspítali, as well as a shift from inpatient services at Landspítali to outpatient services in the private system. This is happening across clinical areas, also in services that would benefit from an integrated university hospital setting
 - Surgical services have successfully shifted activity to outpatient settings in Landspítali, but even so, waiting lists have increased
 - While DRG reporting practices differ, there are indications that outpatient services at Landspítali consist of a larger share of relatively low complexity often urgent care, while the share of more advanced outpatient care is lower
- To ensure efficient structuring of the healthcare system, more active system-level planning of production development is needed and as a related task Landspítali’s priorities need to be clarified.

Landspítali production has been declining even when accounting for estimated effect of strikes

Landspítali DRG-production¹
2011-2015, in 2014 weights



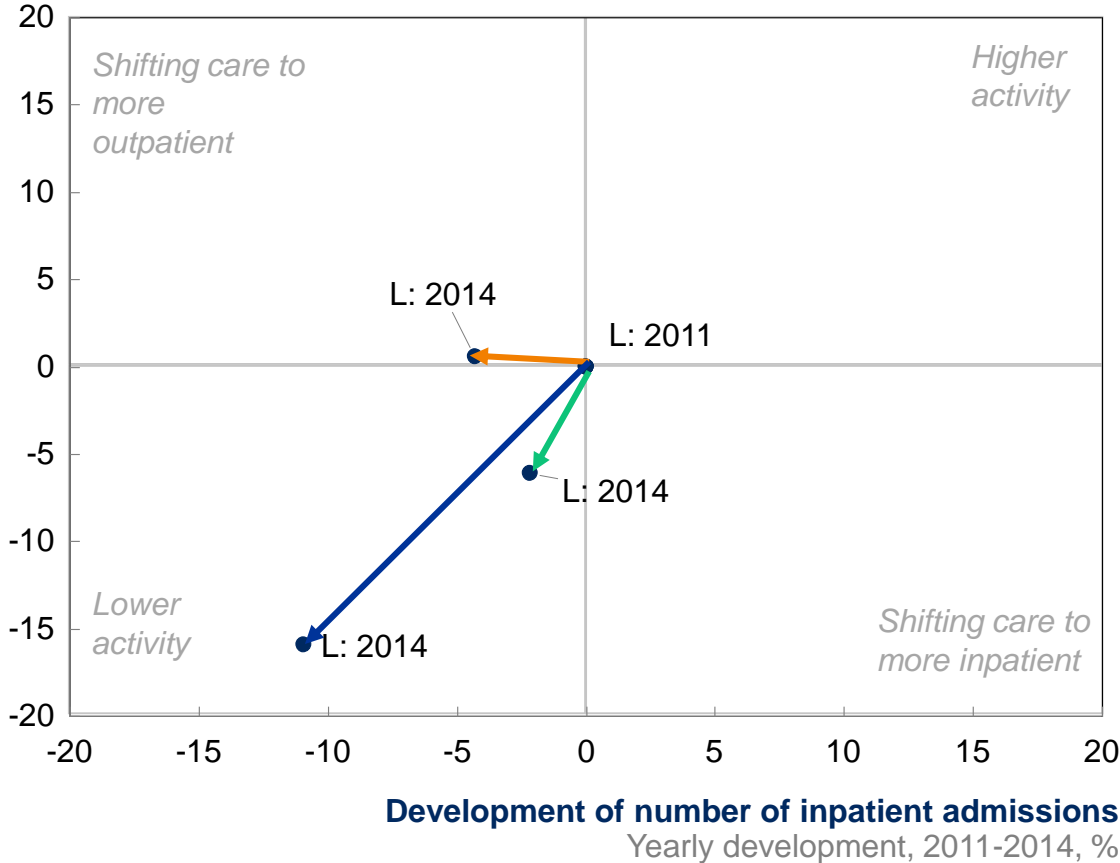
Excluding newborns, accompanying fathers and the patient hotel. Including unfinished stays and visits (using average weights each year). Outpatient episodes include phone calls, visits, emergency and day cases. Total numbers excluding habilitation Production attributable to the habilitation wards that Landspítali ran until 2013, but was taken out of the hospital in late 2013. Activity from these wards are excluded in this analysis, however included in exhibit 4

Internal medicine: Dynamics within specialties where inpatient volumes are declining

Development of outpatient visits

Yearly development for fastest declining specialties, 2011-2014, %

INDICATIVE



- L: Landspítali production
- L & PS: Landspítali & Private specialist production
- Cardiology
- Neurology
- Hematology

- **Cardiology and hematology** volumes are captured by private specialists
- **Neurology** is captured partly by Landspítali outpatient activity. The overall system decline in activity can partly be explained by a lack of neurology specialists
- The development is seen across the board, while at least some of the more complex internal medicine patients would **benefit from a university hospital setting**

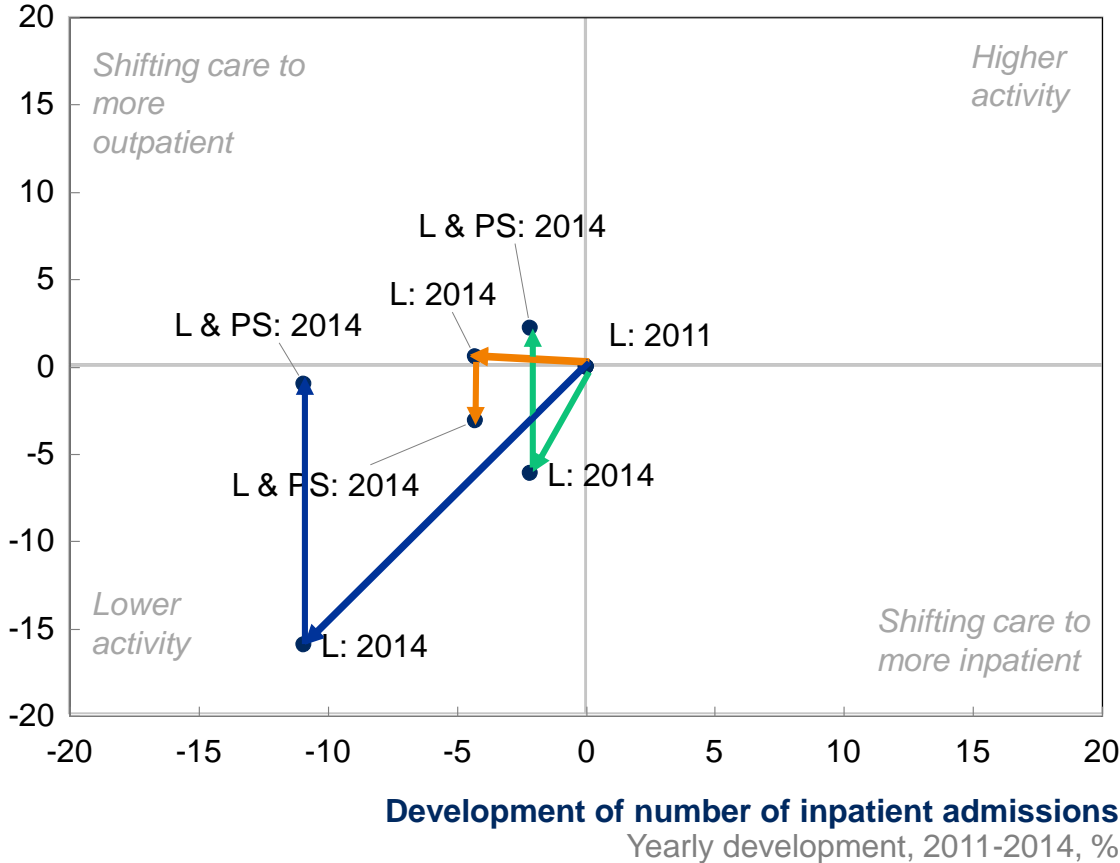
Note: As activity in the private system is not tracked or followed using volume measures that define the type of care provided, volumes have been estimated based on the specialty of the private physician, regardless of what activity has been performed. This is matched to the internal medicine volumes at Landspítali based on the MDC groups of the DRG production. Internal medicine DRG volumes are grouped according to Medical Diagnostic Category (MDC) following international standards. Cardiology volumes are estimated based on circulatory system MDCs, Neurology on nervous system MDCs, Hematology is given as Myeloproliferative DDs, making up 25%, 9%, and 4% of the total internal medicine activity respectively. While these methodologies are not directly comparable, it provides a good estimate of the overall development in the system. Landspítali outpatient activity excludes phone visits

Internal medicine: Dynamics within specialties where inpatient volumes are declining

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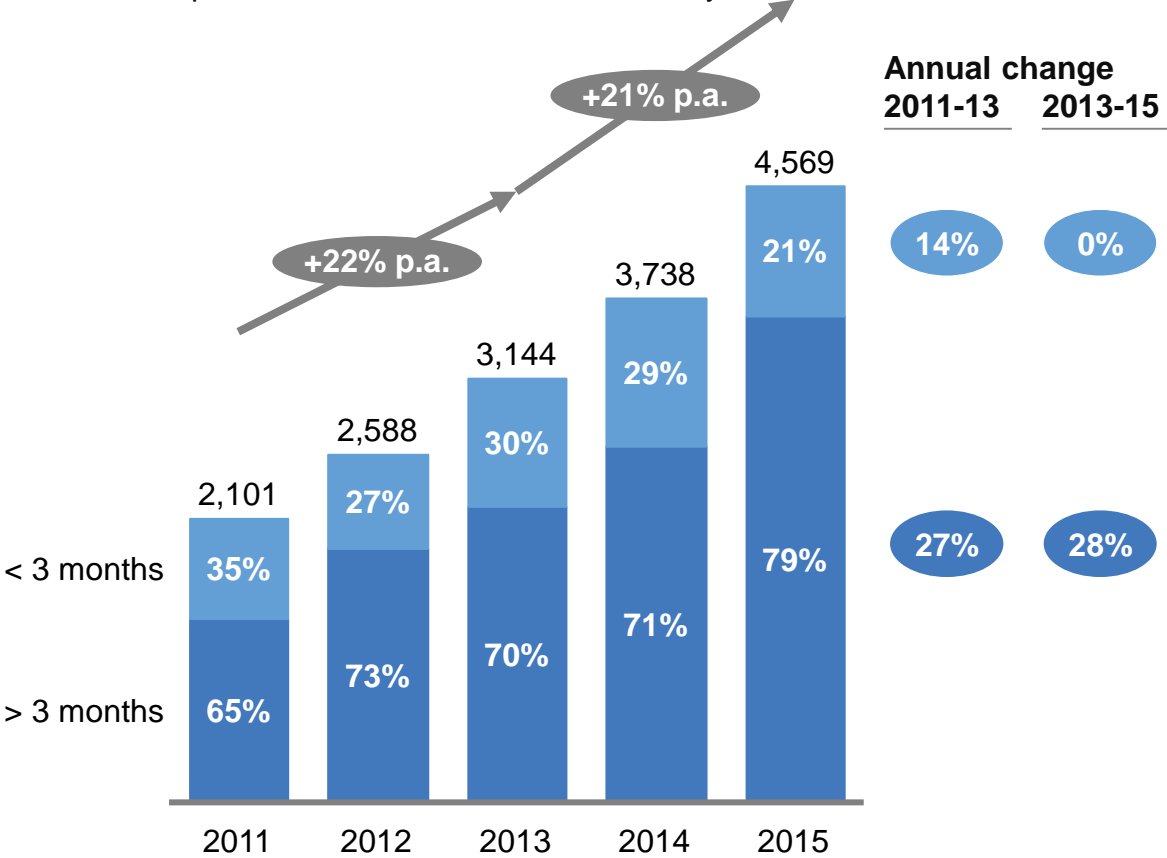
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There is a high and increasing share of patients waiting for surgical procedures for more than 3 months

Number of patients waiting for surgical procedures
 Number of patients, measured in October each year

