FIVE YEARS OF THE PRIVATE HEALTHCARE OUTCOMES STUDY

RESA 2016 STUDY

2016 INFORME IDIS

Instituto para el Desarrollo e Integración de la Sanidad

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CONTENTS

Introduction 4
Executive summary 6
1. Study objectives 8
2. Methodology 10
2.1. Participants 11
2.2. Representation of the private sector 12
2.3. Regional distribution 12
2.4. Growth in participation 13
2.5. Basic information on participating health centres 14
2.6. Indicator selection process 15
2.7. Indicator collection and processing 16
2.8. Analysis of quality and outcome observatories 17
3. Efficiency 18
3.1. Average stay adjusted by case 19
3.2. Average stay pre-surgery 22
3.3. Rate of outpatient surgeries 23
4. Accessibility in healthcare 24
4.1. Average waiting time for scheduling additional tests 25
4.1.1. Mammograms 26
4.1.2. Magnetic Resonance Imaging 28
4.1.3. Computerised Axial Tomography Scan 29
4.2. Average waiting time for additional test reports 31
4.2.1. Average waiting time for mammogram reports 31
4.2.2. Average waiting time for magnetic resonance imaging reports 32
4.2.3. Average waiting time for CAT scan reports 32
4.3. Average waiting time for specialist consultations 33
4.3.1. Ophthalmology 34
4.3.2. Dermatology 35
4.3.3. Traumatology 36
4.3.4. Gynaecology and Obstetrics 37
4.4. Average waiting time in A&E 38
4.5. Average surgery waiting time 42
4.6. Average time between diagnosis and starting cancer treatment 43

5. Healthcare results 46
5.1. Rate of return to A&E within 72 hours of discharge for the same diagnosis 47
5.2. Hospital readmission rate 30 days from discharge 48
5.3. Rate of complications within 3 days of cataract surgery 49

6. Quality and patient safety 50
6.1. Accreditation and certification of hospital units and services 51
6.2. Policies and procedures implemented for patient safety 52
6.2.1. Hand hygiene protocol 52
6.2.2. Assessment protocol for bed sore risk 53
6.2.3. Identification protocol for medication-related problems 54
6.2.4. Notification system for adverse events 55
6.2.5. Safe surgery protocol (surgical check-list) 56
6.3. Rate of safe surgical procedures (surgical check-list) 57
6.4. Survival rate for patients hospitalised for acute coronary syndrome 58
6.5. Rate of hip replacement surgery within 48 hours of hospital admission 59
6.6. Rate of colonoscopies and gastroscopies performed under deep sedation 60
6.7. Readmission rate for outpatient surgery at 30 days 61
6.8. Haemodialysis indicators 61

7. Positioning of the RESA Study among Quality and Outcome Observatories 64
7.1. Introduction: Objectives of Quality and Outcome Observatories worldwide 65
7.2. Origins of quality and outcome observatories 66
7.3. What impact do these initiatives have? 67
7.4. Some limitations of quality observatories 68
7.5. Health outcome observatories worldwide 68
7.6. Health observatories in Spain 73
7.7. Positioning of the RESA Study among outcome quality observatories 76

8. Conclusions 78

9. Appendices 80
9.1. Indicator selection and definition process 81
9.2. Indicator sheets 81
9.3. Methodological specifications 88
9.4. List of participants 96
9.5. IDIS members 103

INTRODUCTION

Transparency and objective data: two key pillars of decision-making

The year 2016 is especially important for the RESA (Healthcare Outcomes) Study, as it marks the fifth anniversary of the report. The presentation of private healthcare outcomes using recognised, measurable, quantifiable, comparable and fully representative indicators in an open format, with an objective and transparent model, is essential, and clearly aims to achieve the best health outcomes through continuous quality improvement and improving the quality of healthcare as a whole.

Everybody knows that the outcomes for private healthcare are as good or better than those of any health system in our geographic area based on validated and verifiable data. But to put it into black and white we have been publishing this study —the first of its kind in Spain— since 2011, including a series of standard indicators that present the public with the current landscape of private healthcare, a sector that adds enormous value to our society.

Each year, and this year is no exception, we have been demonstrating how private healthcare has excellent outcomes in terms of health results, quality and patient safety, accessibility and efficiency, and that these significantly contribute towards creating a healthcare system underpinned by the excellent work of our professionals, the quality of our health centres, the innovativeness of our facilities, and, of course, by our patients, who are the ultimate goal of all our activity and our raison d'etre.

Five years after the first edition of this study we can see how initiatives of this magnitude contribute to improving the concept of the empowered patient, who is proactive in their decision-making and jointly responsible for managing their own health. In terms of the IDIS Foundation's commitment to transparency and objectivity through our analysis, reports and constantly-updated data, we are aware of the contribution that projects like the RESA study make towards understanding what private healthcare is and means in our country.

This year's outcomes again demonstrate the commitment of private healthcare towards health professionals and patients —an unbreakable and essential pairing— with results commensurate with those of the world's most advanced healthcare systems.

The successful participation rate of health centres in the study confirms their interest in this project: after five years the participation of hospitals and outpatient centres has increased and each has continued to provide a larger volume of data.

The analysis, a summary of which is included in this document, presents an encouraging picture. On the one hand, the RESA study is part of a clear international trend towards improving the transparency of healthcare systems through *public reporting* of data on quality, patient safety, health results, efficiency and accessibility for decision-making based on knowledge-based predictive models. On the other hand, experience shows that the greatest impact of these types of initiatives is predominantly through becoming an incentive to improve competitiveness, given that the health centres tend to promote procedures and continuous improvement processes that allow them to achieve higher levels of excellence.

The RESA Study is part of a series of projects that demonstrate the enormous value added by private healthcare in our country; we publish these studies periodically as proof of concept of our strong commitment to transparency and knowledge generation in society and in the scientific community.

The "Private Healthcare, adding value" report, an in-depth look at the private healthcare sector in our country; the "Barometer of Private Healthcare", a qualitative measure of the perception of our insured patients and their families; the "Innovation in the private sector" report, a result of the Farmaindustria BEST study, which shows private healthcare's commitment to preclinical and clinical research; and this RESA health outcomes report are the best evidence that robust and traceable data is the best basis for making decisions to benefit society at large.

These publications join other reports and projects, such as the Interoperability report, the report recognising efforts made by health centres and services to improve quality through the IDIS QH (Quality Healthcare) accreditation, and the report on socio-healthcare framed in the private sector's commitment to elderly care. Together they comprise a wide range of publications that undoubtedly define the robust commitment and positioning of an institution, the IDIS Foundation, whose mission is not only to help society understand the current landscape but to contribute towards improving the health and well-being of all people.

We would like to thank all the participants for what we know is a painstaking effort to provide information over the course of five years without any other compensation than the recognition of the results. We are therefore proud to present for the fifth consecutive year this RESA study which confirms the importance of always keeping private healthcare in consideration, especially given the international trend of transparency and continuous quality improvement in pursuit of results.

Adolfo Fernández-Valmayor
President of the Institute for Development and Integration of Healthcare (IDIS)

EXECUTIVE SUMMARY

Private healthcare serves approximately 9.3 million people, a fifth of the Spanish population, including the 7.4 million who voluntarily hold double insurance and the nearly 2 million civil servants who year after year choose private healthcare through the administrative mutualism model. It also provides healthcare coverage to other segments of the population through different partnership models, agreements and concessions.

In this context we can see the importance of providing objective and transparent data to citizens about the health outcomes of our extensive network of health centres, all of which provide efficient, accredited, reputable and quality private healthcare management that enables them to achieve the most stringent indicators and compare them with the most advanced countries in our geographical area; this ensures continual improvements to the quality of care we offer our patients and their families.

The RESA (Private Health Outcomes Indicators) Study is now in its fifth edition. The growing participation of prestigious health centres, the transparency of the information provided and the reliability of the results means that it is currently a fully representative study of Private Healthcare and stands among studies and reports from the leading Spanish and international observatories that document health outcomes.

The health centres that participated in this fifth edition account for more than 15,000 hospital beds (two-thirds of the private beds for acute care) and nearly 80% of hospital discharges for all private hospitals offering acute care. In terms of the Spanish healthcare system as a whole (public and private), nearly one in five hospital discharges for acute care occurs in a private hospital that participates in the RESA Study.

The outcomes included in this new report reconfirm our trust in Spanish private healthcare:

- Efficiency, maintained over the five years of study with average stays of around 3.2 days, is consistent throughout the year with little variation.

- Accessibility to care, a known value of private care, is clearly ratified with outcomes such as:

  - Average waiting time for scheduling additional tests does not exceed 9 days, with results of under 1 week for many tests (4.7 days for a CAT scan and 7 days for musculoskeletal NMR).

  - Waiting time for additional test reports under 4 days (2 in the case of mammograms).

  - Average waiting times for consultations with the busiest specialists are between 10 and 11 days.

  - Waiting time for surgeries with 90% of patients being treated in under 30 days.

- This accessibility is specially interesting in cases of cancer care, where it was observed that participating private health centres start treatment in under 2 or 3 weeks from the confirmed diagnosis for the most frequent cancers.

- One area that we put special emphasis on is quality of care, where the study shows excellent outcomes:
  - The private health sector has a network of health centres and services accredited or certified by leading or international institutions.
  - Patient safety is a priority of private healthcare, as part of its commitment to quality. The implementation of modern safety policies and practices is clearly on the rise and has now become common practice in most health centres.
  - Quantitative indicators show excellent outcomes like the survival rate for acute cardiac syndrome, hip replacement surgery in under 48 hours, and the implementation of the surgical check-list in line with the best international standards.
  - Patient comfort with rates of performing endoscopies under deep sedation above 90%.

In general we can confirm that the outcomes obtained in this edition of the RESA Study are once again very satisfactory, and there are some aspects that have contributed to this success. We would like to highlight the following:

- A more detailed analysis also shows that these outcomes are not just an average but reflect a trend of decreased variability among participating health centres.
- The reduction in this variability between the health centres over the years of the study, the analysis of case distribution, and the distribution of the indicators over time show that the outcomes are very consistent.

It is important to highlight here that this year the 2016 RESA Study has expanded its coverage to include three indicators for haemodialysis. The fact that 29 health centres have submitted results for these indicators speaks to the likelihood of it being well received in future editions of the study.

But in addition to analysing data, this fifth edition allowed us to reflect on the positioning of the RESA Study in the context of the Spanish and international Quality and Outcomes Observatories that we reviewed when preparing it.

This reflection led to some important conclusions:

- The RESA Study is part of a clearly growing international trend to foster the transparency of healthcare institutions by presenting their health outcomes to the public.
- This experience may be considered unique, as it is an initiative carried out voluntarily by a large group of private health centres.

All in all, this reflection confirms the initiative we set into motion five years ago when we took on the challenge of publishing this study with key quality data, and it motivates us to expand its use as an instrument to continuously improve quality of care.

Over these five years we have not only confirmed that Spanish private healthcare has quality standards comparable with the best national and international health centres and systems, but have also observed that the private sector makes great efforts to continually improve quality of care for the benefit of patients, their families and the overall image of the Spanish healthcare system.

1 STUDY OBJECTIVES

For the fifth year in a row the RESA Study presents society with private healthcare outcomes as part of an initiative of the Institute for Development and Integration of Healthcare (IDIS).

IDIS is an institution that brings together the private healthcare sector with the essential mission of promoting better health in the Spanish population within an integrated health system. To do so it launches studies like this that have a major impact in the field of health.

Over the course of these five years the RESA Study has been making significant efforts to continually increase the number of indicators and participating health centres. The overall goal is to obtain reliable and objective representative data on quality of care through indicators that are easily understood by the lay public. This involves measuring the quality, efficiency, accessibility, health results and safety that private centres provide to patients and their families.

In this context, the specific objectives of this year's edition are:

- Continue the RESA Study in order to observe improvement efforts in the private sector.
- Continue to progressively increase the participation of health centre, both in terms of the total number of centres and the percentage of indicators provided by each one.
- Further exploit the data by crossing variables like age, month and health centre to improve the understanding and interpretation of the results obtained.
- Position and assess the RESA Study on the Spanish and international map of quality observatories for public and private health centres, including a thorough review of existing observatories.

2 METHODOLOGY

2.1. Participants

As has now become routine, the RESA Study increased the number of participating health centres for the fourth year in a row, with 211 health centres including hospitals, clinics and outpatient centres this year. This is an overall gain of +8.2% participation, which can be considered a major success.

Representation of the number of health centres participating in the 2016 RESA Study

		2015	2016	Difference in participants	Variation in participation (%)
RESA Study	Hospitals	128	138	+10	+7.8 %
	Outpatient Centres	67	73	+6	+8.9 %
	TOTAL	195	211	+16	+8.2%

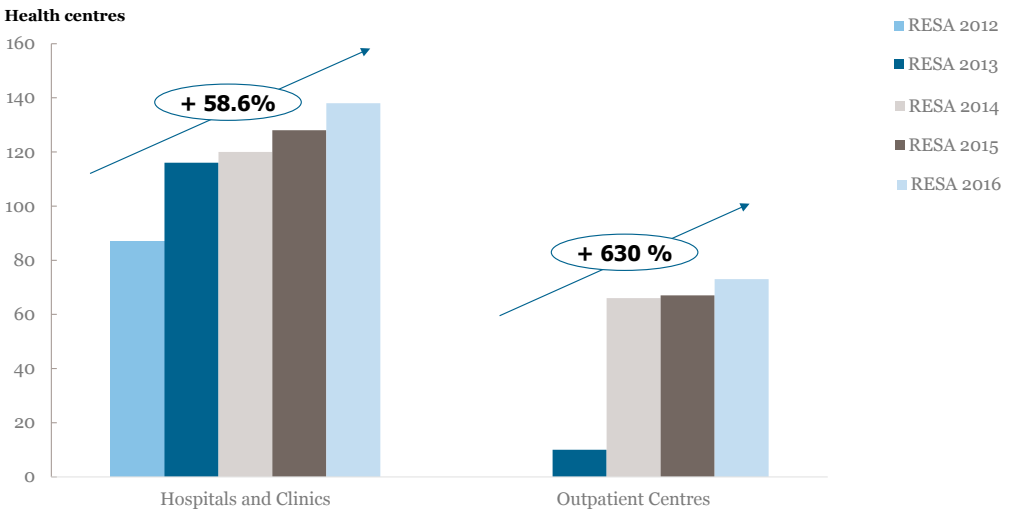
This year's gain is due to an increase in the number of both hospitals and outpatient centres.