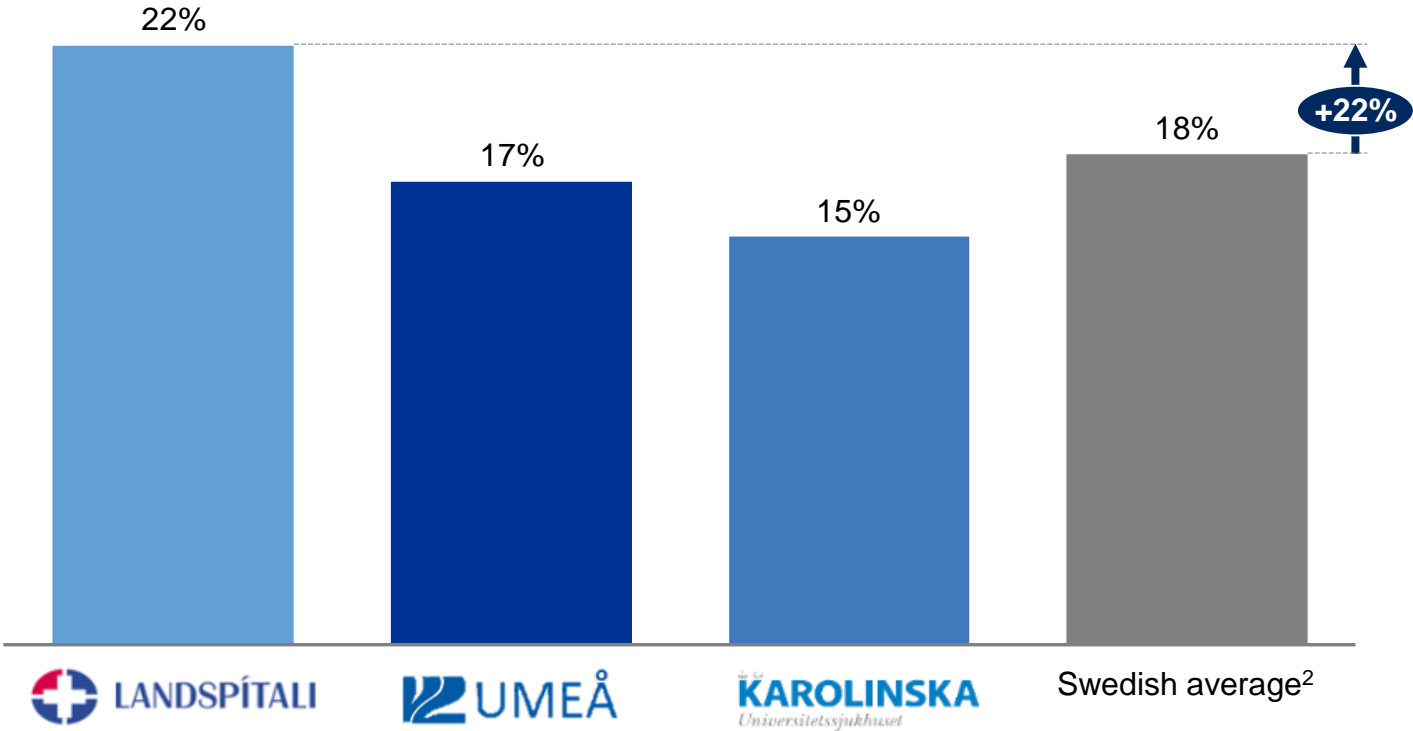


- The waiting list challenge at Landspítali began to develop as a result of constraints following the financial crisis, and has continued to evolve as a result of the 2014-15 strikes and the resulting production disturbances
- In March 2016, funding of ISK 1,600 million over 3 years was earmarked to shorten waiting lists for surgical procedures across the system, of which ISK 840 million has been allocated to 2016
- Landspítali will receive ISK 630 million in 2016, which will enable the hospital to perform 2,180 additional surgeries this year
- At this pace, the number of patients waiting more than 3 months can be reduced to zero over 2-3 years

Note: The waiting list is based on Landspítali's official waiting list as requested by Directorate of Health. There might be more patients waiting for procedures outside of the specifically requested procedures

Landspítali has a higher share of outpatient visits coming in through the emergency room

Acute outpatient care¹, share of in-hospital outpatient care
Based on number of outpatient visits, 2014



¹ Share of visits registered as urgent visits in DRG reporting that come in through the emergency room

² Average of Swedish university hospitals; hospitals included are Karolinska, SU, Skåne, Akademiska, Linköping, Umeå, and Örebro



2. COST & LABOR FORCE EFFECTIVENESS



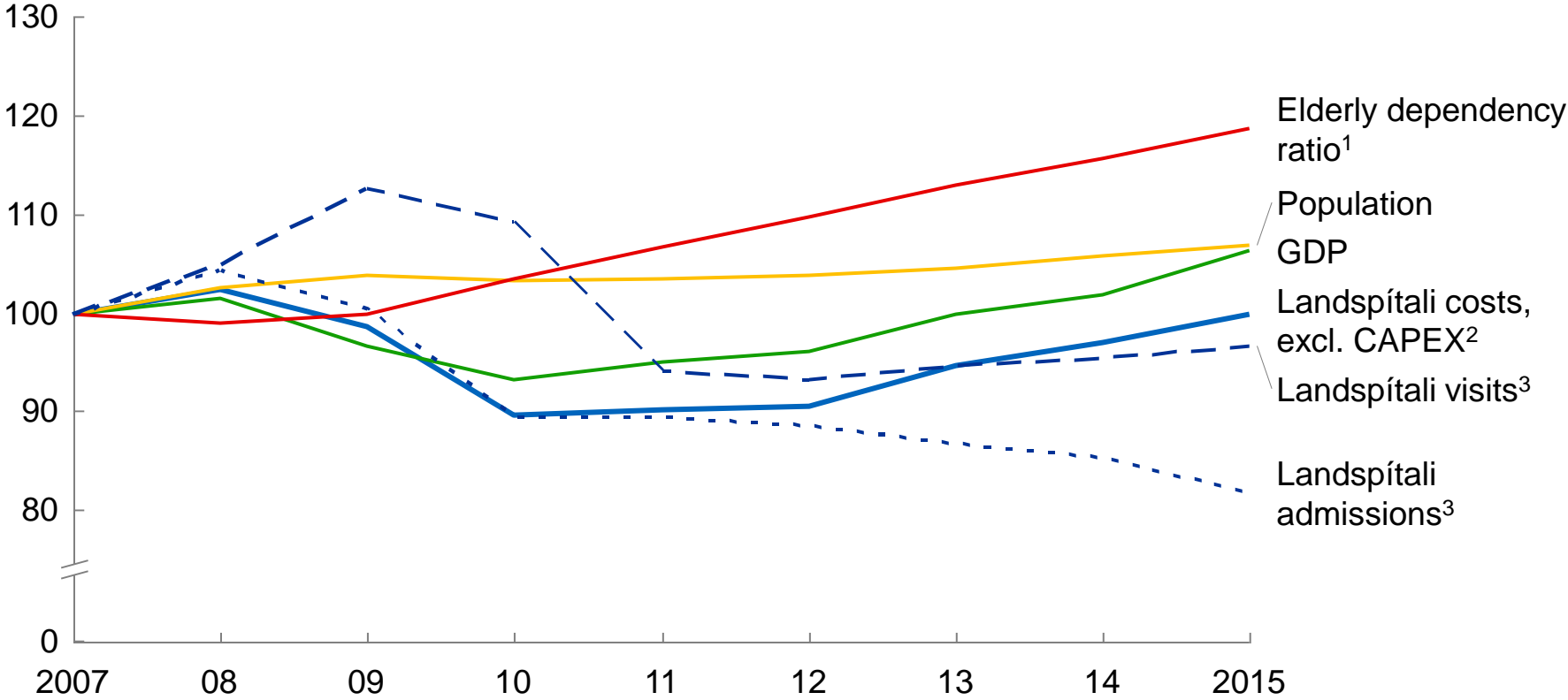
COST AND LABOR FORCE EFFECTIVENESS

- Landspítali comes out of a period of high cost and labor force effectiveness, as the hospital managed significant cost reductions under steady demand in the years following the financial crisis. This period was exceptional, with operational circumstances that were not sustainable over time and required adjustment for the future
- As Iceland is again adding funds to the system, the majority of funds have been directed towards higher cost per FTE. Looking at productivity, there are some areas to highlight
 - Cost per visit and cost per admission have been growing at 8% per year - a high rate
 - Landspítali staff still takes care of a large number of visits and admissions per clinical FTE, but compared to the extreme post-financial crisis level, labor force effectiveness has declined
 - Landspítali has a long average length of stay and the average has risen rapidly relative to the development of complexity of care
 - Utilization of facilities and equipment at Landspítali is in line with peers
- As Iceland continues to add funds back into the healthcare system following the post-financial crisis cost cutting, there is a unique opportunity to reform the system and make sure investments flow to the areas that give the best return in terms of healthcare value.

Bridging the financial crisis, Landspítali's costs have grown slower than Icelandic population, share of elderly, and GDP since 2007

Development of Landspítali's fixed price level compared to fundamental indicators

Index, 100 in 2007



1 Number of inhabitants over age of 64 divided by number of inhabitants aged 15 to 64

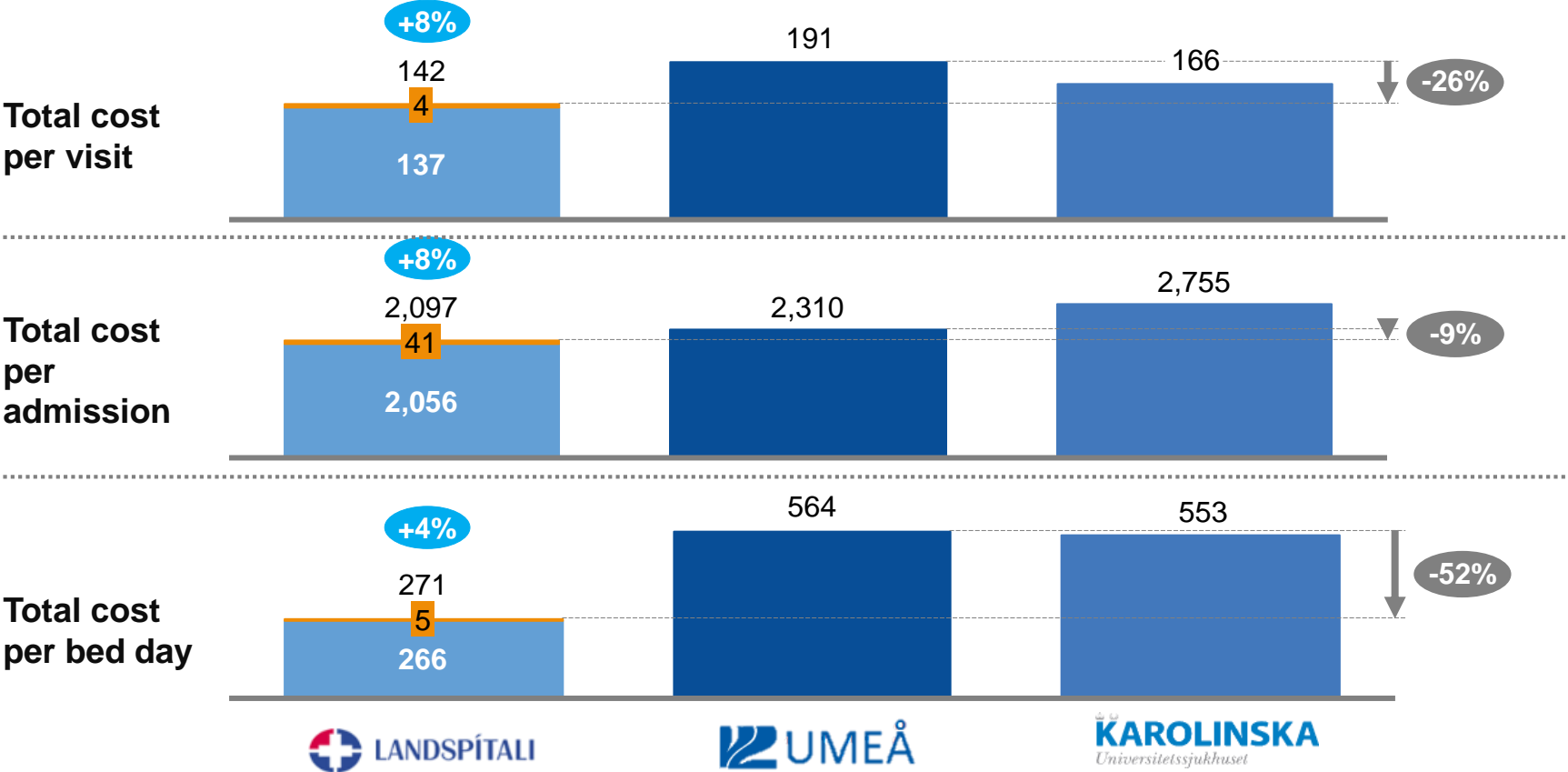
2 Costs are from Landspítali, adjusted to fixed price 2015. Includes building maintenance and equipment funding, excluding CAPEX

3 Numbers from Landspítali Statistics and Accounts; visits include calls and emails

Cost per visit, admission, and bed day has increased since 2011, differences to benchmarks reflect both efficiency and case mix

Cost efficiency metrics, 2014
ISK thousands; fixed price 2015

X Annual change 2011-2014 **X** Difference Umeå and Landspítali **■** Cost reduction due to effect of strikes

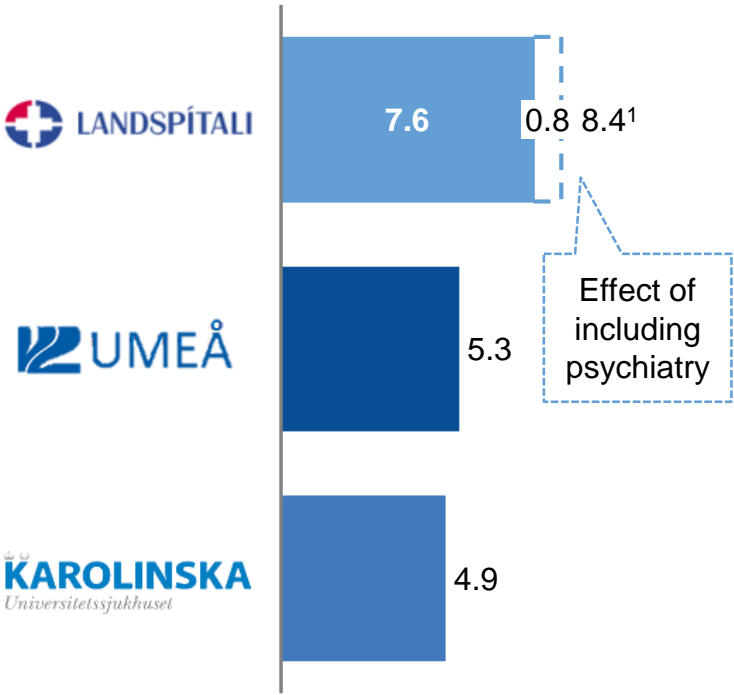


Note: All visits but excluding phone calls and emails are included. Costs in SEK and EUR converted to ISK using PPP adjusted exchange rates

Landspítali has the highest average length of stay (ALOS) in absolute terms and highest growth in ALOS relative CMI development

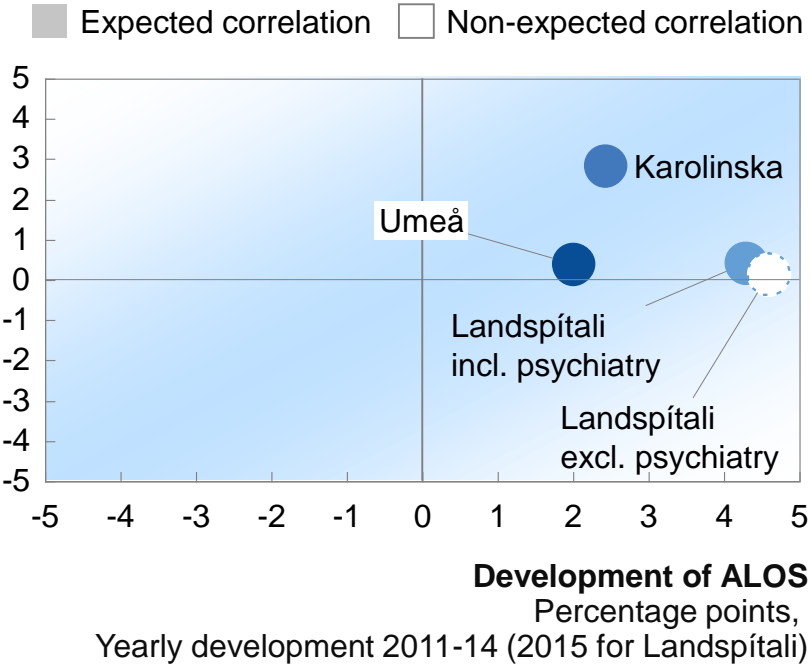
Landspítali has the highest absolute average length of stay...

Average length of stay 2014
(2015 for Landspítali), number of days¹



...and have had the highest growth rate in ALOS, without corresponding growth in DRG-production

Development DRG-average (CMI)
Percentage points, Yearly development 2011-14 (2011-15 for Landspítali²)

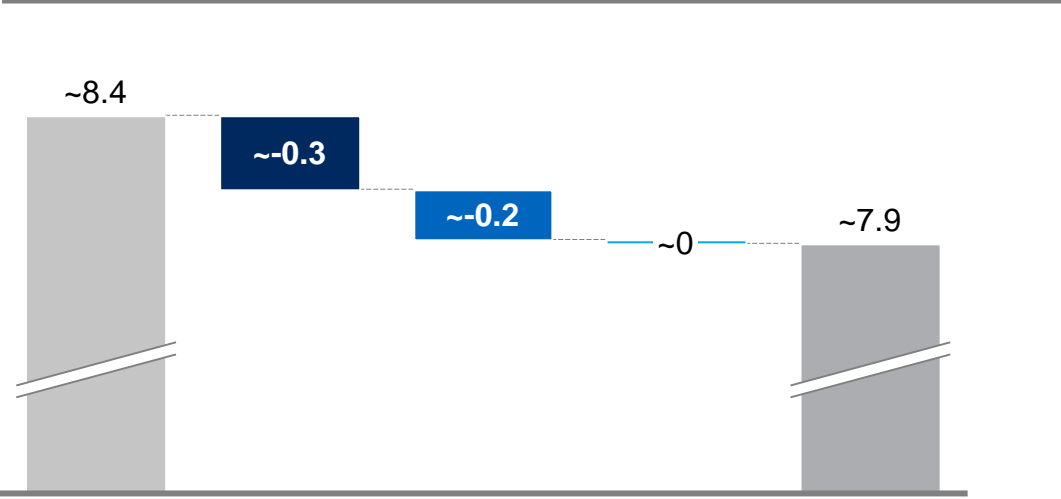


¹ Only somatic specialized care included for Karolinska and Umeå, all specialized care included for Landspítali.
For 2014, the ALOS for Landspítali was 7.7 days

² Including habilitation wards in 2011. If habilitation wards are excluded, development of ALOS rises to 5.3-5.6 percentage points in the 2011-15 period

Patients awaiting long-term care facilities account for ~0.5 days of ALOS –this does not include patients waiting for home care, but still only accounts for a small share of the total ALOS difference

Landspítali indicative improvement potential in average length of stay
 ALOS 2015, based on average waiting times 2015



	Mental health	Nursing homes	Rehab
Average number of patients:	9	30	3
Waiting < 3 months:	1	25	2
Waiting 3-6 months:	2	3	1
Waiting > 6 months:	6	2	0

The indicative effect of patients waiting for a place in long-term care facilities is ~0.5 days

- Mental health patients have the longest waiting times for places in long-term care facilities and therefore has the largest indicative effect on ALOS
- Patients waiting for nursing homes is the largest patient group, but majority is waiting less than 3 months
- Patient waiting for home services are not tracked in the same way, and likely adds some time to the long ALOS
- In addition to this, lack of coordination and slow processes across the system likely adds to the ALOS at Landspítali

Note: Approximation based on average number of waiting patients in the span of <3 months, 3-6 months, and >6 months. Includes all Mental health patients with valid residency evaluation, all internal medicine (acute wards), flow division (geriatric wards), and surgical services as well as flow division (rehabilitation)



3. STAFF STRUCTURE



STAFF STRUCTURE

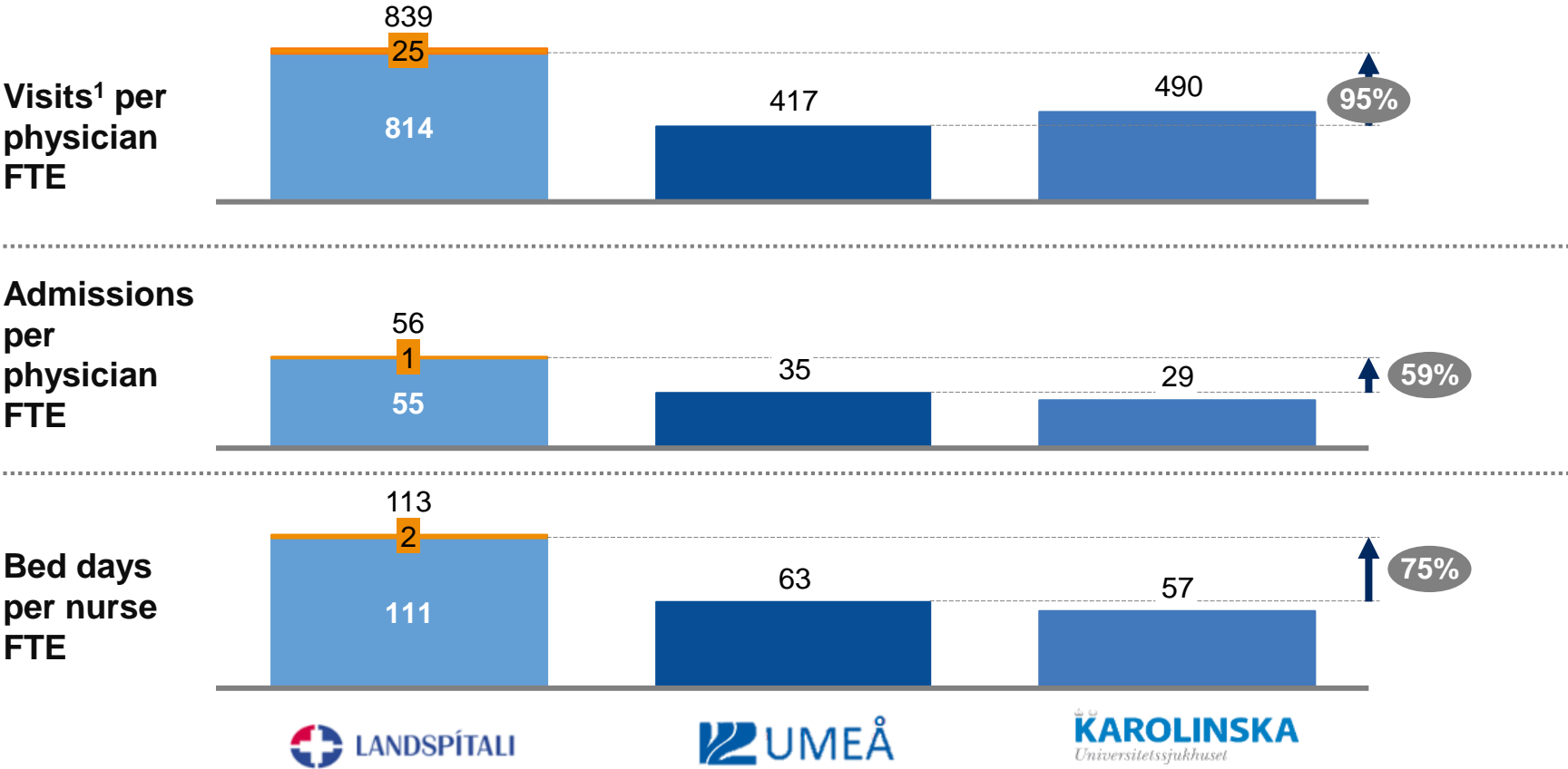
- Landspítali operates with a relatively low staffing level across clinical staff groups, with a low total number of clinical FTEs per visit and admission. In particular, the share of physicians is low, with a very junior physician group and many senior specialist working part-time. This leads to a lack of experienced clinical decision-making ability at the hospital
- Little experienced decision-making capacity is connected to several of the hospital's challenges; long lead-times to vital decisions at the hospital, contributing to the long average length of stay, the waiting list challenge as well as the hospital's ability to provide more advanced outpatient care
- A driver behind the low share of senior physicians is significant income differences for physicians in the public and private systems. This contributes to many physicians working part time at Landspítali, affects working conditions in the hospital, and is interlinked with the challenge to attract fully trained specialist physicians back to Iceland
- With regards to nurses, Landspítali is expecting around 15% of the nursing staff to retire over the coming years, making it important to ensure sufficient supply of trained nurses to the healthcare system
- There is a need to rebalance staffing levels, with a top priority to increase senior clinical decision-making capacity. There is a need to see a larger number of senior physicians present in daily operations at the hospital. This should contribute to addressing waiting lists and decreasing average length of stay.