In the 2012 RESA Study, the first year the report was published, there were 87 centres participating. Since then, the total participation has more than doubled to the 211 centres included in the 2016 RESA Study.

8% increase in participating centres

If we look at each of the segments, this year there were 51 more hospitals than the initial 87 (a 59% increase) and the participation of outpatient centres went from zero the first year to 73 outpatient centres participating in 2016.

FIGURE 1
EVOLUTION OF THE PARTICIPATION OF HEALTH CENTRES IN THE 2016 RESA STUDY Vs. 2012



2.2. Representation of the private sector

High participation levels means that the RESA Study has become highly representative of the private sector:

In terms of the global data available in the ESCRI[*], the health centres that participated in the 2016 RESA Study account for, in terms of **acute-care hospitals**:

- **61% of all private hospital beds**.
- **79.8% of all private hospital discharges**.
- **Nearly 1 in 5 of all hospital discharges for acute care (public and private)**.

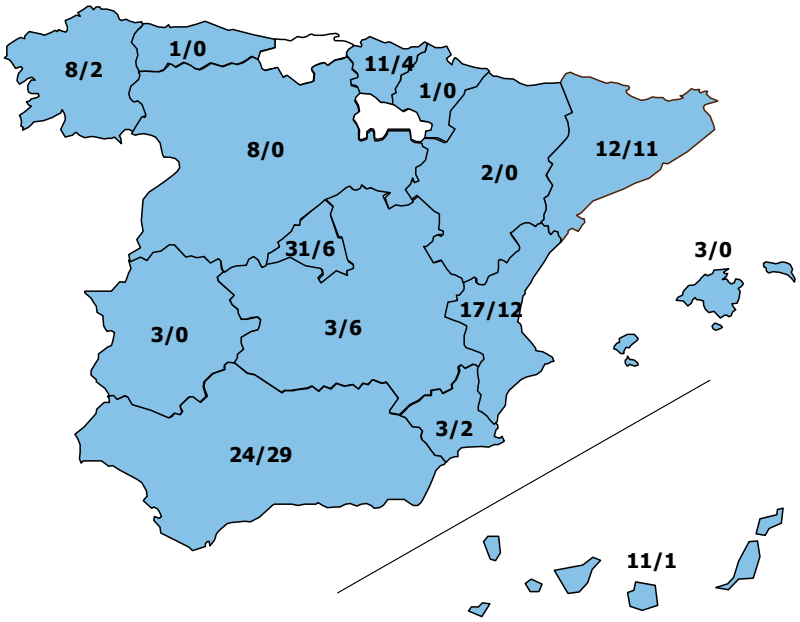
> Practically 1 in every 5 hospital discharges for acute care (public and private) occurs at a private centre that participates in the study

These high proportions in a voluntary study clearly demonstrate that the RESA Study has achieved ample overall representativeness of the Spanish private sector. Although not all health centres participate, it is clear that practically all those that have the capacity and structure and a high volume of activity do so.

2.3. Regional distribution

On the other hand, it is also worth mentioning that the sample is representative of private healthcare at national level, and that the data analysed is from health centres in 15 autonomous communities.

FIGURE 2
REPRESENTATION OF THE NUMBER OF HEALTH CENTRES PARTICIPATING IN THE 2016 RESA STUDY BY AUTONOMOUS COMMUNITY (INPATIENT / OUTPATIENT CENTRES)



(*) MSSI. Statistics of Health Establishments with Inpatient Care, 2013.

2.4 Growth in participation

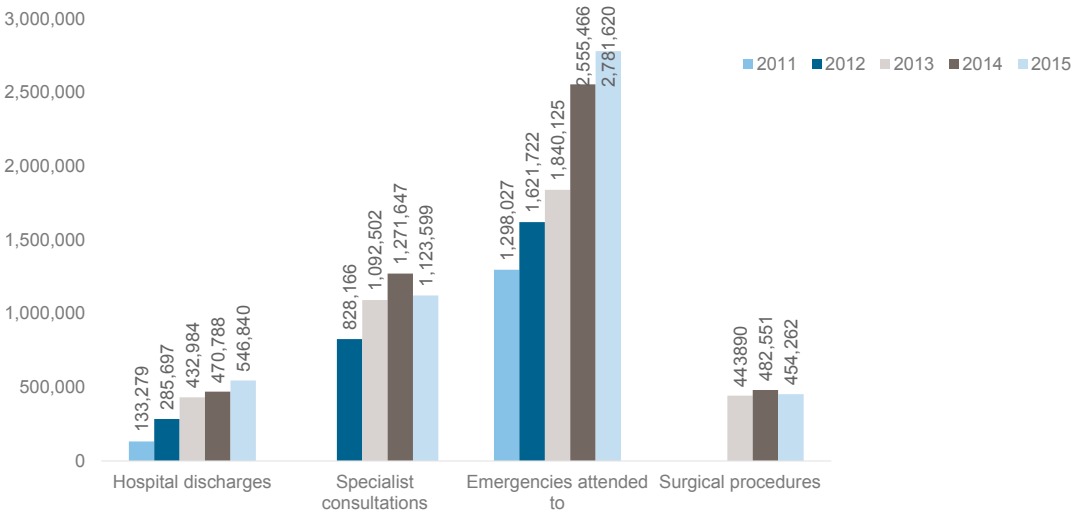
In addition to the number of centres, in most cases there has also been continuous growth in the amount of data provided for each indicator. The centres that participate in the RESA Study belong to different organisations, each with their own computer systems and data collection criteria. This makes comparing information with common characteristics a much greater effort in many cases.

Yet the involvement of health centres in providing information grows each year, meaning that the current database is quite extensive. The increased participation in 2016 compared to the first year that data was collected for each of the indicators is as follows:

FIGURE 3
MOST NOTABLE PARTICIPATION INCREASES FOR THE 2016 RESA STUDY INDICATORS

Unit	Indicator	RESA 2012	RESA 2013	RESA 2014	RESA 2015	RESA 2016	% variation 2016 vs. 1st year
Efficiency	Average stay adjusted by case	133,279	285,697	432,984	470,788	546,840	+310.3 %
	Average stay pre-surgery	-	-	411,428	475,465	454,262	+10.4 %
	Rate of outpatient surgeries	-	-	443,890	482,551	487,283	+9.8 %
Accessibility	Average waiting time for scheduling additional tests (mammograms)	71,996	96,140	139,294	184,399	224,532	+211.9 %
	Average waiting time for scheduling additional tests (magnetic resonances)	179,604	183,501	369,046	480,310	567,870	+216.2 %
	Average waiting time for scheduling additional tests (CAT)	96,682	110,969	255,022	343,985	410,901	+325.0 %
	Average waiting time for additional test reports (mammograms)	70,255	95,665	130,766	168,021	204,780	+191.5 %
	Average waiting time for additional test reports (magnetic resonances)	168,906	191,290	345,172	447,394	529,110	+213.2 %
	Average waiting time for additional test reports (CAT)	98,630	140,495	241,355	327,108	390,859	+296.3 %
	Average waiting time for specialist consultations (traumatology)	-	305,520	391,637	472,676	431,025	+41.1 %
	Average waiting time for specialist consultations (gynaecology)	-	182,490	220,446	321,957	218,293	+19.6 %
	Average time in emergency triage care	1,298,027	1,621,722	1,840,125	2,555,436	2,653,621	+104.4 %
	Average waiting time for medical treatment in A&E	1,298,027	1,621,722	1,840,125	2,555,436	2,653,621	+104.4 %
Healthcare results	Average surgery waiting time	45,915	50,022	75,189	91,493	93,122	+102.8 %
	Average time between diagnosis and starting treatment for colon cancer	-	646	979	1,108	1,576	+144.0 %
	Average time between diagnosis and starting treatment for lung cancer	-	611	791	881	1,118	+83.0 %
	Rate of return to A&E within 72 hours of discharge for the same diagnosis	-	-	892,634	1,323,185	1,339,500	+50.1%
	Hospital readmission rate 30 days from discharge	-	-	687,819	772,531	801,833	+16.6%
	Rate of complications within 3 days of cataract surgery	-	-	37,792	41,692	37,214	-1.5%
Quality and patient safety	Accreditation and certification of hospital units and services	59	65	68	71	101	+71.2 %
	Rate of safe surgeries	-	77,788	79,689	195,949	149,329	+92.0 %
	Rate of colonoscopies performed under sedation	-	27,217	50,454	59,405	57,828	+112.5 %
	Rate of gastroscopies performed under sedation	-	6,037	31,473	35,599	39,490	+554.1 %
	Readmission rate for outpatient surgery at 30 days	-	-	288,150	296,505	315,439	+9.5%

FIGURE 4
EVOLUTION OF THE INFORMATION PROVIDED IN THE RESA STUDY 2011-2015



The RESA Report database now has quite a significant volume of information

2.5. Basic information on participating health centres

The healthcare organisations that participated in the 2016 RESA Study are the largest private health centres and groups operating in Spain, as shown by the data about their structure and activity:

Activity and resources of all inpatient centres participating in the 2016 RESA Study:

FIGURE 5
BASIC DATA ON INPATIENT CENTRES PARTICIPATING IN THE 2016 RESA STUDY.

Healthcare activity	2011	2012	2013	2014	2015	% Variation 2015/2014
Hospital discharges	586,587	706,086	843,864	894,546	929,290	+3.9 %
Surgeries using general anaesthesia	240,639	245,764	268,664	284,123	543,599	+91.3 %
Emergencies attended to	3,263,959	3,581,312	3,672,205	3,939,363	4,989,552	+26.7 %
Hospital resources	**2011**	**2012**	**2013**	**2014**	**2015**	**% Variation 2015/2014**
No. of conventional hospital beds	8,729	10,548	11,071	11,692	14,349	+22.7 %
Adult ICU beds	507	684	696	732	925	+26.4 %
Neonatal and paediatric beds	274	376	372	383	505	+31.8 %
Operating rooms for major surgery	495	565	575	604	823	+36.2 %
Delivery rooms	111	137	146	154	190	+23.4 %

2.6. Indicator selection process

For this year's report, the 2016 RESA Study Committee agreed to consolidate and maintain the indicators from last year's report.

At the initiative of several haemodialysis centres, four indicators were selected for their field this year. These indicators were collected by 29 volunteer centres and the experience was used as a pilot for including them in the next year's RESA Study. Although the information was not collected systematically across all the centres, the results of the pilot study are included in this report.

Thus, the 27 indicators that were analysed in the 2016 RESA Study are those listed in the following table:

FIGURE 6
2016 RESA STUDY INDICATORS

Cod.	Indicator name	Indicator type
1	Average stay adjusted by case	Result
2	Average stay pre-surgery	Result
3	Rate of outpatient surgeries	Result
4	Average waiting time for scheduling additional tests (Mammogram, MRI and CAT)	Process
5	Average waiting time for additional test reports (Mammogram, MRI and CAT)	Process
6	Average waiting time for a first consultation with a specialist (Ophthalmology, Dermatology, Traumatology, Gynaecology and Obstetrics)	Process
7	Average time in emergency triage care	Process
8	Average waiting time for initial medical treatment in A&E	Process
9	Average surgery waiting time	Process
10	Average time between diagnosis and starting treatment for breast cancer	Process
11	Average time between diagnosis and starting treatment for colon cancer	Process
12	Average time between diagnosis and starting treatment for lung cancer	Process
13	Rate of return to A&E within 72 hours of discharge for the same diagnosis	Result
14	Hospital readmission rate 30 days from discharge	Result
15	Rate of complications within 3 days of cataract surgery	Result
16	Accreditation and certification of hospital units and services	Process
17	Policies and procedures implemented for patient safety	Process
18	Rate of safe surgical procedures (surgical check list)	Process
19	Survival rate for patients hospitalised for Acute Coronary Syndrome	Result
20	Rate of hip replacement surgery within 48 hours of hospital admission	Result
21	Rate of colonoscopies performed under sedation	Process
22	Rate of gastroscopies performed under sedation	Process
23	Readmission rate for outpatient surgery at 30 days	Result
24	Crude mortality rate in haemodialysis	Result
25	Percentage of patients with target Kt/V	Result
26	Percentage of patients with Albumin >3.5 g/dl	Result
27	Percentage of prevalent patients with autologous AVF	Result

The 27 general indicators are broken down into 48 to include more specific indicators to give a better picture of the private healthcare outcomes

These 27 general indicators are broken down into 48, as several of them include other more specific indicators for certain areas, specialities, etc.

In general they are quantitative indicators taken from detailed databases provided by hospitals. Additionally, there are 16 qualitative indicators that use standard criteria to assess the documentation provided by health centres regarding the accreditation of centres and services, and patient safety policies.

2.7. Indicator collection and processing

After five editions, the RESA report continues to include new indicators each year. To prevent the report from getting too long, it was decided that some indicators can be published every two years. Specifically, this will impact indicators for very specialised areas that provided stable data in earlier editions. Thus, the indicators related to fertility treatments were not published this year.

All data refer to 2015.

The fieldwork to collect the necessary information for the study was conducted in March and April, requesting standardised databases from the health centres. The quantitative indicators were collected using anonymous databases that are not traceable at patient level, and only those that met pre-set requirements were included. Strict compliance with these terms means that for some indicators there may be numerical differences in the denominators used.