Clinical staff at Landspítali is on average responsible for considerably more production than their peers at Umeå and Karolinska

Production per non-student physician FTE and nurse FTE at Landspítali compared to Swedish hospitals (2014)

ISK thousands; fixed price 2015

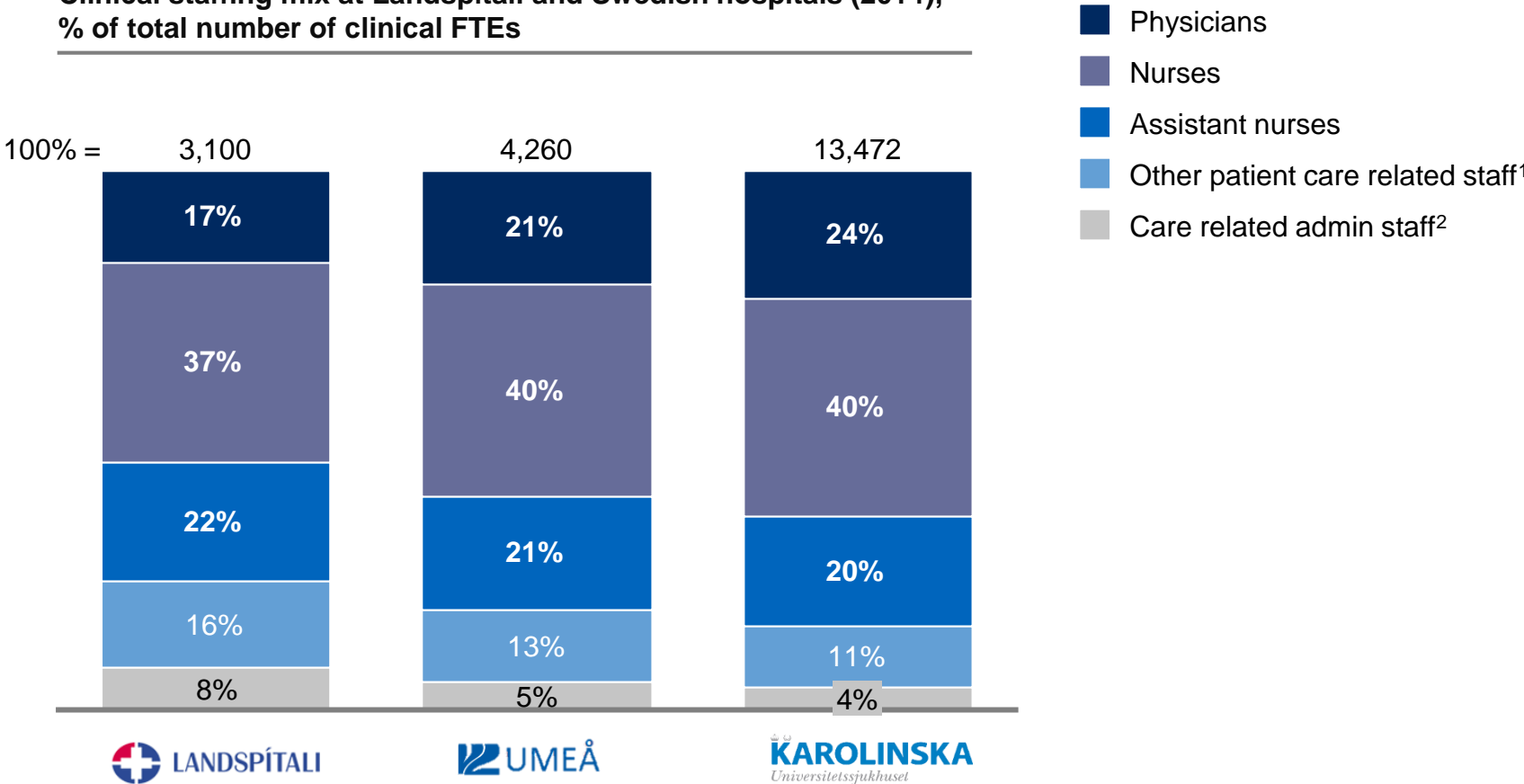
■ Effect of adjusting for strike in 2014
 X Difference between Landspítali and Umeå



Note: Includes staff and production for all care provided at Landspítali, whereas psychiatry (volumes and FTEs) is excluded for Swedish hospitals. Includes all visits but excludes phone calls and emails

The clinical staffing mix at Landspítali is comparable to Swedish hospitals, although Landspítali has a lower share of physicians

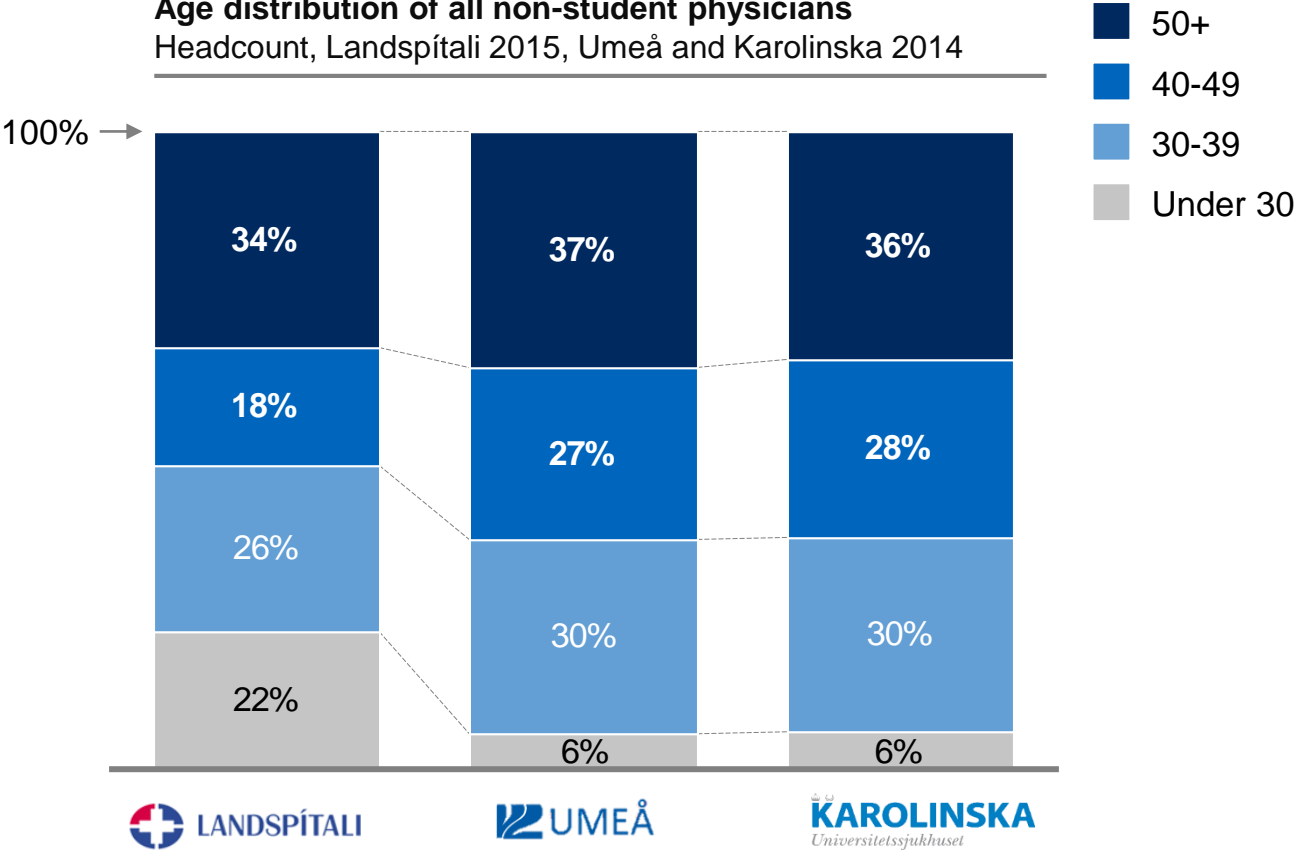
Clinical staffing mix at Landspítali and Swedish hospitals (2014), % of total number of clinical FTEs



¹ E.g., physiotherapists, counselors, and pharmacists
² E.g., medical secretaries

Landspítali has fewer physicians at mid age than Swedish university hospitals, and make up for this by employing more young physicians

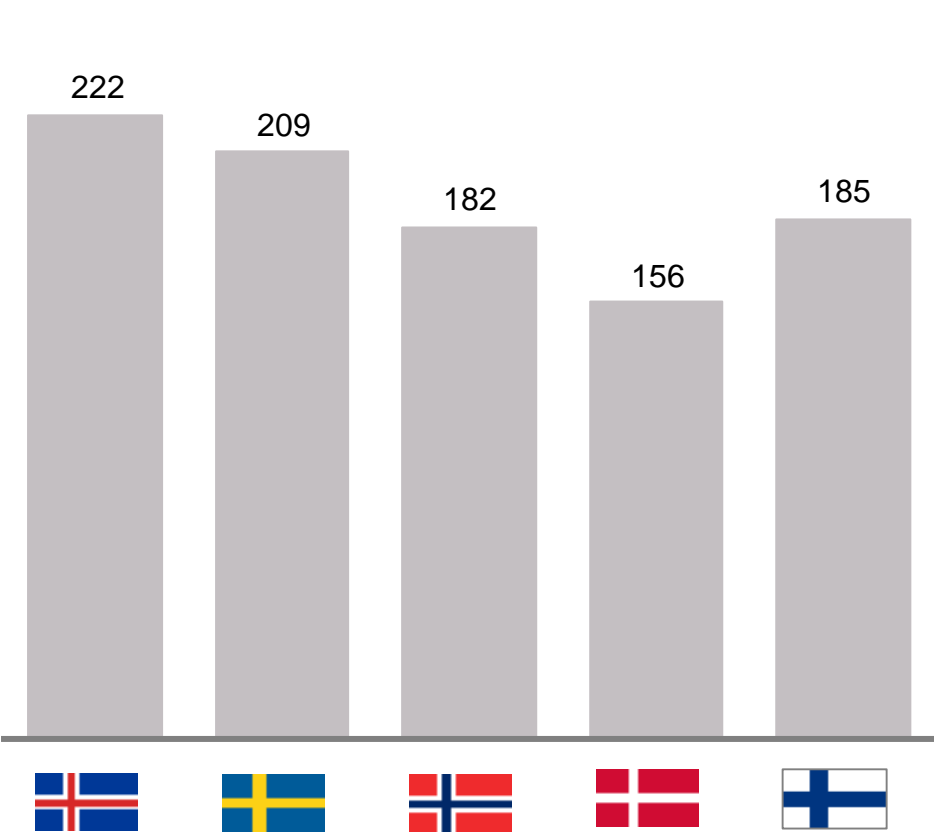
Age distribution of all non-student physicians
 Headcount, Landspítali 2015, Umeå and Karolinska 2014



Iceland has a high prevalence of specialist physicians – a large number of specialist physicians work both in private and public care in Iceland

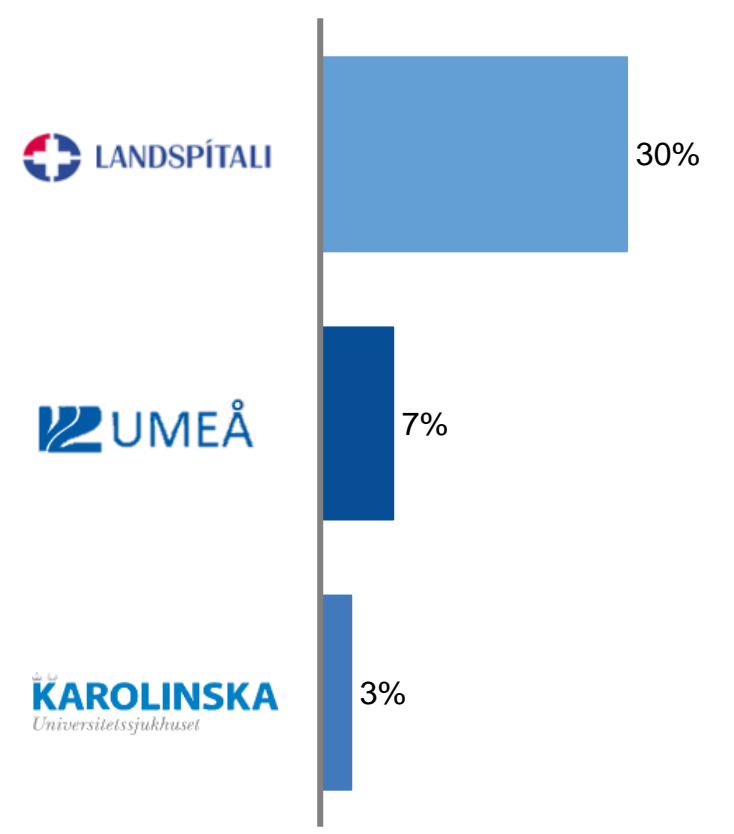
Compared to other Nordic countries, Iceland has a good number of specialist physicians

Specialists (excluding GPs) per 100 000 inhabitants, 2013



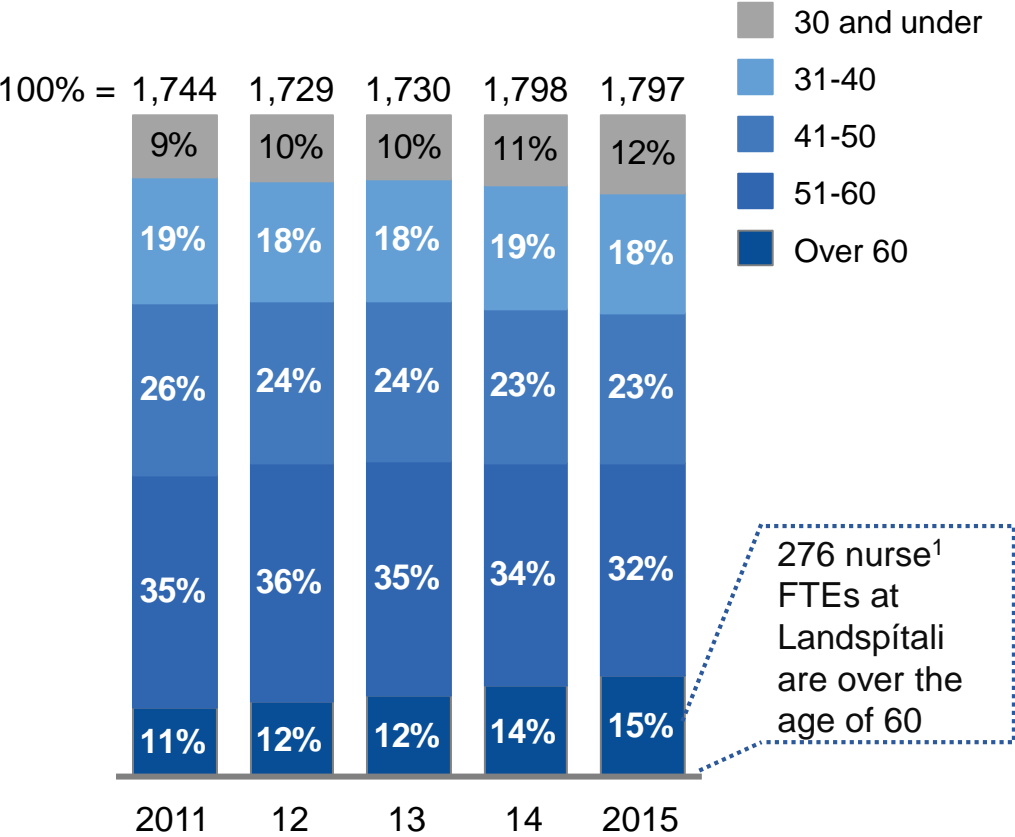
But a large share of the specialist physicians only work part time at Landspítali

Share of specialist physicians working part time

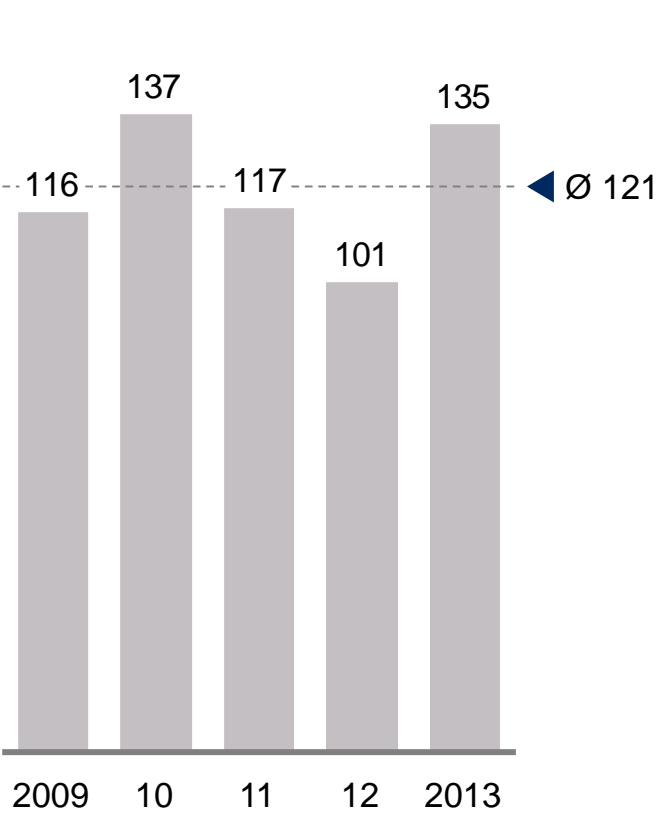


The nurse group at Landspítali is growing older while number of nursing graduates is constant – it may become increasingly hard to fill nursing roles

Age distribution of nurses¹ at Landspítali
FTEs



Graduates with a BSc in Nursing
Number of graduates



¹ Includes nurses and assistant nurses
SOURCE: Landspítali; Hagstofa Íslands



4. QUALITY

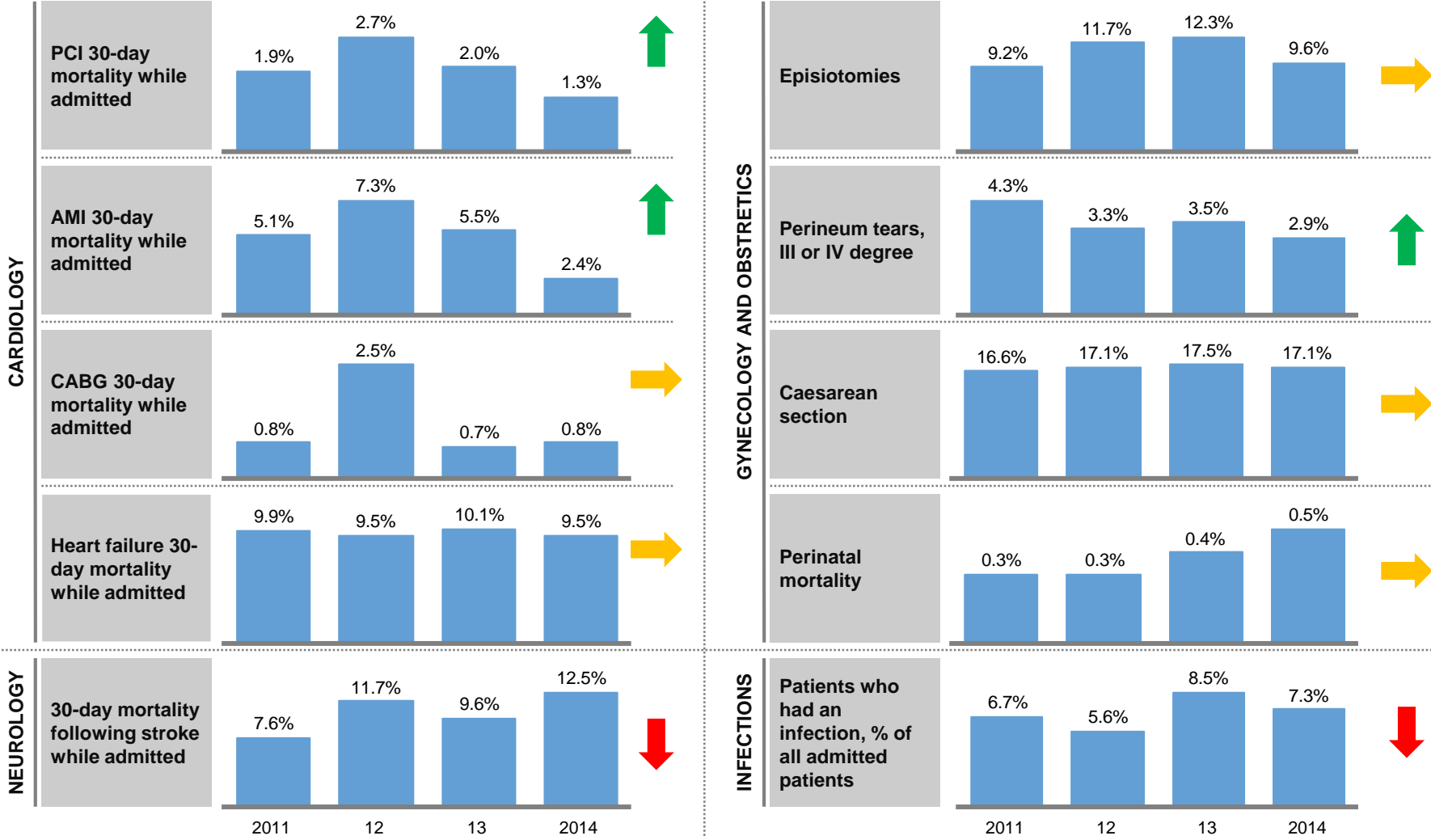


QUALITY

- As Landspítali's cost and production levels have varied since the financial crisis, there has been little effect on quality outcomes as measured today. The goal of the hospital throughout the cost cuts following the financial crisis was to get through the challenging time without reducing quality. Since this time, most quality metrics have been relatively stable, and patient satisfaction has remained on a high level.
- However, Landspítali is only measuring and tracking a small set of quality metrics, which limits the transparency on quality development. The reporting requirements set upon Landspítali by the government is limited and quite different from the situation in the other Nordic countries, and most of the current quality reporting is done on the initiative of the hospital.
- Landspítali needs to increase quality reporting, increasingly use internationally comparable metrics, and report results in a more transparent way. While quality reporting at Landspítali leaves opportunity for improvement, it should be noted that Landspítali has the most developed quality reporting in Iceland. Improved quality reporting would benefit the Iceland healthcare system overall, not only Landspítali
- Out of the available metrics, the increase of patients waiting more than 3 months for procedures should be pointed out as a large quality concern

While productivity has decreased, quality indicators have remained relatively stable

↑ Increased quality vs. 2011
 ➔ Quality in line with 2011
 ↓ Decreased quality vs. 2011



International example: Compared to Swedish University hospitals, Landspítali has a limited set of quality metrics (1/2)

✓ Metric measured ✓ Similar metric measured ✗ Not measured

Swedish quality measurement

- Healthcare quality is benchmarked across the country through the Swedish open quality registry
- The quality registry is used for analysis, transparency and development of healthcare institutions
- A specific set of 56 measures relevant for University hospital has been selected out of the 193 health care measures available in the registry
- While the publication of quality indicators is a public demand in Sweden, Landspítali has no such requirement and are driving most of the quality reporting on its own initiative

Quality areas	Quality Metrics	KAROLINSKA	LANDSPÍTALI	
Pregnancy, childbirth and neonatal care <i>n=3</i>	Nosocomial Infections among Babies Receiving Neonatal Care	✓	✗	Landspítali has five metrics relating to gynecology and obstetrics
	Percentage of Third and Fourth Degree Perineal Tears During Vaginal Delivery	✓	✓	
	Caesarean Section among Primiparas	✓	✓	
Gynaecological care <i>n=6</i>	Patient-reported Complications after Hysterectomy	✓	✗	
	Patient Satisfaction after Hysterectomy	✓	✗	
	Patient-reported Complications after Uterine Prolapse Surgery	✓	✗	
	Patient-reported Bulging Sensation after Uterine Prolapse Surgery	✓	✗	
	Patient-reported Complications after Urinary Incontinence Surgery	✓	✗	
	Patient-reported Success of Surgery for Urinary Incontinence	✓	✗	
Musculoskeletal diseases <i>n=10</i>	Total Hip Arthroplasty – 10-year Implant Survival	✓	✗	
	Reoperation within Two Years after Total Hip Arthroplasty	✓	✗	
	Patient-reported Outcome of Total Hip Arthroplasty	✓	✗	
	Percentage of Patients Who Reported That They Were Satisfied One Year after Total Hip Arthroplasty	✓	✗	
	Waiting Times for Hip Fracture Surgery after Arrival at Hospital	✓	✗	
	Percentage of Femur Fracture Patients - Age 65 and Older Who Underwent Hip Arthroplasty	✓	✗	
	Hemiarthroplasty – Implant Survival	✓	✗	
	Return to Original Residence Following Hip Fracture Surgery	✓	✗	
	Patient-reported Improvement after Spinal Stenosis Surgery	✓	✗	
	Patient-reported Improvement after Surgery for Herniated Lumbar Disc	✓	✗	
Diabetes care <i>n=3</i>	Persons with Type 1 Diabetes Who Achieve the Goal for Blood Glucose Levels	✓	✗	
	Persons with Type 1 Diabetes Who Achieve the Blood Pressure Goal	✓	✗	
	Children and Adolescents with Diabetes Who Achieve the Goal for HbA1c Levels	✓	✗	
Cardiac care <i>n=7</i>	Myocardial Infarction – 28-day Case - Fatality Rate – Hospitalised Patients	✓	✓	Landspítali has four metrics relating to cardiac care
	Coronary Angiography after Non-ST-segment Elevation Myocardial Infarction (NSTEMI) in Patients with Another Risk Factor	✓	✗	
	Antithrombotic Therapy after NSTEMI	✓	✗	
	Lipid Lowering Drug Therapy after Myocardial Infarction	✓	✓	
	PCI for Unstable Coronary Artery - Disease – 365-day Case Fatality Rate	✓	✗	
	Restenosis of the Coronary Artery after PCI	✓	✗	
	Complications after Pacemaker Implantation1	✓	✗	

Note: n indicates how many quality metrics there are per quality area. Landspítali measures 6 metrics that are not part of the selected measures above

International example: Compared to Swedish University hospitals, Landspítali has a limited set of quality metrics (2/2)