All the health centres were invited to participate in all the indicators, except those that do not apply to specific centres because of their type of activity.

The source for many of the indicators is the Basic Minimum Data Set (CMBD) for hospitalisation, which is collected and coded at patient discharge at all health centres, and which must be sent to the corresponding health administration as a formal declaration of their activity.

Graphics always include the number of cases in question. Data from 2015 was collected for all indicators: overall value and standard deviation of individual values for centres. Graphics also specify the evolution of the data published in previous studies.

2.8. Analysis of quality and outcome observatories

As it is the fifth version of the study, the Committee proposed making a qualitative reflection on the role and positioning of the RESA Study. To this end it was agreed to perform an international review of existing observatories that publish quality data on hospitals.

The outcomes of the study are presented below, grouped by the aspects that formed the basis of the selection criteria:

1. Efficiency.
2. Accessibility (response time for different types of care).
3. Health results (patient return rate).
4. Quality and patient safety (in terms of quality and safety policies and care quality indicators).

3 EFFICIENCY

The efficiency of private hospitals is a value recognised by society. Although it is widely recognised, we consider it necessary to objectify it by presenting some key indicators.

3.1. Average stay adjusted by case

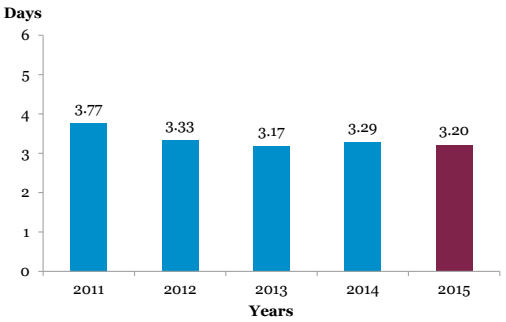
The average stay adjusted by case measures the average number of days that patients are hospitalised (eliminating extreme cases, or "*outliers*"). The case adjustment is done by classifying patients into Diagnosis-Related Groups (DRG) to ensure that differences are not due to each hospital treating a different type of patient. In other words, for each hospital we calculated the average stay that would have resulted if all the health centres had an identical make-up of patients.

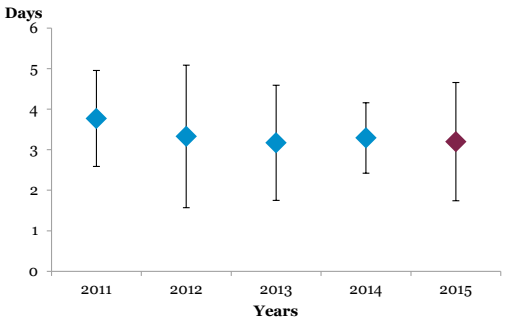
Like in previous years, the indicator for average stay adjusted by case continues to show a high level of efficiency: the outcome for 2015 is even slightly lower than the previous year, meaning that management of hospitalised patients continues to put forth excellent results.

This indicator again shows high efficiency

It is worth noting that this outcome continues to improve, with more than 16.2% increased participation. The participation of health centres in this indicator requires them to have licenses to group cases by DRG, so the increased participation signals an upward trend in this sense.

INDICATOR 1
AVERAGE STAY ADJUSTED BY CASE (2011-2015, MEASURED IN DAYS)
NUMBER OF HOSPITAL ADMISSIONS 2011: 133,279; 2012: 285,697; 2013: 432,984; 2014: 470,788; AND 2015: 546,840
2014/2015 VARIATION: +16.2 %

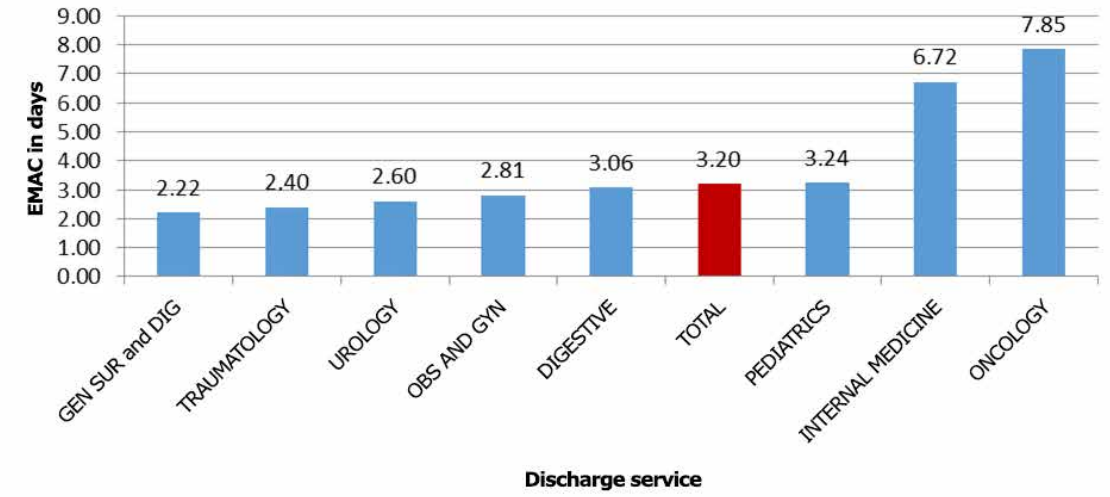




The average stay adjusted by case for the most frequent medical specialisations follows a similar pattern to last year, with the longest hospitalisations in oncology and internal medicine and the shortest ones in general surgery, traumatology and urology.

INDICATOR 1.A.

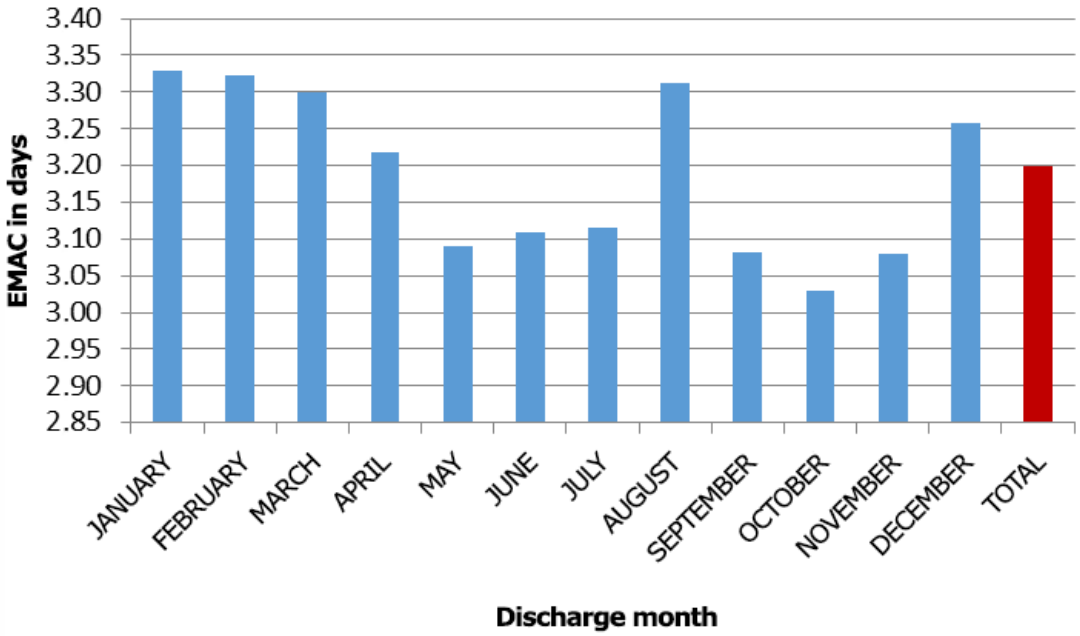
AVERAGE STAY ADJUSTED BY CASE BY DISCHARGE SERVICE (2015, MEASURED IN DAYS)



In terms of a seasonal distribution, the average differences in stay are minimum between the months of the year (two-tenths). Many healthcare systems show longer stays in periods of peak demand (winters), which is practically unnoticeable in our study. There are excellent outcomes for average stay throughout the year with very few seasonal variations.

INDICATOR 1.B.

AVERAGE STAY ADJUSTED BY CASE BY MONTH (2015, MEASURED IN DAYS)



3.2. Average stay pre-surgery

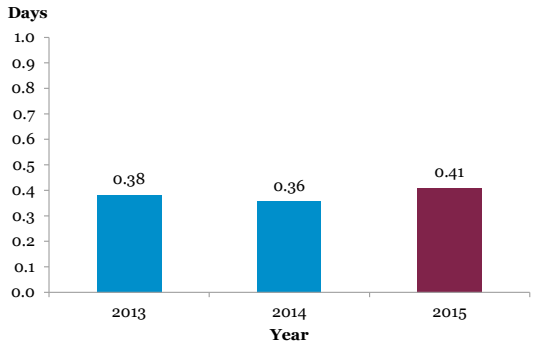
The average stay pre-surgery measures the efficiency of the hospitalisation process prior to surgery.

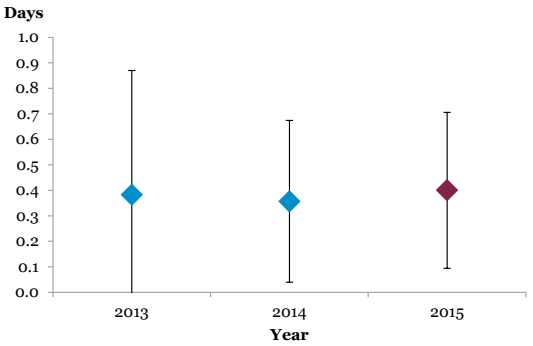
Values are similar to prior years, with a slight increase.

The outcomes show that patients are hospitalised an average of 9 hours before surgery, allowing them to be properly prepared and avoiding unnecessary hospitalisation time.

Pre-surgery hospitalisation averages at just 9 hours

INDICATOR 2
AVERAGE STAY PRE-SURGERY (2013-2015, MEASURED IN DAYS)
NUMBER OF SURGICAL PROCEDURES 2013: 411,428; 2014: 475,465; AND 2015: 385,933
2014/2015 VARIATION: -18.8 %





3.3. Rate of outpatient surgeries

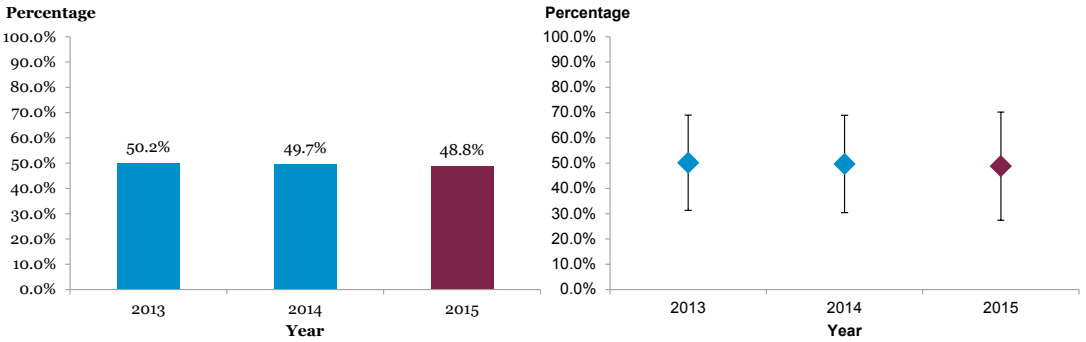
This indicator is widespread in the healthcare field to measure the existing level of outpatient surgery. It is calculated using the ratio of outpatient procedures performed by health centres, taking the denominator to be the total number of surgical procedures performed during the year.

We should point out that the number of cases analysed for this indicator has increased without significantly impacting the data from last year's study.

The results are in line with those from last year. Outpatient levels of around 50% are considered an excellent outcome, and even more so considering that a large number of surgeries in private practice are performed in the afternoon, making it more likely that patients will stay overnight at the health centre.

Levels of outpatient surgical procedures are at around 50%

INDICATOR 3
RATE OF OUTPATIENT SURGICAL PROCEDURES (2013-2015, %)
NUMBER OF SURGICAL PROCEDURES 2013: 443,890; 2014: 482,551; AND 2015: 487,283
2014/2015 VARIATION: +1.0 %



4 ACCESSIBILITY IN HEALTHCARE

4.1. Average waiting time for scheduling additional tests

The waiting time for scheduling additional tests is an indicator that is broken down for the three main diagnostic imaging tests: Mammogram, Magnetic Resonance Imaging (MRI) and Computerised Axial Tomography (CAT) scan.

The average waiting times for scheduling appointments include tests performed on a priority basis, regular check-ups, and non-urgent tests scheduled at the patient's convenience.

There was a major increase in the data provided by health centres for the three types of tests, ranging from 18.2% for MRIs to 21.8% for mammograms.

The waiting time once the appointment was scheduled improved in all three cases, with a reduction of more than 3 days for mammograms, and average times of under 1 week for MRIs and under 5 days for CAT scans.