✓ Metric measured ✓ Similar metric measured ✗ Not measured

Swedish quality measurement

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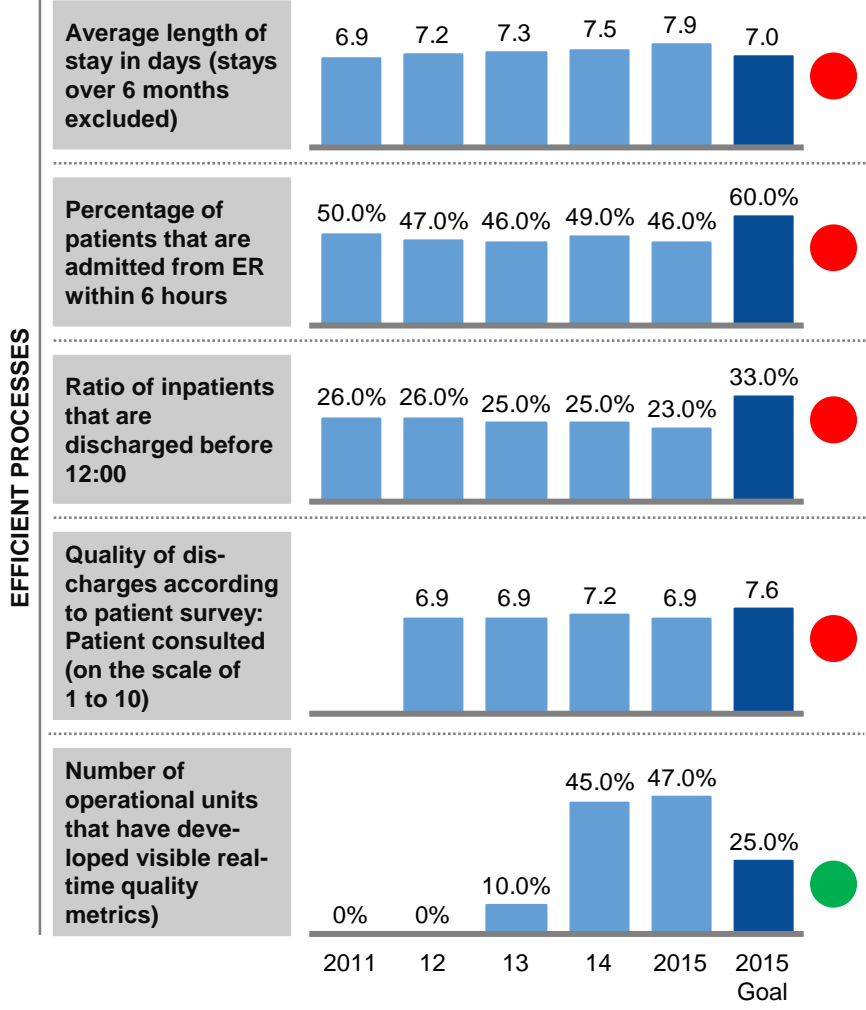
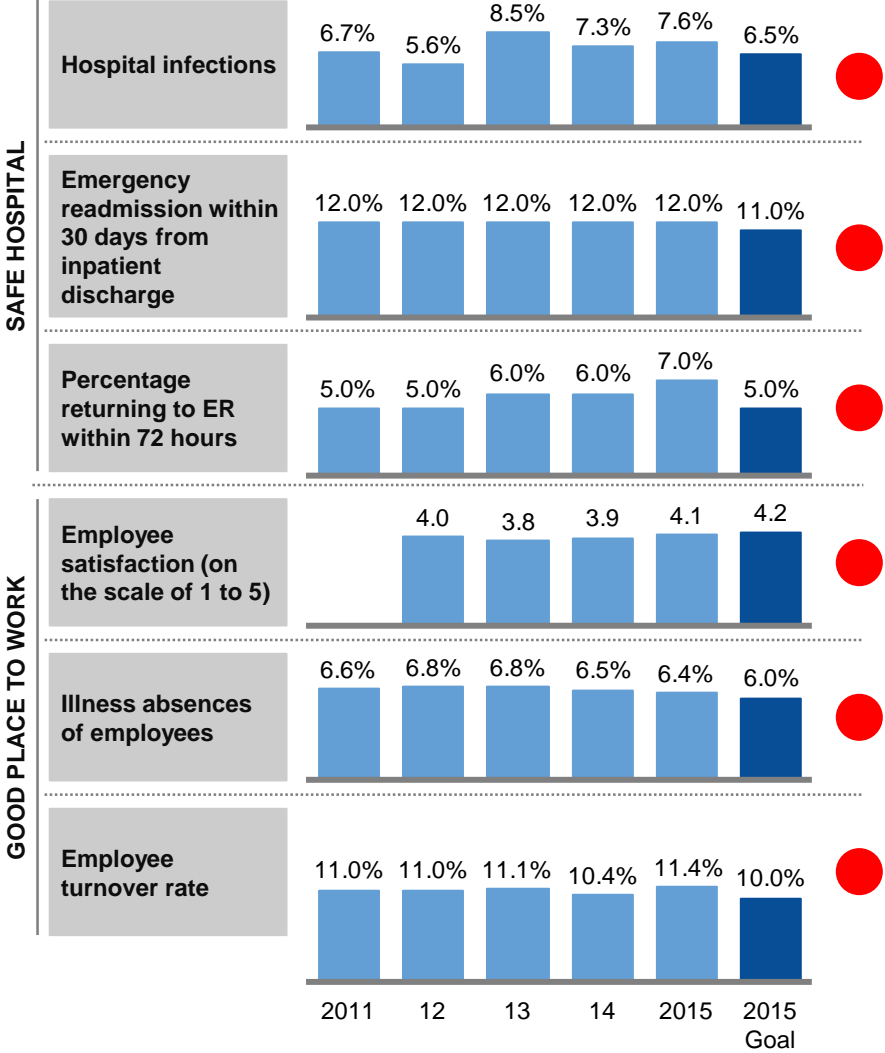
Quality areas	Quality Metrics	KAROLINSKA	LANDSPÍTALI
Stroke care n=7	Hospitalised Stroke Patients – 28-day and 90-day Case Fatality Rate	✓	✓
	Patients Treated at a Special Stroke Unit	✓	✗
	Thrombolytic Therapy after Stroke	✓	✗
	Swallow Test after Acute Stroke	✓	✗
	Personal Activities of Daily Living (ADL) three Months after Stroke	✓	✗
	Satisfaction with Stroke Care at Hospital	✓	✗
	Meeting Rehabilitation Needs after Stroke	✓	✗
Renal care n=3	Target Fulfilment for Haemodialysis Dose	✓	✗
	Vascular Access during Dialysis	✓	✗
	Achievement of Blood Pressure Goals during Haemodialysis	✓	✗
Cancer care n=7	Reoperation for Colon Cancer	✓	✗
	Colon Cancer Surgery – 30-day and 90-day Case Fatality Rates	✓	✗
	Rectal Cancer Surgery – 30-day and 90-day Case Fatality Rates	✓	✗
	Reoperation for Breast Cancer Due to Tumour Data	✓	✗
	Reoperation for Breast Cancer within 30 Days Due to Complications	✓	✗
	Multidisciplinary Team Meetings for Lung Cancer Patients	✓	✗
	Waiting Time from Prostate Cancer Referral until Initial Appointment with a Urologist	✓	✗
Surgery n=6	Reoperation for Inguinal Hernia	✓	✗
	Waiting Times for Carotid Endarterectomy	✓	✗
	Patient-reported Outcome of Septoplasty	✓	✗
	Patient-reported Freedom from Symptoms after Tonsillectomy	✓	✗
	Cataract Surgery, Visual Acuity below 0.5 in the Better-seeing Eye	✓	✗
	Self-reported Benefit of Cataract Surgery	✓	✗
Intensive care n=3	Risk-adjusted Mortality after Arrival at an Intensive Care Unit	✓	✗
	Discharge from an Intensive Care Unit at Night	✓	✗
	Unscheduled Readmission to an Intensive Care Unit	✓	✓
Other care n=1	Good Viral Control for HIV	✓	✗

Landspítali has one metric relating to stroke care

Note: n indicates how many quality metrics there are per quality area. Landspítali measures 6 metrics that are not part of the selected measures above

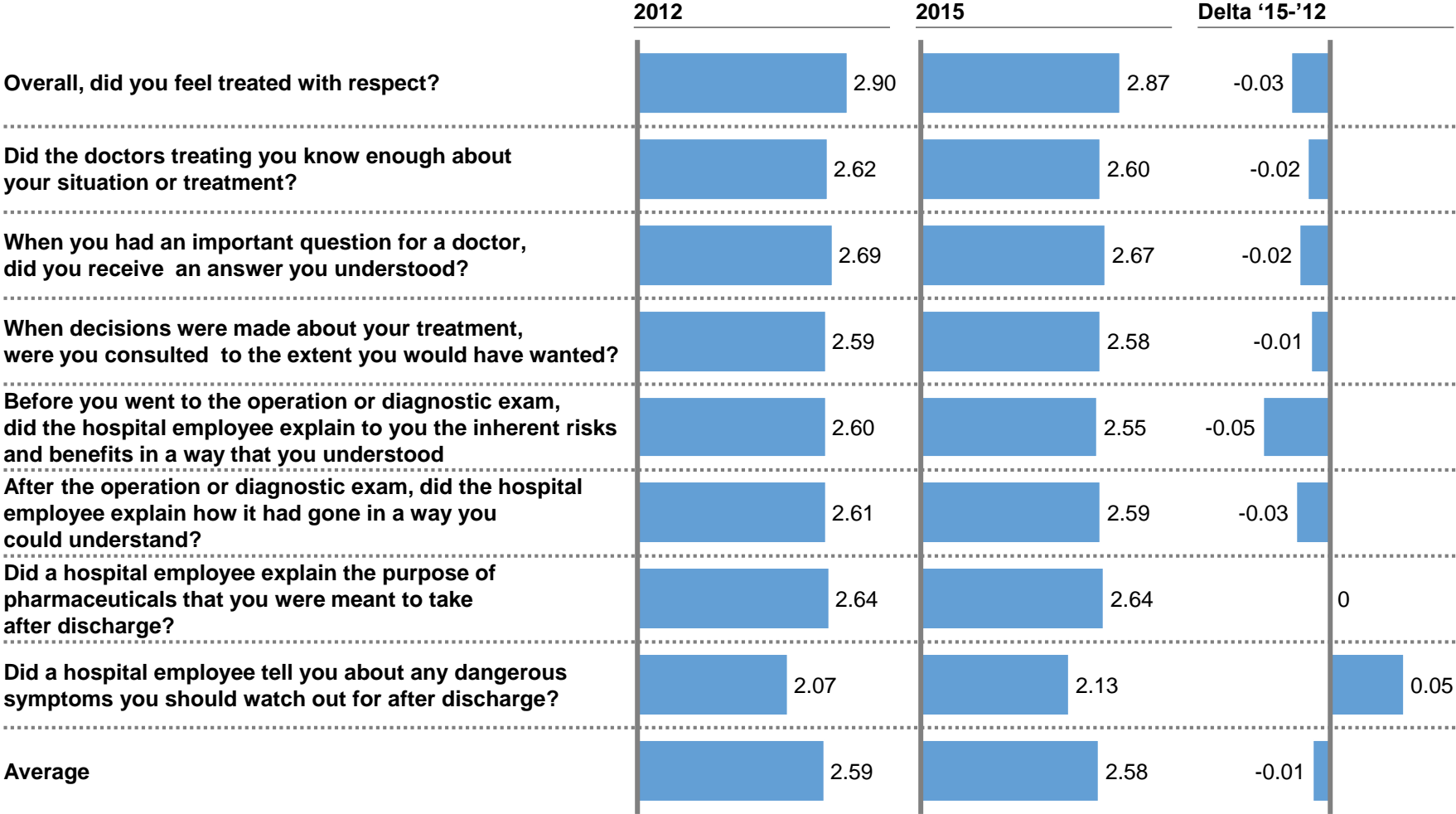
Landspítali has a set of quality metrics relating to safety, work environment and efficiency of processes

● Goal met ● Goal not met



In the last few years, inpatient satisfaction has remained stable at a high level of satisfaction

Scale of 1-3, where 3 is the highest rating, 1 being lowest rating



Note: Excludes the separate surveys for psychiatry and children. Includes a subset of the questions in the full survey, excludes respondents with 'too many answers', or 'not applicable', or 'don't know'



5. ROLES IN THE SYSTEM



ROLES IN THE SYSTEM

- While the Icelandic healthcare system has developed a set-up that enables the Icelandic population to have access to a wide range of medical specialties, many of the challenges Landspítali is facing stem from structural root causes within the surrounding system.
- Some of the challenges Landspítali is facing relate to a lack of clarity regarding roles of different providers in the system, and distribution/ development of volumes
 - Private specialist outpatient activity is growing at a fast rate without clear strategic planning, control, or supervision of volumes and quality of care. As activity is reimbursed at fee-for-service, production of many simple visits is incentivized over more complex consultations
 - The primary care systems seems to have challenges providing the care needed to relieve Landspítali from low complexity cases, particularly in urgent care
 - Capacity of nursing homes and care for the elderly is unevenly distributed and flow from hospitals to nursing homes is not smooth
 - Information flow between providers is difficult, and the system does not have sufficient transparency on patient information to act in an integrated way
 - Steering of the system is split across several entities, where division of responsibilities is sometimes unclear and no entity has a comprehensive view
- The Icelandic healthcare system's strategic direction needs to be clarified and the roles of the different type of providers should be more clearly defined. Based on this, DRG reporting, target based financing and more stringent quality reporting should be introduced.