In more than 30% of cases mammogram and MRI appointments are made the same day

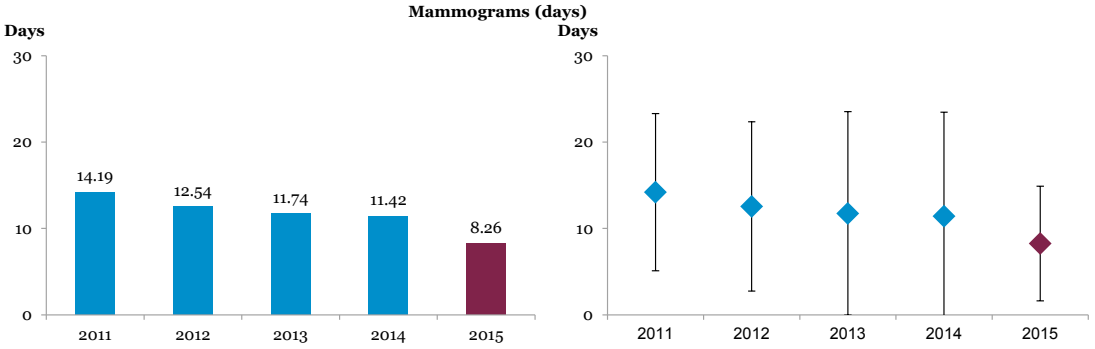
4.1.1. Mammograms

The waiting time for a mammogram appointment has gone down by three days in the 2016 RESA Study. This is, in part, due to the addition of new health centres with shorter waiting times. But that is not the only reason: if we look at the variance of indicators between health centres, we see that it has been significantly reduced; this means that most health centres that participated last year have improved their times significantly.

This effect, that we have seen demonstrated across many indicators, confirms the qualitative impression that the publication of the RESA Study is an incentive for health centres to improve their indicators.

INDICATOR 4
AVERAGE WAITING TIME FOR SCHEDULING ADDITIONAL TESTS

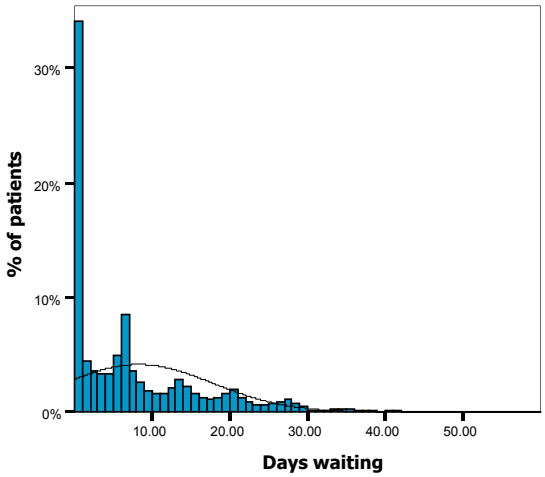
INDICATOR 4.1.
Average waiting time for scheduling additional tests (2011-2015, time in days)
Number of mammograms 2011: 71,996; 2012: 96,140; 2013: 139,294; 2014: 184,399; and 2015: 224,532
2014/2015 variation: +21.8 %



Looking at the distribution in following chart we can see that this average is due to appointments being scheduled immediately for the day requested in 30% of cases, more than 60% of patients having the diagnostic test within 7 days and only 10% having to wait more than 22 days. Only small portions of patients have larger time differences, with three small peaks around 7, 14 and 20 days, which we interpret as being generally due to patients' own convenience.

INDICATOR 4.1.A

AVERAGE WAITING TIME FOR SCHEDULING ADDITIONAL TESTS – MAMMOGRAMS (2015, TIME IN DAYS)

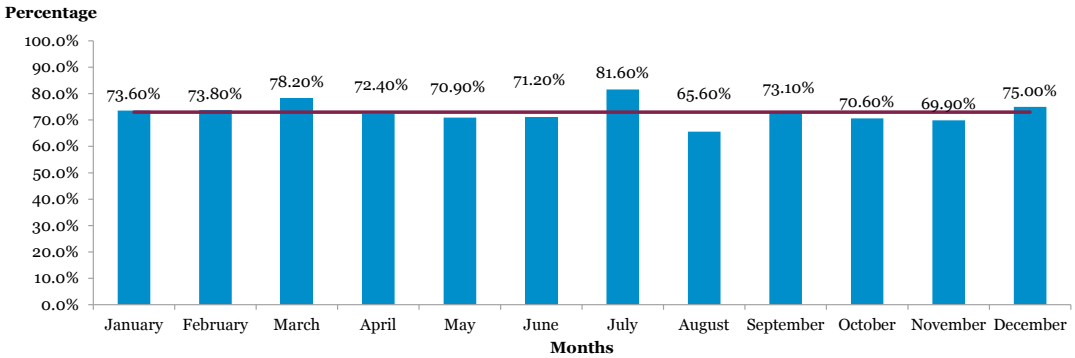


In terms of monthly variability, by comparing the proportion of mammograms performed the same month they were requested, we can see that in the winter months and July there tends to be a higher proportion of tests within the same month they were requested, while in the summer months, except July, the tests are usually performed after the month they were requested. The pattern is therefore very similar, with a slight variation caused by holiday months, where it seems that tests are moved forward in order to perform them before the start of holidays.

We understand this effect to be another characteristic of private healthcare: the flexibility to adapt to demand through increased activity in preparation for holiday months.

INDICATOR 4.1.B

AVERAGE WAITING TIME FOR ADDITIONAL TESTS –MAMMOGRAMS (2015) PERCENTAGE OF REQUESTED TESTS PERFORMED IN THE SAME MONTH

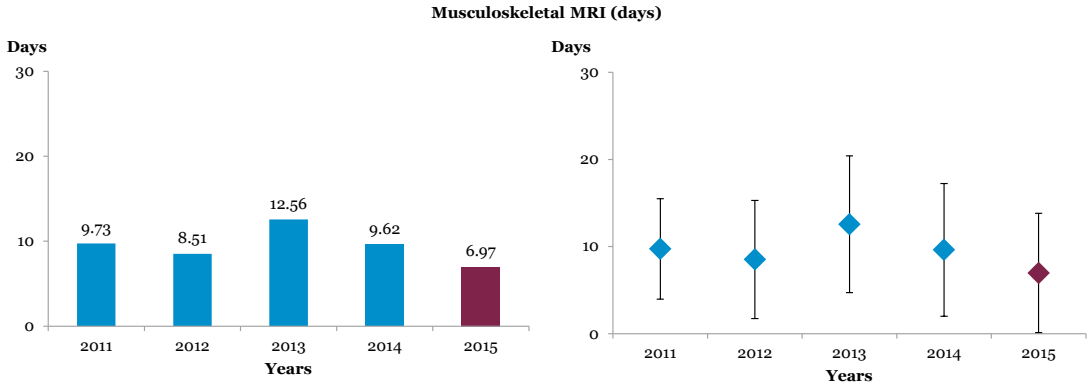


4.1.2. Magnetic Resonance Imaging

The average time decreased by nearly three days, especially attributable to the addition of health centres with shorter waiting times this year, however, like last year, there was also a slight decrease in the waiting times for centres that had participated in the study previously.

The indicator stands at 6.97 days, slightly under a week.

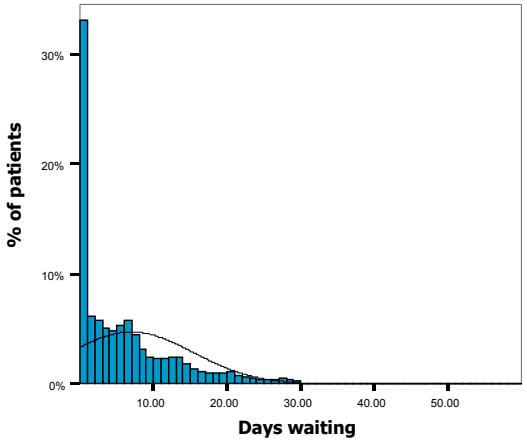
INDICATOR 4.2.
Average waiting time for scheduling additional tests (2011-2015, time in days)
Number of magnetic resonances 2011: 179,604; 2012: 183,501; 2013: 369,046; 2014: 480,310; and 2015: 567,870
2014/2015 variation: +18.2 %



As can be seen in the following chart, more than a third are performed on the same day, with up to 70% in under 7 days and only 10% in over 18 days.

INDICATOR 4.2.A

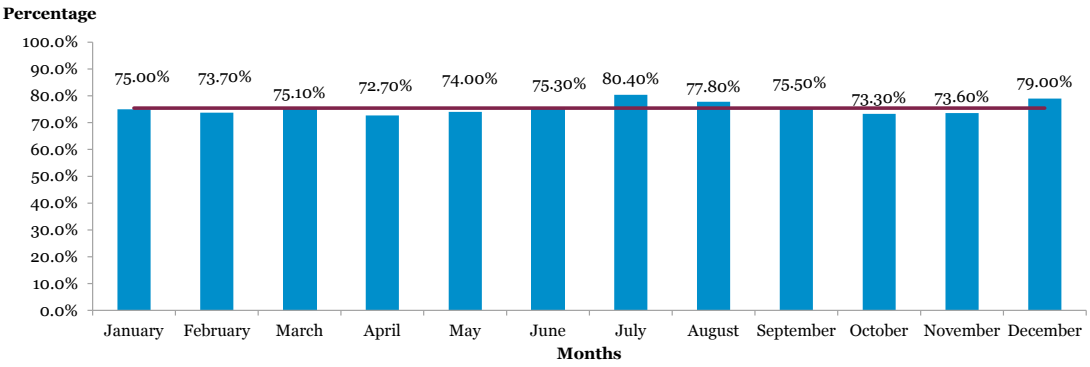
AVERAGE WAITING TIME FOR SCHEDULING ADDITIONAL TESTS – MAGNETIC RESONANCES (2015, TIME IN DAYS)



The ratio of demand to resolution shows less waiting time for performing tests in December, July and September, and longer times in April and May.

INDICATOR 4.2.B

AVERAGE WAITING TIME FOR ADDITIONAL TESTS –MAGNETIC RESONANCES (2015) PERCENTAGE OF REQUESTED TESTS PERFORMED IN THE SAME MONTH



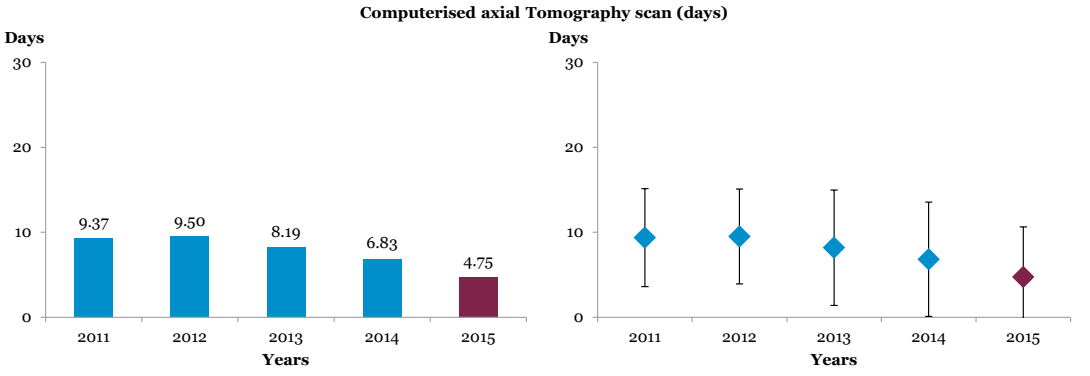
4.1.3. Computerised Axial Tomography Scan

For CAT scans we notice a very significant decrease in times that were already rather good: the waiting time went down by more than two days between 2014 and 2015, with the average waiting time standing at 4.75 days.

Just as has occurred in the previous cases, the reduction in times is due to the addition of health centres with shorter waiting times and reduced waiting times for health centres that participated in this indicator last year.

INDICATOR 4.3.

Average waiting time for scheduling additional tests (2011-2015, time in days)
Number of computerised axial tomography scans 2011: 96,682; 2012: 110,969; 2013: 255,022; 2014: 343,985; and 2015: 410,901
2014/2015 variation: +19.4 %

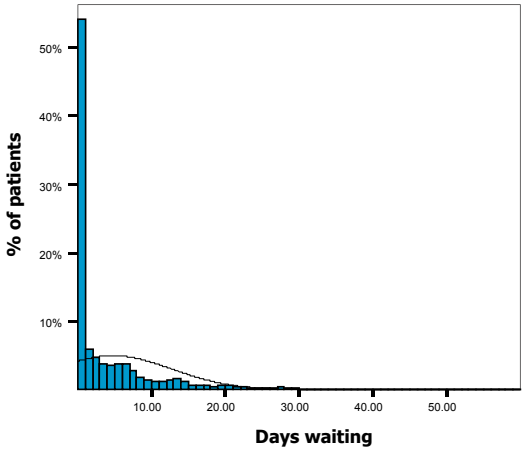


In this case the distribution graph shows a much higher concentration; in more than half of the cases the test is performed the same day it is requested and only very small proportions of patients have longer waiting times: 70% do not wait more than 5 days and under 10% of patients receive appointments in more than 14 days.

More than half of CAT SCANS are performed on the same day they are requested

INDICATOR 4.3.A

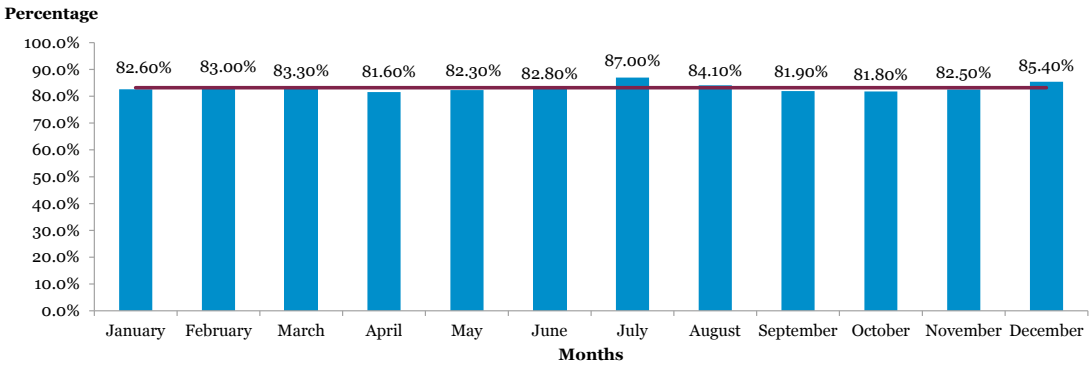
AVERAGE WAITING TIME FOR SCHEDULING ADDITIONAL TESTS – CAT SCANS (2015, TIME IN DAYS)



Submission of results in the same month as the test follows a very uniform pattern with little variation between months; most results are submitted within the month in August and December.