There is a total shift of care from the university hospital to outpatient care in private specialist settings

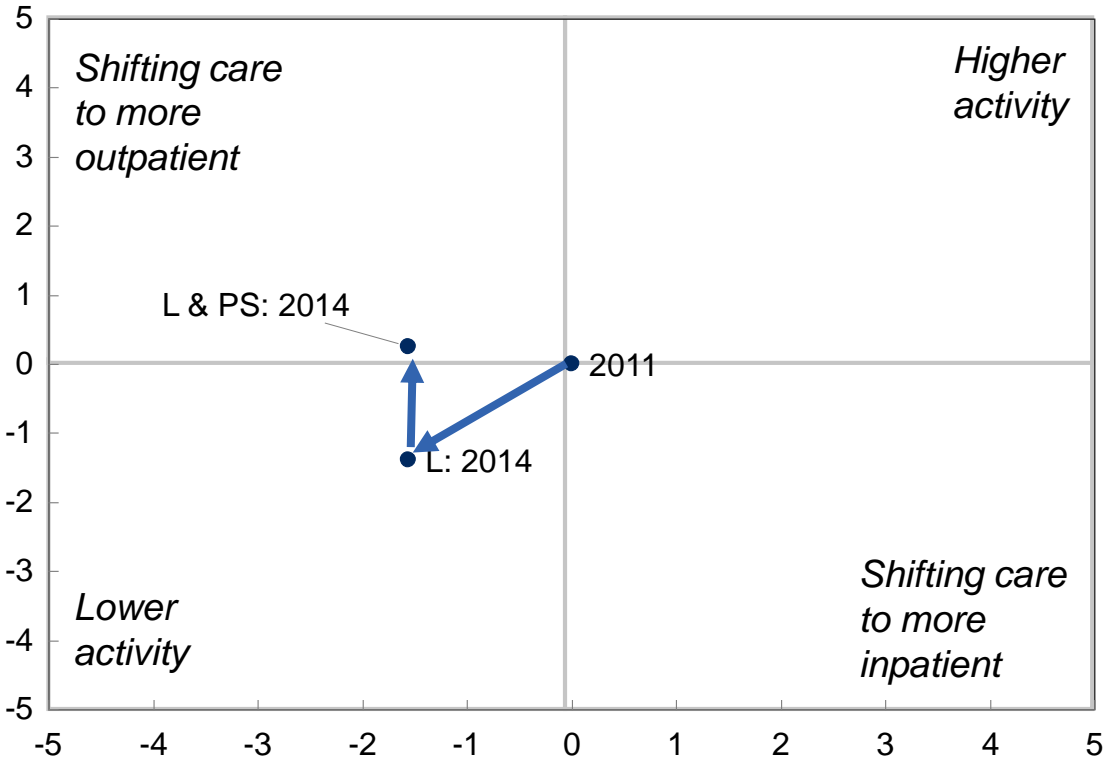
Activity development at Landspítali and in the private sector

Development of outpatient visits¹

Yearly development, 2011-2014, %

L: Landspítali production

L & PS: Landspítali & Private specialist production



- From 2011 to 2014, Landspítali activity declines across both inpatient and outpatient volumes
- In the same period, outpatient activity in the private sector increases
- Overall, this indicates a shift of activity from the hospital to the private sector

Development of number of inpatient admissions
Yearly development, 2011-2014, %

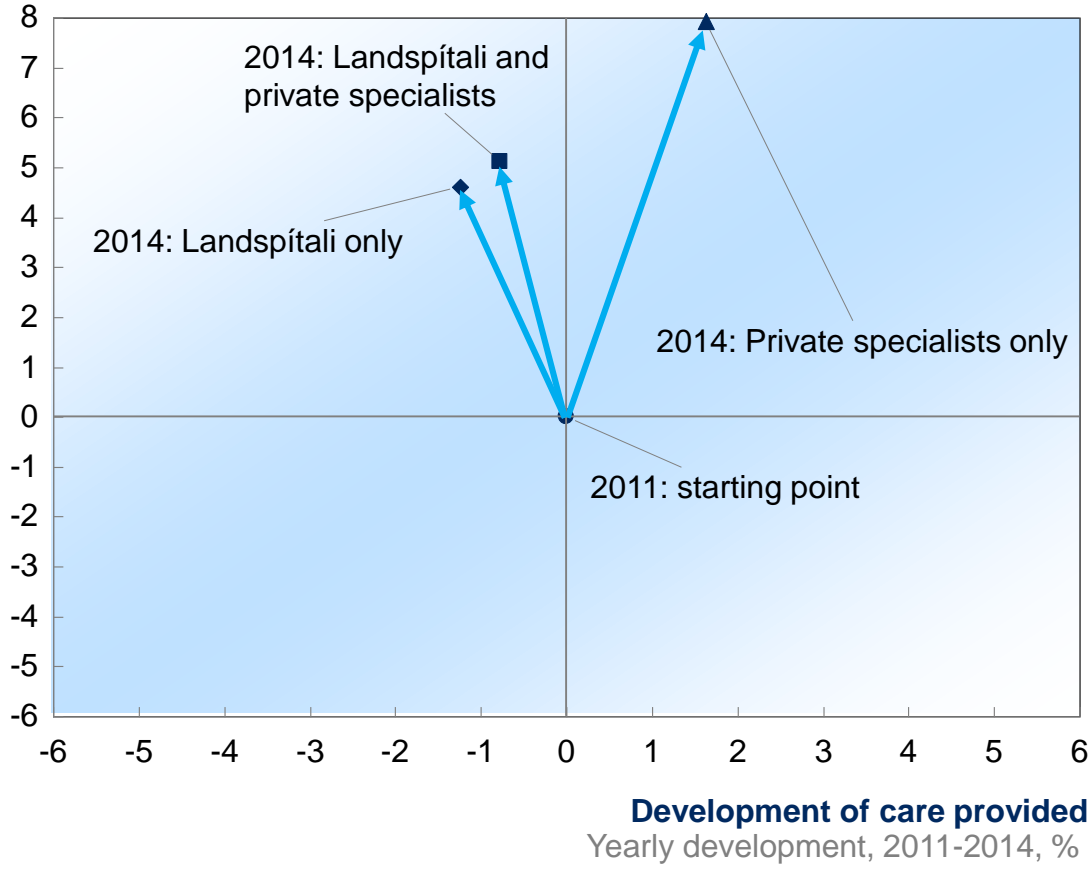
¹ Excluding phone visits

On a system level, costs of specialist care is going up faster than the volume of care provided

Development of costs, fixed price 2014

Yearly development, 2011-2014, %

■ Expected correlation □ Non-expected correlation



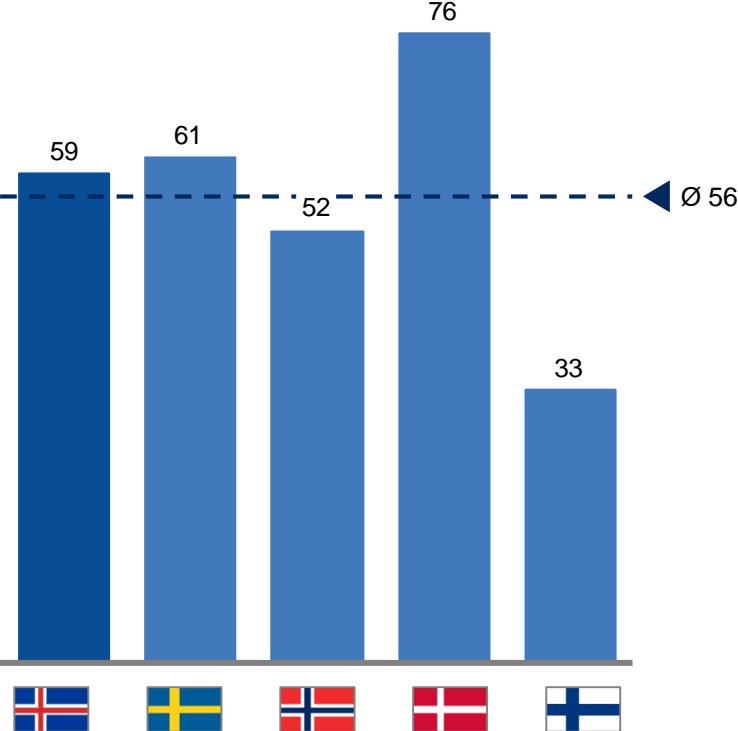
Although the amount of care provided by private specialists has been growing, the production decline at Landspítali has been significant enough to lead to an overall system decline in production. At the same time costs per visit have grown rapidly both at Landspítali and in private clinics.

Note: Analysis includes all costs and all activity attributed to Landspítali and private specialists. Care is represented as 'visit equivalents' meaning that inpatient admissions at Landspítali have been translated to visit equivalents according to average DRG

Iceland's number of GPs per capita is on par with Nordic countries, but access to primary care is lower compared to Sweden

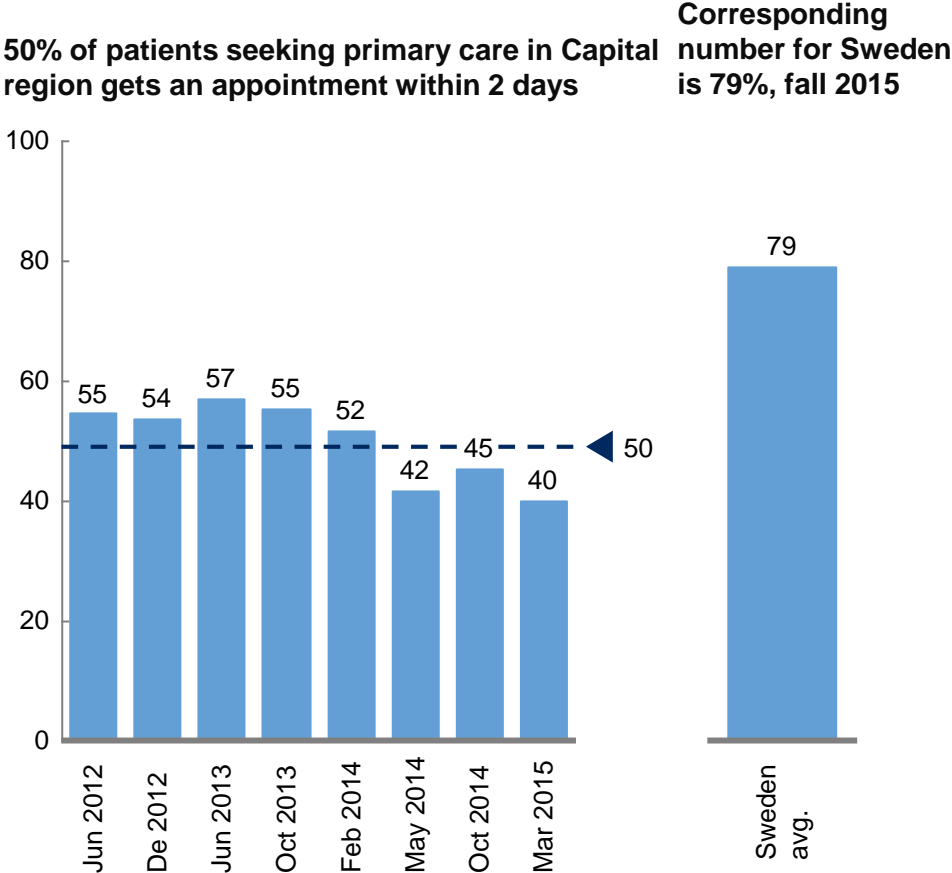
GPs per capita on par with Nordic countries

Number of GPs per capita¹, 2013



Waiting times to primary care longer compared to Sweden

% of all patients seeking primary care



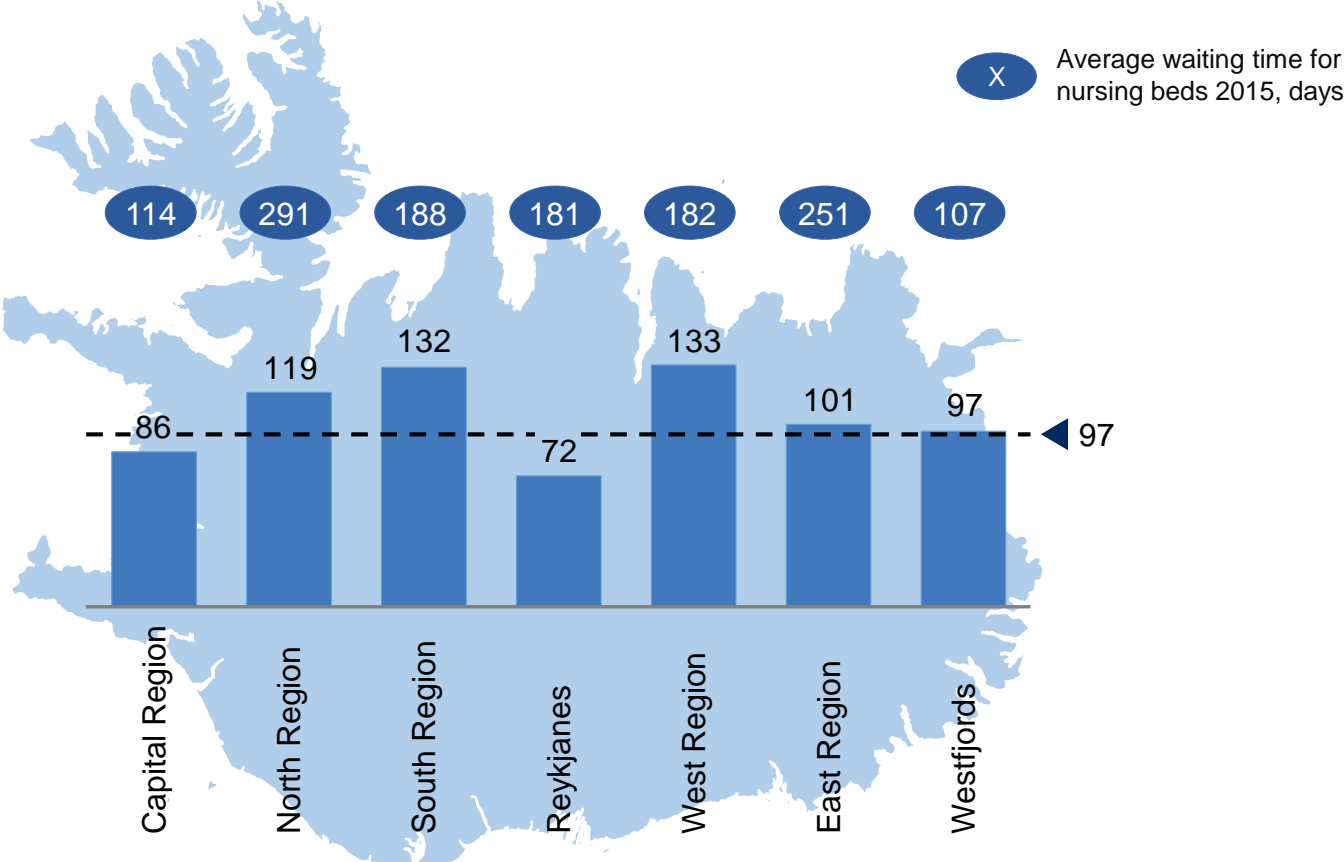
1 Per 100,000 inhabitants

SOURCE: OECD; Vantetider.se; Heilsugæsla Höfuðborgarsvæðisins

Elderly care is unevenly distributed across the country with long waiting times

Although an overall high level of nursing beds, there is a lack of nursing beds in Capital area and Reykjanes