INDICATOR 4.3.B

AVERAGE WAITING TIME FOR ADDITIONAL TESTS
– CAT SCANS (2015) PERCENTAGE OF REQUESTED TESTS PERFORMED IN THE SAME MONTH



As we can see, the general pattern of practically no waiting time for these tests is maintained or even improved for the vast majority of health centres.

In most health centres there is practically no waiting time for scheduling diagnostic tests

4.2. Average waiting time for additional test reports

Another important component in the accessibility of additional tests is the process of preparing and submitting the medical report after the test is performed.

This indicator measures the time between when the test is performed and when the report is submitted with the results and is available to the patient or doctor.

The outcome for the indicator shows that health centres are maintaining waiting times for additional test reports under four days, and two days in the case of mammograms.

4.2.1. Average waiting time for mammogram reports

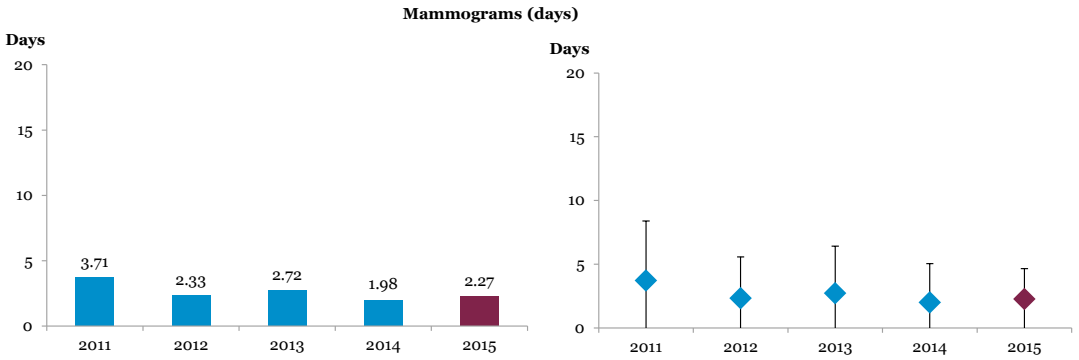
Mammogram reports are submitted in an average of 2.27 days. These are shorter waiting times than in most previous years, although slightly longer than last year which were the lowest in all the years of the study. Variability between centres is somewhat lower than last year.

As we can see, 70% of mammogram reports are available in under a day from when the test is performed, with 90% available in four days, and only marginal cases where reports are not available sooner.

The average waiting time for additional test results is between 2 and 4 days

INDICATOR 5
AVERAGE WAITING TIME FOR ADDITIONAL TEST REPORTS

INDICATOR 5.1.
Average waiting time for additional test reports (2011-2015, time in days)
Number of mammograms 2011: 70,255; 2012: 95,665; 2013: 130,766; 2014: 168,021; and 2015: 204,780
2014/2015 variation: +21.9 %



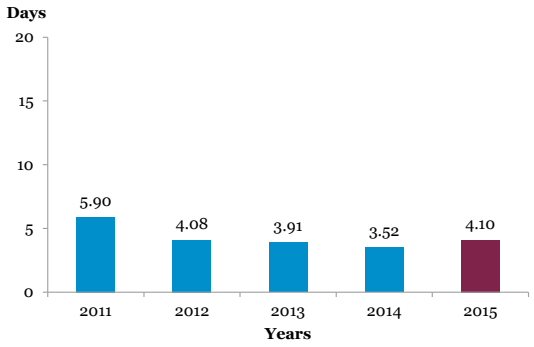
Source: RESA 2012, RESA 2013, RESA 2014 and RESA 2015 Studies, data from 2011, 2012; 2013, 2014, 2015. IDIS Foundation.
Data provided by the hospital groups/centres participating in the 2016 RESA Study. Analysis and graphs by Antares Consulting.

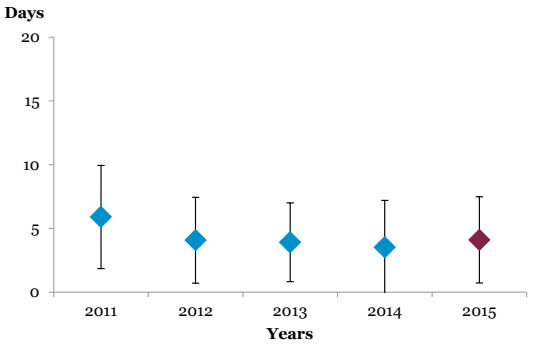
4.2.2. Average waiting time for magnetic resonance imaging reports

Magnetic resonance imaging (MRI) reports are available in an average of just over 4 days. This time has increased by a half day compared to last year, but is not the longest time observed over the years of the study. Looking back across the entire study, the trend seems to be steady at an average of between 3.5 and 4 days.

In the break-down of the information we can see that in the case of MRIs 50% of reports are available in one day, 70% in an average of three days, and only in 10% of cases are reports delayed 9 or more days.

INDICATOR 5.2.
Average waiting time for additional test reports (2011-2015, time in days)
Number of magnetic resonances 2011: 168,906; 2012: 191,290; 2013: 345,172; 2014: 447,394; and 2015: 529,410
2014/2015 variation: +18.3 %



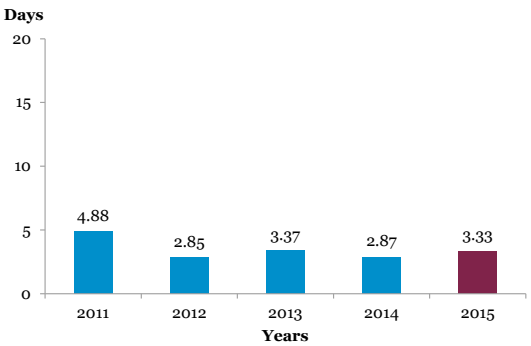


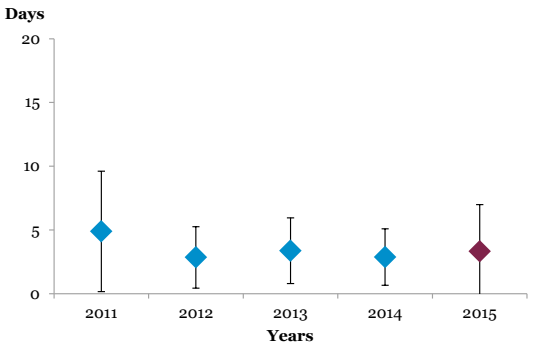
4.2.3. Average waiting time for CAT scan reports

The average waiting time for CAT scan reports this year is 3.33 days, slightly higher than in 2014 and lower than in 2013. The trend stands steady at around 3 days over the course of the study.

Going into more detail, in 50% of cases the test reports are submitted within 24 hours of performing the test. In 80% of cases the test report is submitted in under 6 days.

INDICATOR 5.3.
Average waiting time for additional test reports (2011-2015, time in days)
Number of computerised axial tomography scans 2011: 98,630; 2012: 140,495; 2013: 241,355; 2014: 327,108; and 2015: 390,859
2014/2015 variation: +19.5 %





4.3. Average waiting time for specialist consultations

The analysis of the ratio that measures the average time for scheduling specialist consultations shows the flexibility that private healthcare centres have in meeting patients' demand for this type of services.

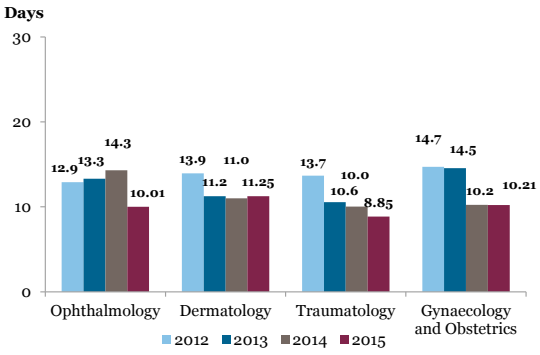
This year all the specialist appointments analysed —ophthalmology, dermatology, traumatology and gynaecology and obstetrics— have reduced or maintained their waiting times from last year and show a downward trend over the four years of the study.

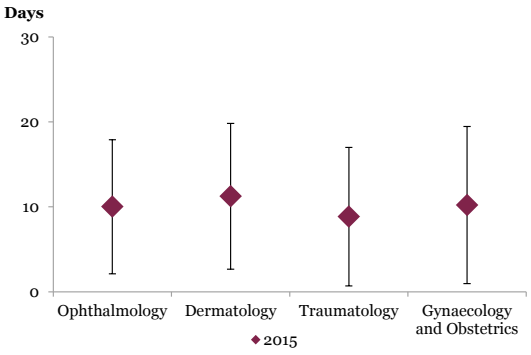
The average time for al of the four specialists only very slightly exceeds ten days in the case of dermatology; this shows how flexible private healthcare centres are in their ability to meet patients' demand for this type of service.

The average waiting time for a specialist consultation is around 10-11 days

INDICATOR 6

AVERAGE WAITING TIME FOR SPECIALIST CONSULTATIONS (2012-2015, TIME IN DAYS)
NUMBER OF OPHTHALMOLOGY CONSULTATIONS 2012: 153,998; 2013: 214,835; 2014: 215,353; AND 2015: 242,289 (+12.5 %)
NUMBER OF DERMATOLOGY CONSULTATIONS 2012: 186,158; 2013: 265,584; 2014: 261,661; AND 2015: 231,992 (-11.3 %)
NUMBER OF TRAUMATOLOGY CONSULTATIONS 2012: 305,520; 2013: 391,637; 2014: 472,676; AND 2015: 431,025 (-8.8 %)
NUMBER OF GYNAECOLOGY CONSULTATIONS 2012: 182,490; 2013: 220,446; 2014: 321,957; AND 2015: 218,293 (-32.2 %)





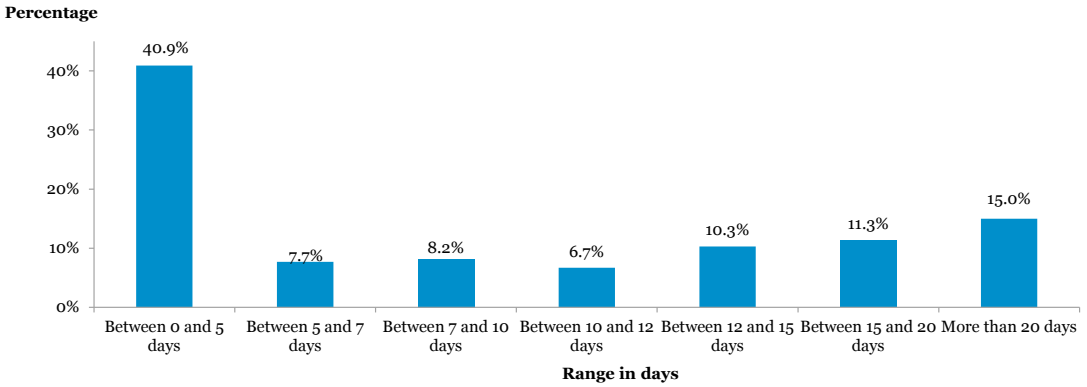
4.3.1. Ophthalmology

The average waiting time for ophthalmology appointments is 10.01 days, breaking the upward trend observed prior to 2014.

In the chart we can see that more than 40% of ophthalmology appointments are made within 1 and 5 days, and only 15% are made in more than 20 days.

INDICATOR 6.A

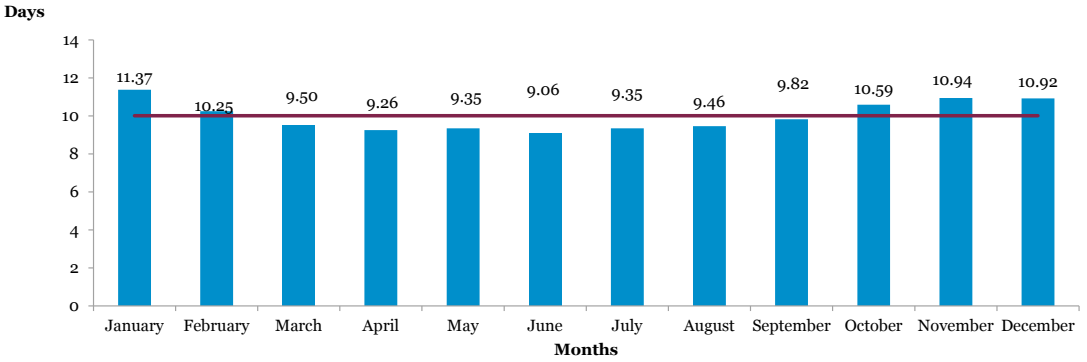
AVERAGE WAITING TIME FOR OPHTHALMOLOGY CONSULTATIONS (2015, TIME IN DAYS)



Finally, if we analyse the distribution by month, we can confirm that there are an average of three days' variation between the months with the longest and shortest waiting times, although the times remain very good. There are increased waiting times at a very particular time of year: October to February.

INDICATOR 6.B

AVERAGE WAITING TIME FOR OPHTHALMOLOGY CONSULTATIONS BY MONTH (2015, TIME IN DAYS)



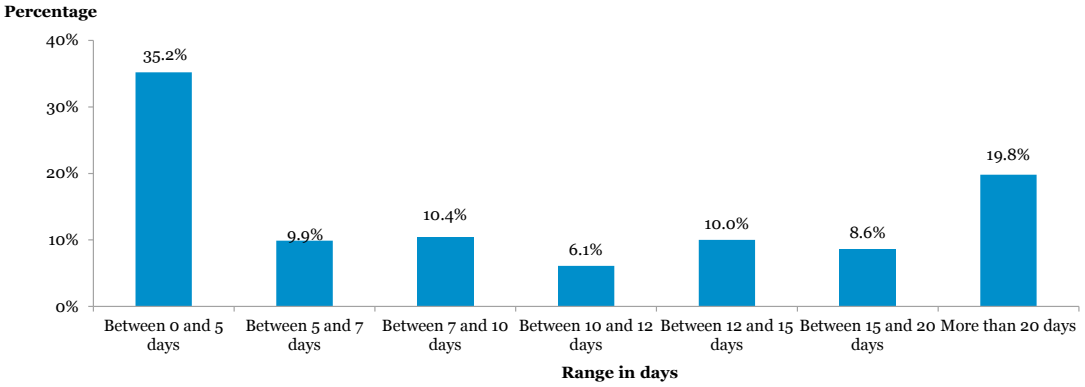
4.3.2. Dermatology

The average waiting time in 2015 was 11.25 days, in line with previous years and a significant improvement over 2012 (13.9). The waiting time for dermatology therefore seems rather stable at around 11 days.

Moreover, more than 45% of requests are handled in under 7 days, and in 80% of cases the wait is under 20 days.

INDICATOR 6.C

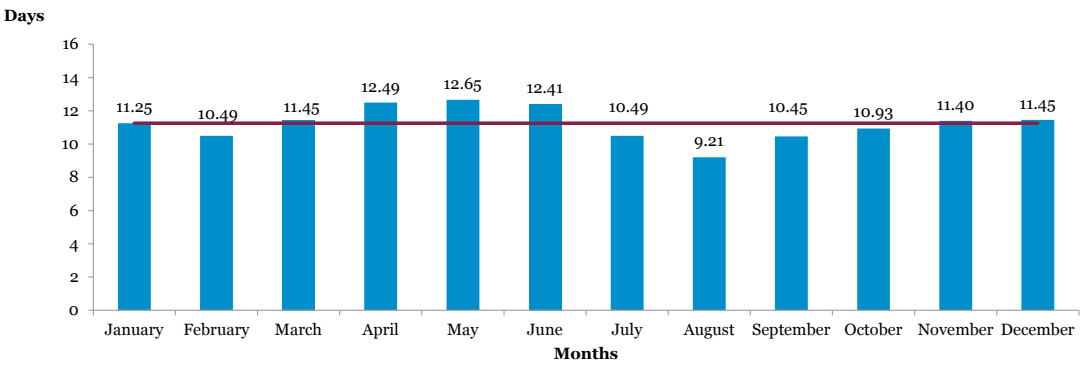
AVERAGE WAITING TIME FOR DERMATOLOGY CONSULTATIONS (2015, TIME IN DAYS)



The analysis of the average waiting time between requesting an appointment and seeing a dermatologist ends with describing how it varies based on the month the request is made. The variation stands at three days, so most months are quite similar, although August stands out with the shortest waiting time (9.21 days) and May with the longest of all (12.65 days). Peak waiting times are from April to June.

INDICATOR 6.D

AVERAGE WAITING TIME FOR DERMATOLOGY CONSULTATIONS BY MONTH (2015, TIME IN DAYS)



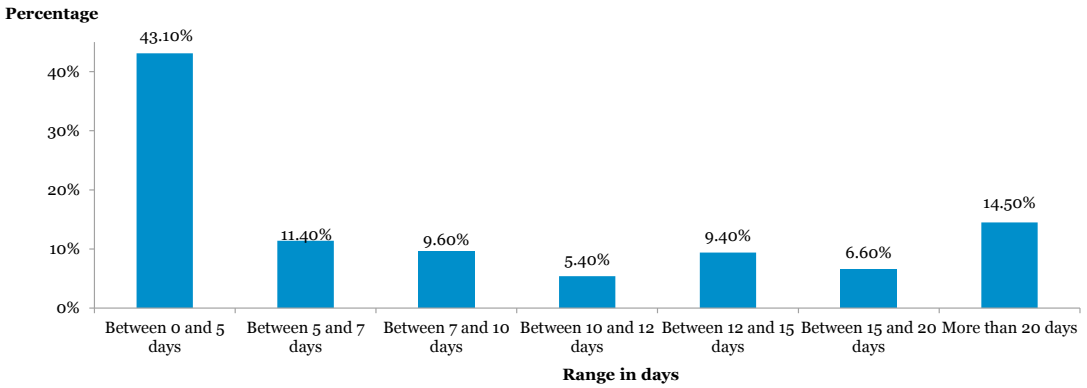
4.3.3. Traumatology

The average waiting time is 8.85 days, down by more than a day from last year.

More than 43% of patients are seen within five days, and 64% within 10 days.

INDICATOR 6.E

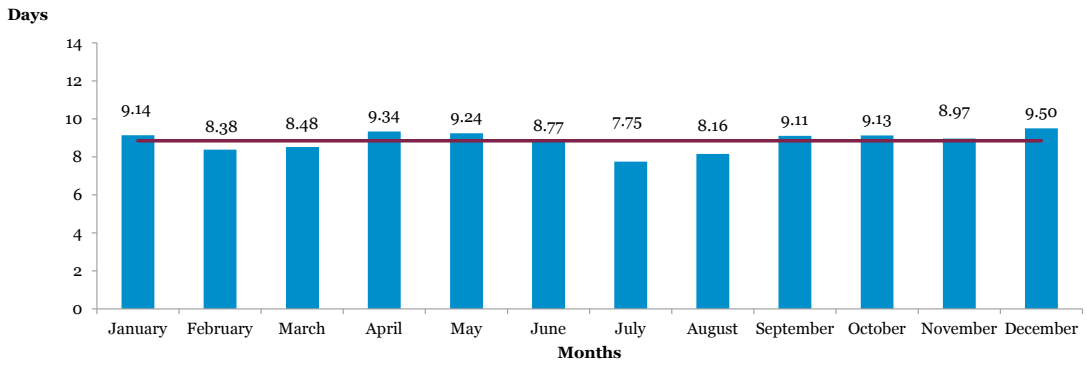
AVERAGE WAITING TIME FOR TRAUMATOLOGY CONSULTATIONS (2015, TIME IN DAYS)



By months, the average waiting times vary between 7.75 and 9.5 days (just over two days of variation) with peak waiting times between April and June and the shortest waiting times in August.

INDICATOR 6.F

AVERAGE WAITING TIME FOR TRAUMATOLOGY CONSULTATIONS BY MONTH (2015, TIME IN DAYS)



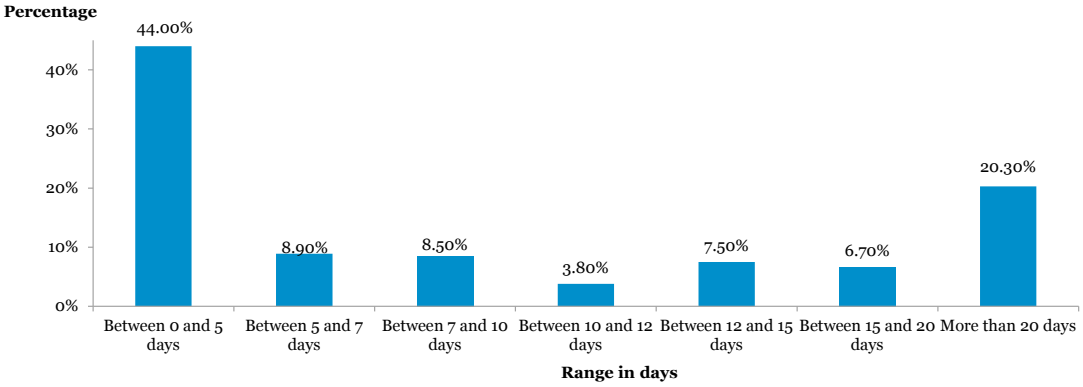
4.3.4. Gynaecology and Obstetrics

The average waiting time for gynaecology and obstetrics appointments is, just like last year, 10.2 days.

Forty-four percent of requests are met in five days. Twenty percent of appointments are scheduled in over 20 days, which is probably due to follow-up appointments.

INDICATOR 6.G

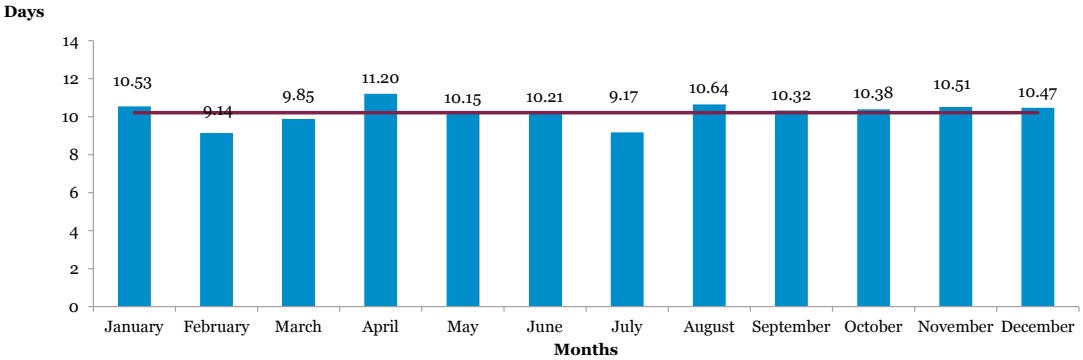
AVERAGE WAITING TIME FOR GYNAECOLOGY AND OBSTETRICS CONSULTATIONS BY HEALTH CENTRE (2015, TIME IN DAYS)



The analysis of the average waiting time between requesting an appointment and seeing a gynaecologist ends with describing how it varies based on the month the request is made. It is one of the specialist areas with the lowest seasonal variation. April stands out for having the longest waiting times and July the shortest.

INDICATOR 6.H

AVERAGE WAITING TIME FOR GYNAECOLOGY AND OBSTETRICS CONSULTATIONS BY MONTH (2015, TIME IN DAYS)



The analysis of the types of health centres based on their activity providing additional services for the public sector is of some interest. Once again this year we can observe that average waiting times for appointments are, in some of the health centres with publicly-funded activities (concessions and health centres with global agreements), higher than the average for all private health centres, but almost never more than one month. This occurs in some, but not all, privately-managed public health centres, given that in most of them waiting times are similar to overall averages for private health centres. As a whole, it seems that this effect of accessibility and minimum waiting times does not depend so much on the type of patients as on a flexible management model.

4.4. Average waiting time in A&E

This year participation in this indicator increased around 4%, both due to more health centres providing information and a growing number of A&E services in health centres that had already participated. The indicator this year is derived from evaluating 2.7 million A&E visits to the hospitals participating in this study.

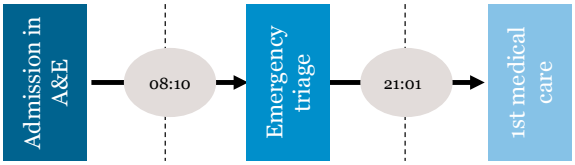
We break the average waiting time in A&E into two sections: patient assessment when they arrive at A&E and classifying them based on the priority/seriousness of the case to be seen (a phase called *triage*); and the time between *triage* and receiving medical care from the attending doctor.

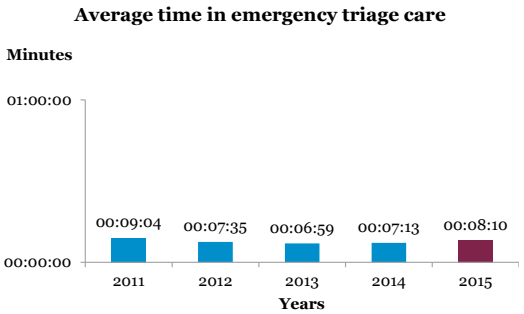
Again this year, the average times obtained for *triage* and for being seen by the attending doctor demonstrate the healthcare results for the emergency services of the health centres participating in the study. The total average time that patients wait in A&E before being seen by a doctor is around 29 minutes for the 2.7 million emergency cases analysed in 2015.

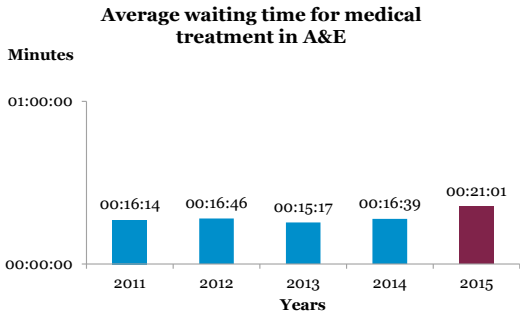
The time in *triage* is very similar to previous years. The waiting time for being seen by a doctor has increased slightly by four minutes.

Average time in emergency medical care stands at under 30 minutes (8.10 minutes in *triage*)

INDICATOR 7-8
AVERAGE WAITING TIME FOR EMERGENCY CARE (2011-2015, TIME IN MINUTES)
NUMBER OF EMERGENCIES 2011: 1,298,027; 2012: 1,621,722; 2013: 1,840,125; 2014: 2,555,436; AND 2015: 2,653,621
2014/2015 VARIATION: +3.8 %





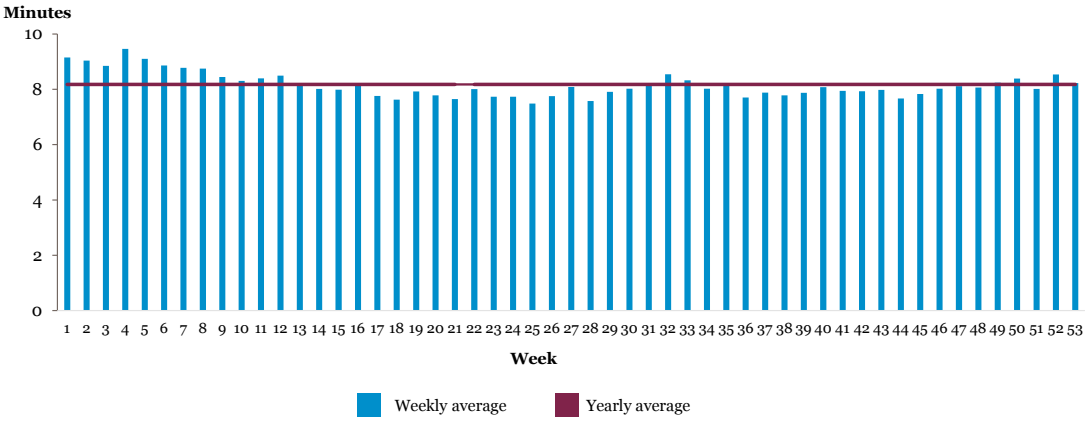


Time considerations have a strong influence on a service with major peaks of activity overload during certain times of year, days of the week or hours of the day.