Number of nursing and day beds per 1000 capita age 67 and over, 2015





THE WAY FORWARD

Summary of recommendations



Reducing length of stay - a proxy for a range of challenges



“Specialist enabled” primary and elderly care/rehab structures



Conscious and fact-based decision on where to focus private provision



Joint mandatory registration system, new reimbursement models



A joint “vertical” governance structure





Full digital health transformation





New investments to drive change in these action-areas

Length of stay is a proxy for a range of underlying challenges, e.g. lack of senior clinical decision bandwidth, fragmented workforce and lack of receiving structures outside Landspítali


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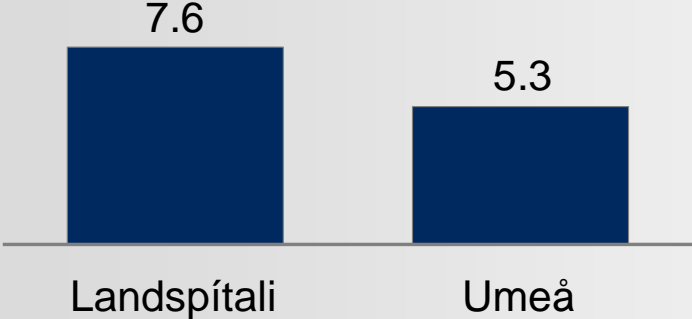
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Average length of stay, 2014





- Invest in a higher staffing level for senior physicians and leveraging this to improve decision making processes within the hospital
- Raise the share of senior physicians working full time at Landspítali
- Free up time from low complexity outpatient care
- In addition, provide good receiving structures in the surrounding system

Health provision structures outside of Landspítali need to be closer linked to the hospital and specialist capacity in Landspítali should be leveraged also in out-of-hospital settings


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more patients at Landspítali emergency room than in Sweden


As a university hospital, Landspítali will always operate at a “cost premium”, driven by complexity of processes, research, education and the access to advanced technology and treatment procedures


1. System leaders have to be clear on what levels of care we want to have in each part of the system
2. Invest in primary, elderly and social care, but leverage specialist capacity from Landspítali
3. The return on investment in Landspítali will be highest once the outside structures exist


Private provision should be focused in areas where the benefits are clear – this will not be for all specialties


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Reducing length of stay - a proxy for a range of challenges
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“Specialist enabled” primary and elderly care/rehab structures
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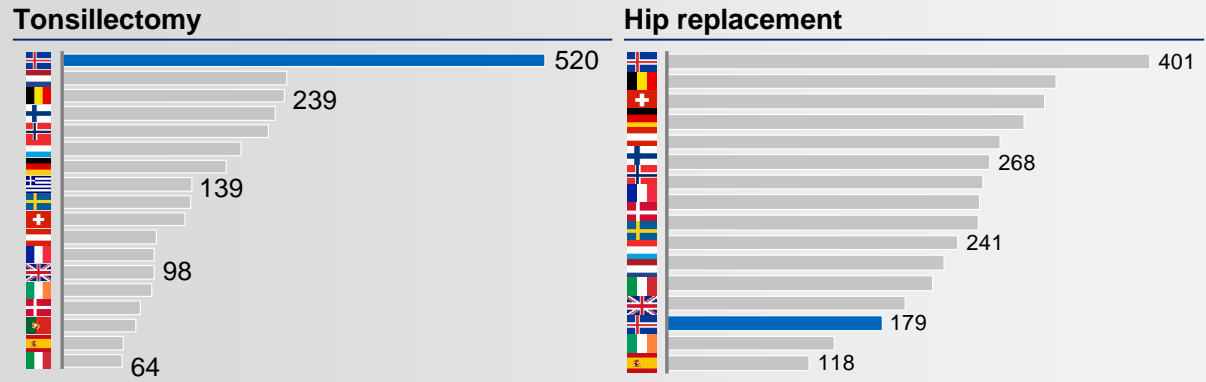
Joint mandatory registration system, new reimbursement models
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Full digital health transformation
- 


New investments to drive change in these action-areas


Selected surgical procedures per 100,000 inhabitants in Western Europe (2014)





- Private provision has proven to provide many advantages in publically funded systems
- However – necessary public structures, often driven by acute sector, sets a certain capacity – “filling up” this structure first is beneficial from a cost perspective
- Smaller systems need to adjust to volume-quality thresholds
- Private provision should be considered for areas that can be defined/described, with clearly specified indications for intervention, where public sector structures are at capacity
- This requires: joint base price for public and private sector, follow-up of quality outcomes, volume thresholds for certain procedures

Introduce a joint (DRG-based) registration system covering private and public activity ranging from primary to specialist care, and leverage this to set open and transparent prices


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Hospital:

- Flat funding
- No production target
- Limited volume follow-up

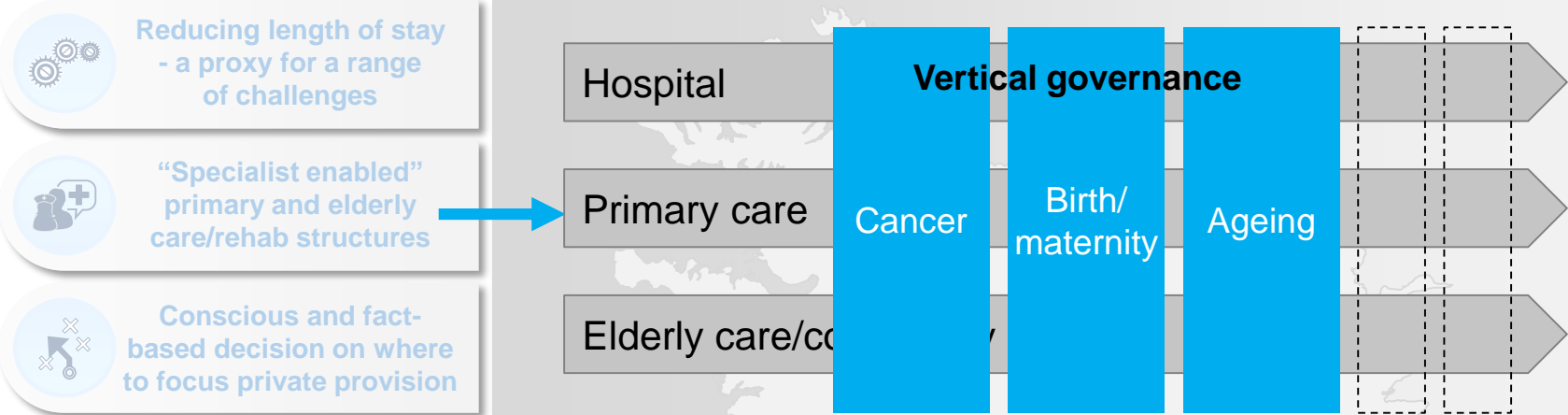


Private specialist:

- Free establishment
- Fee-for-service
- No volume control

- Regardless of reimbursement model – a joint “language” is needed to manage and drive improvements
- This language would be a combination of fully implemented DRG coding as well as agreed upon national metrics for quality and a system-wide patient survey
- High quality registration can be achieved by explicitly linking payment to what is registered
- With this: create transparent prices, joint for Iceland, making is possible to calculate budgets separating volume and price
- Reimbursement – both public and private – should be based on a mix of outcome specified bundled-DRGs (e.g. for hips/knees), outcome defined capitation (e.g. for stable dialysis patients) and fixed assignments (e.g. advanced burn-care).


Restructure the healthcare system into a vertical governance structure with common leadership for Landspítali, regional hospitals, primary and geriatric care





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- Many international examples of values coming from a holistic patient view, integrating care structures vertically – i.e. tertiary care, specialist care, primary care and elderly managed jointly – also on budget and staff level
- The combination of current challenges and benefit of being a small country – a vertical governance structure would likely be hugely beneficial while still being implementable with manageable scope of control
- With joint governance on vertical level, the substructure should be divided into care pathways


Utilize the relatively small size and high technology literacy of the Icelandic system to drive the digital health agenda

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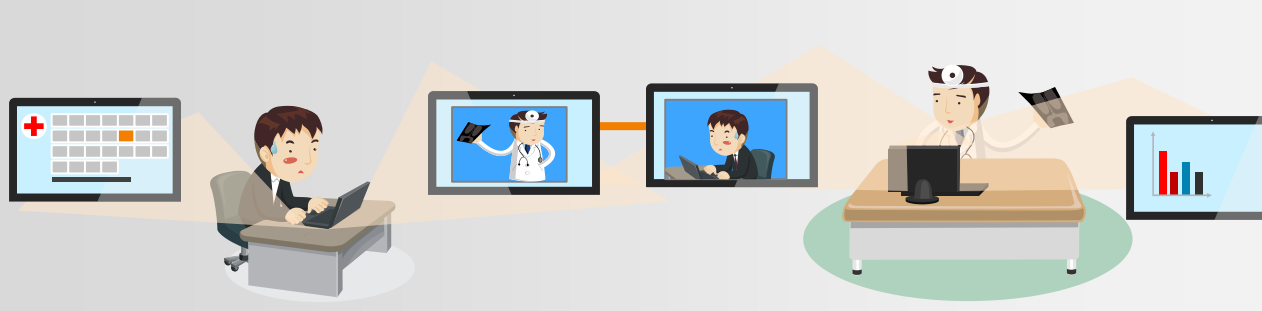
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- Several needs that strongly support the case for digital health in Iceland
 - Need to invest in healthcare settings outside of Landspítali that still can access hospital competencies
 - Need for low acuity settings outside of hospitals
 - Overall shift towards a large share of elderly and a larger chronically ill population
- Strong for successful implementation of digital solutions
 - Small population of Iceland
 - Geographic breadth
 - Good population knowledge
- Over time, Iceland could become leading in this field.

Create a clear program with milestones and link any extra funds to the healthcare system with this program


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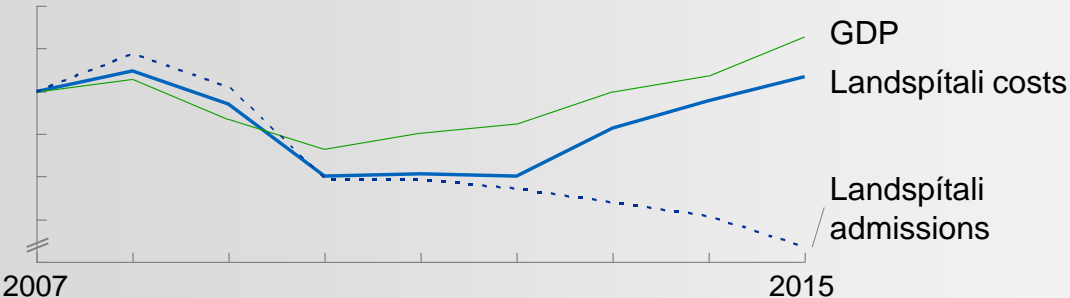
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Development of Landspítali's fixed price costs



- Additional funds has been added without associated production which has led to lower productivity
- Years following the financial crisis should not be seen as a standard to live up to - but Iceland should value and preserve the strong "value position"
- At this point, it is important not to just invest at current trajectory - losing Iceland's relatively good "value position"
- Added funding but must be linked to defined agenda:
 - Clear development areas of the system
 - Small number of decision makers
 - Clear reform agenda

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