The distribution of the average time in *triage* by weeks of the year shows a variability of very few minutes, with somewhat higher times during weeks of emergency peaks like in winter (weeks 50, 52, 1, 2 and 4) and in August (weeks 31 to 33).

INDICATOR 7.A

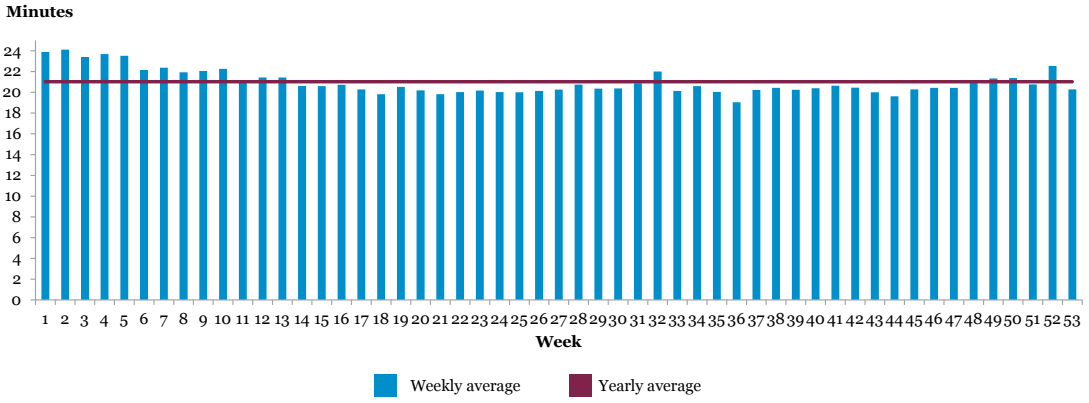
AVERAGE TIME IN EMERGENCY *TRIAGE* BY WEEK OF THE YEAR (2015, TIME IN MINUTES)



The waiting time to be seen by a doctor also remains steady, although it is affected somewhat more than *triage* time during months of emergency peaks, with a variation of four minutes.

INDICATOR 8.A

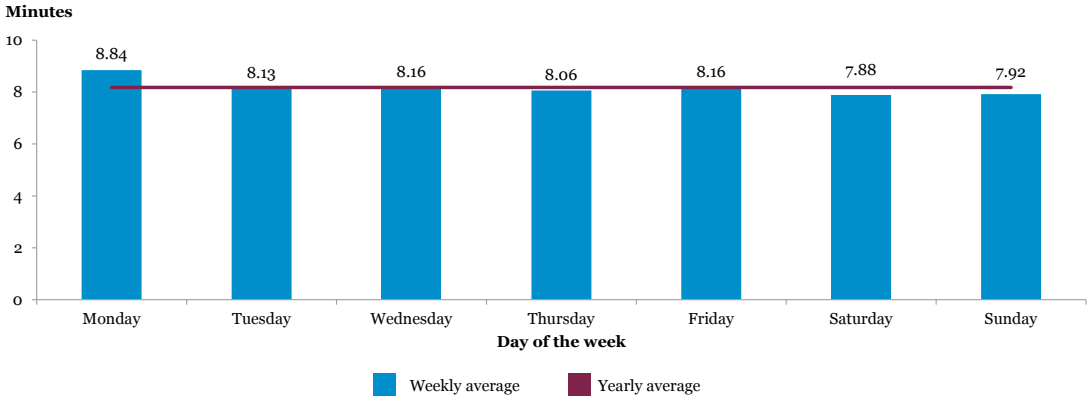
AVERAGE WAITING TIME FOR MEDICAL TREATMENT IN A&E BY WEEK OF THE YEAR (2015, TIME IN MINUTES)



Waiting times by day of the week are basically stable except in the case of Monday, where there is a 0.5 minute increase in *triage* and a 1.5 minute increase to see a doctor.

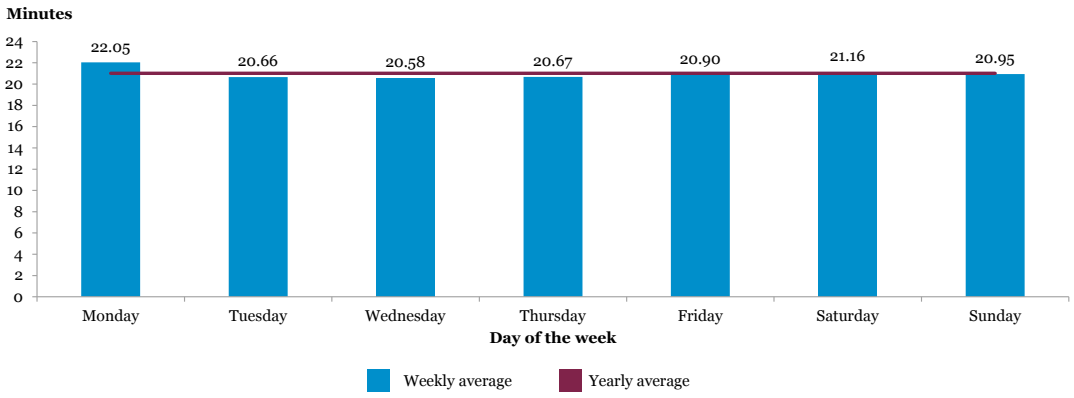
INDICATOR 7.B

AVERAGE TIME IN EMERGENCY *TRIAGE* BY DAY OF THE WEEK (2015, TIME IN MINUTES)



INDICATOR 8.B

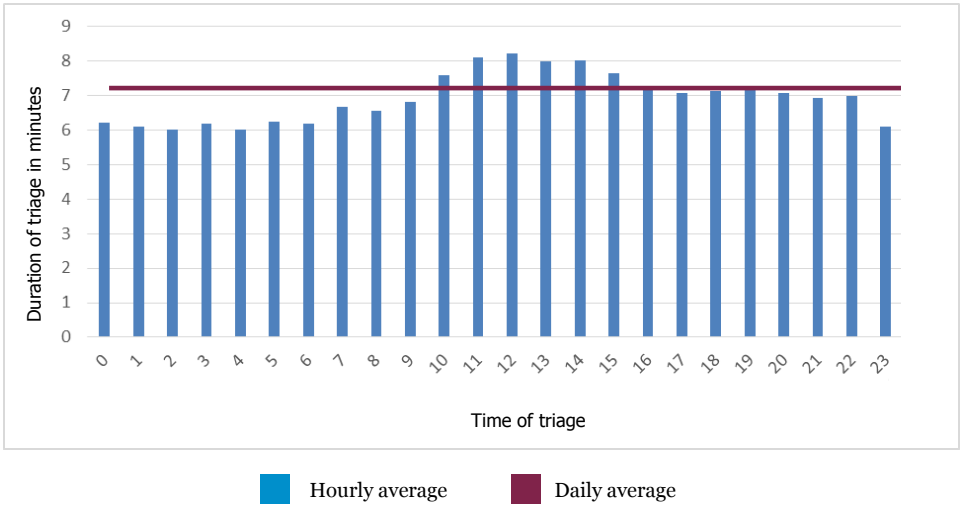
AVERAGE WAITING TIME FOR MEDICAL TREATMENT IN A&E BY DAY OF THE WEEK (2015, TIME IN MINUTES)



The distribution by times in emergency care show the usual peaks between 9 and 12 in the morning and after 7 in the evening. As can be seen in the chart, these demand peaks barely affect waiting times: the times with the greatest peaks cause an increase in waiting time of barely two minutes in *triage* and of three to four minutes to see a doctor.

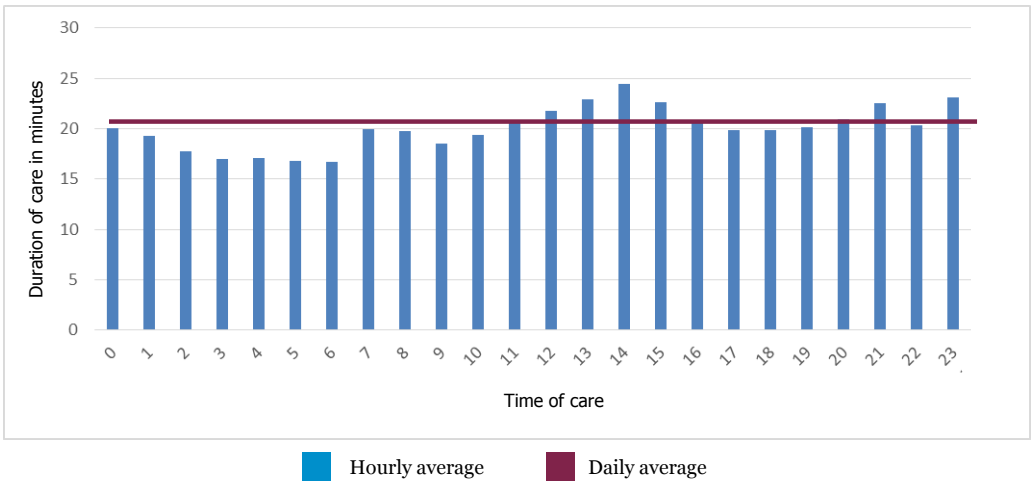
INDICATOR 7.C

AVERAGE TIME IN EMERGENCY *TRIAGE* BY HOUR OF THE DAY (2015, TIME IN MINUTES)



INDICATOR 8.C

AVERAGE WAITING TIME FOR MEDICAL TREATMENT IN A&E BY HOUR OF THE DAY (2015, TIME IN MINUTES)



All in all, the data present an image of great accessibility in A&E as well as flexibility of resources: as we know, emergency services vary greatly by hour, day and season of demand, which is something they must adapt to. It is important to note how these major fluctuations in demand impact waiting times by just a few minutes.

4.5. Average surgery waiting time

This indicator shows the time between the patient's pre-anaesthesia consultation (pre-surgical assessment) and the date of the procedure.

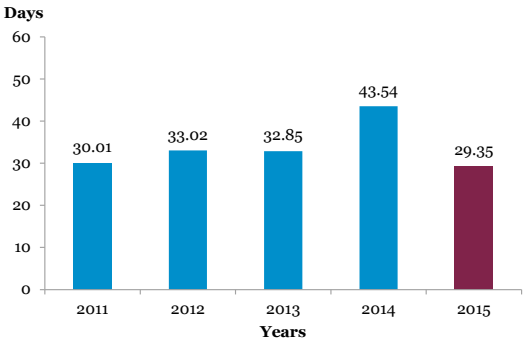
In order to participate in this indicator, health centres must record the pre-anaesthesia date in their computer systems, making it difficult to collect data because in many cases the pre-anaesthesia occurs outside the health centre.

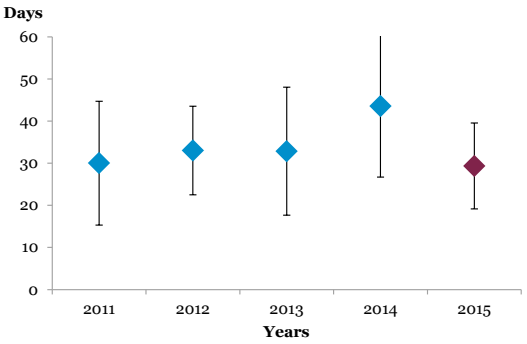
This year, there was a major reduction of 14 days for this indicator compared to the 2014 figure, which itself had been much higher than in previous years. The 2015 figure is the lowest of the entire study. Detailed analysis of the data indicates that the health centres who were added last year with higher averages have since adapted to the group average.

The standard deviation for this year is lower than in previous years, which suggests that improvements were made by all centres and especially those who had higher times last year.

The historical data seems to show a baseline of around 30 days, which should be considered an excellent time given that most were elective surgeries.

INDICATOR 9
AVERAGE SURGERY WAITING TIME (2011-2015, TIME IN DAYS)
NUMBER OF SURGICAL PROCEDURES 2011: 45,915; 2012: 50,022; 2013: 75,189; 2014: 91,493; AND 2015: 93,122
2014/2015 VARIATION: +1.8 %





4.6. Average time between diagnosis and starting cancer treatment

The average time to start cancer treatment is far below the 8 weeks recommended by international programmes

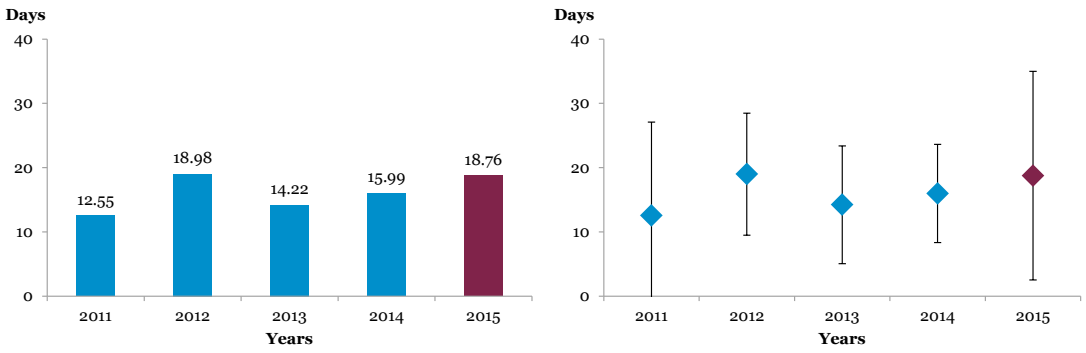
The time to start cancer treatment is one of the most important quality indicators. It is a type of care that, although not urgent, requires priority attention with no unnecessary delays.

Every year the RESA Study includes the average waiting time between the confirmation of the diagnosis and starting treatment, whether it be medical or surgical.

The average time between diagnosis and treatment of breast cancer has varied over the course of the RESA Study between 12 days (under 2 weeks) and 19 days (under 3 weeks). This year's outcome shows a slight increase, although it is still under 3 weeks, which is not significant for the prognostic variation range.

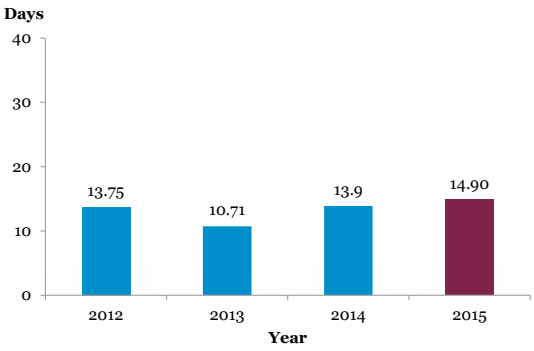
The average time to start oncology treatments is 15 days for colon cancer and around 20 days for breast and lung cancer

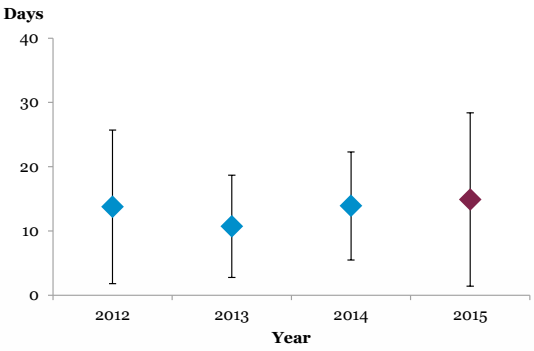
INDICATOR 10
AVERAGE TIME BETWEEN DIAGNOSIS AND TREATMENT FOR BREAST CANCER (2011-2015, TIME IN DAYS)
NUMBER OF PATIENTS 2011: 1,993; 2012: 2,168; 2013: 2,165; 2014: 2,164; AND 2015: 2,962
2014/2015 VARIATION: +36.9 %



The time between diagnosis and treatment of colon cancer has remained under two weeks throughout the entire study.

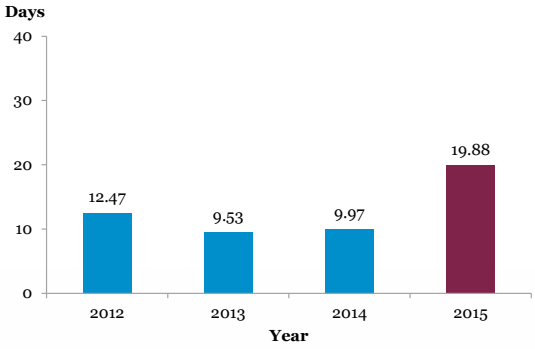
INDICATOR 11
AVERAGE TIME BETWEEN DIAGNOSIS AND TREATMENT FOR COLON CANCER
(2012-2015, TIME IN DAYS)
NUMBER OF PATIENTS 2012: 646; 2013: 979; 2014: 1,108; AND 2015: 1,576
2014/2015 VARIATION: +42.2 %

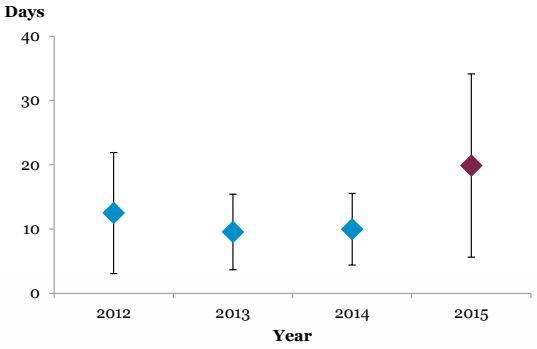




In the case of lung cancer treatment, the waiting time remains under three weeks.

INDICATOR 12
AVERAGE TIME BETWEEN DIAGNOSIS AND TREATMENT FOR LUNG CANCER
(2012-2015, TIME IN DAYS)
NUMBER OF PATIENTS 2012: 611; 2013: 791; 2014: 881; AND 2015: 1,118
2014/2015 VARIATION: +26.9 %





The waiting times this year for treating the most common cancers are between two and three weeks, which is undoubtedly an excellent outcome far below the 8 weeks often recommended by international oncology treatment programmes.

5 HEALTHCARE RESULTS

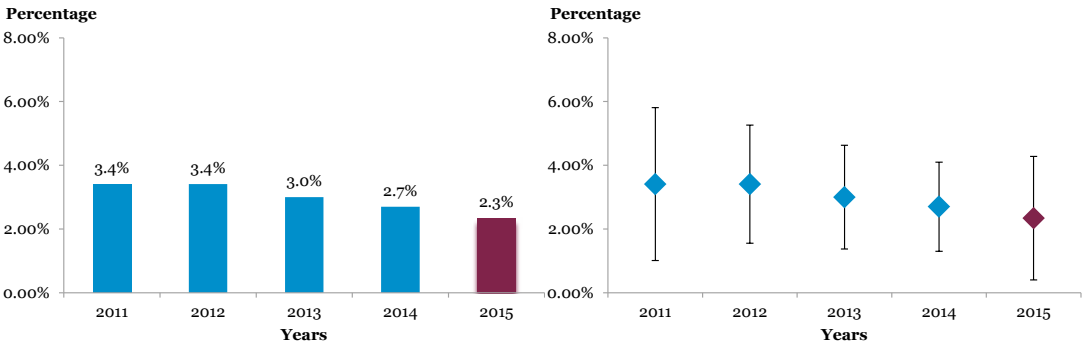
5.1. Rate of return to A&E within 72 hours of discharge for the same diagnosis

The indicator measures the proportion of patients who return to A&E with the same initial diagnosis within 3 days of receiving care.

This year's outcome continues the downward trend we have seen since 2012. This trend is due to improvements made by some health centres, as the standard deviation is slightly higher than last year.

The rate falls within international standards, and shows a trend towards improvement

INDICATOR 13
RATE OF RETURN TO A&E WITHIN 72 HOURS OF DISCHARGE FOR THE SAME DIAGNOSIS (2011-2015, IN %)
NUMBER OF EMERGENCIES 2011: 785,513; 2012: 764,569; 2013: 892,634; 2014: 1,323,185; AND 2015: 1,339,500
2015/2014 INCREASE: +1.2%



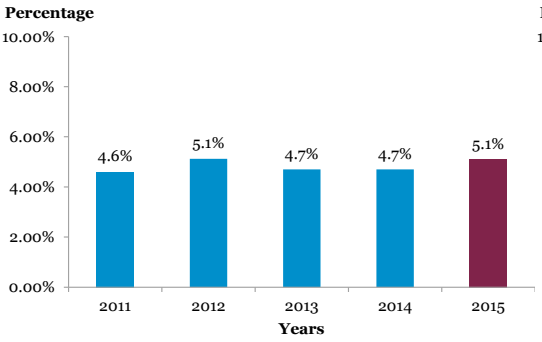
5.2. Hospital readmission rate 30 days from discharge

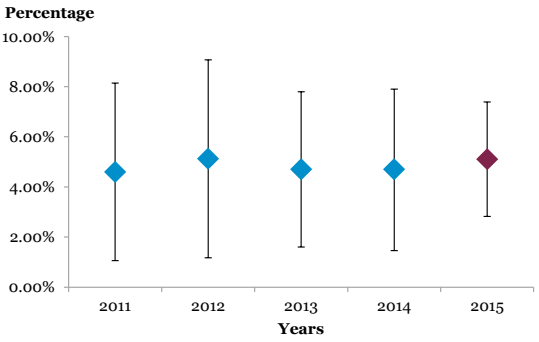
One indicator that has been receiving much attention lately in terms of improving the quality of care is the hospital readmission rate. Here, readmissions for the same problem indicate the possibility that the original pathology was not resolved properly.

This indicator measures the proportion of patients who are readmitted to the hospital for a similar diagnosis. This indicator is calculated for several periods (readmission within 48 hours, 72 hours, 30 days, etc.). In the RESA Study we use the indicator for readmission within 30 days, as it is the most commonly used and so there are more possibilities to compare it with other outcomes.

In this year's study the outcome is 5.1%, very similar to previous years. In general, over the course of the five years of the study, the indicator has stayed stable between 4.7% and 5.1%. This outcome is comparable with most developed healthcare systems which have rates that usually range between 4% and 8%.

INDICATOR 14
HOSPITAL READMISSION RATE 30 DAYS FROM DISCHARGE (2009-2015, IN %)
NUMBER OF ADMISSIONS 2011: 485,871; 2012: 699,762; 2013: 687,819; 2014: 772,531; AND 2015: 801,833
2015/2014 INCREASE: +3.8%





5.3. Rate of complications within 3 days of cataract surgery

This indicator calculates the cases that have complications within 72 hours of cataract surgery.

The indicator again shows an excellent outcome in that only 2 of every 1,000 cataract surgeries experience complications, far better than usual results.

Only 2 of every 1,000 cataract surgeries experience complications within 3 days

INDICATOR 15
COMPLICATIONS IN THE THREE DAYS FOLLOWING CATARACT SURGERY (2013-2015, IN %)
NUMBER OF CATARACT SURGERIES 2013: 37,792; 2014: 41,692; AND 2015: 37,214
2014/2015 VARIATION: -10.7 %

6 QUALITY AND PATIENT SAFETY

The RESA Study focuses on the quality of private health centres. For that reason it was decided that in addition to the long list of quantitative quality outcome indicators, we would add some qualitative assessments of the processes carried out by the health centres in the pursuit of continuous quality improvements.

There are two types of assessments in this section:

- Certifications and accreditations obtained by each hospital from international organisations of renowned calibre.
- Policies and procedures implemented by hospitals to ensure patient safety.

This year we can see a considerable increase in participation for these indicators: Thirty new health centres submitted their accreditations and certifications and there was also a significant increase in the provision of documentation on patient safety policies.

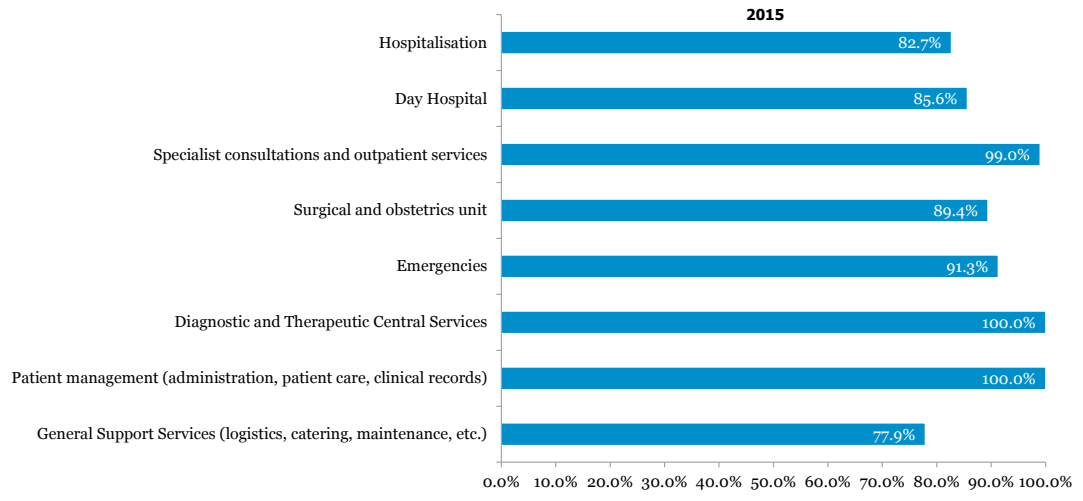
Considerable increase in participation for these quality and patient safety indicators

6.1. Accreditation and certification of hospital units and services

Health centres were asked to send a copy of any certificates they had obtained. Only the most common certifications from international organisations and/or those of renowned calibre were accepted.

In analysing this indicator we observed that having accreditations and quality certifications has become standard in private healthcare. Almost all of the health centres submitted accreditations or certifications for their central diagnosis and treatment services, their patient admissions and care processes, the outpatient and emergency unit, and especially for hospitalisation, the surgical and obstetrics unit and the day hospital.

INDICATOR 16
ACCREDITATION AND CERTIFICATION OF HOSPITAL UNITS AND SERVICES
NUMBER OF HOSPITALS: 2011: 59; 2012: 65; 2013: 68; 2014: 71; AND 2015: 104
2014/2015 VARIATION: +46.5 %



6.2. Policies and procedures implemented for patient safety

The RESA Study assesses the level of implementation of five of the most important best practices recommended internationally for adoption by all healthcare centres:

1. Hand hygiene protocol.
2. Assessment protocol for bed sore risk on admission.
3. Identification protocol for medication-related problems.
4. Anonymous notification system for adverse events.
5. Safe surgery protocol "*Check-list*".

This indicator **uses uniform criteria and pre-defined standards to measure whether these practices are standardised, documented and officially adopted** in participating health centres. Having these policies ensures that management promotes, facilitates and oversees the implementation of best practices in quality.

INDICATOR 17
POLICIES AND PROCEDURES IMPLEMENTED FOR PATIENT SAFETY

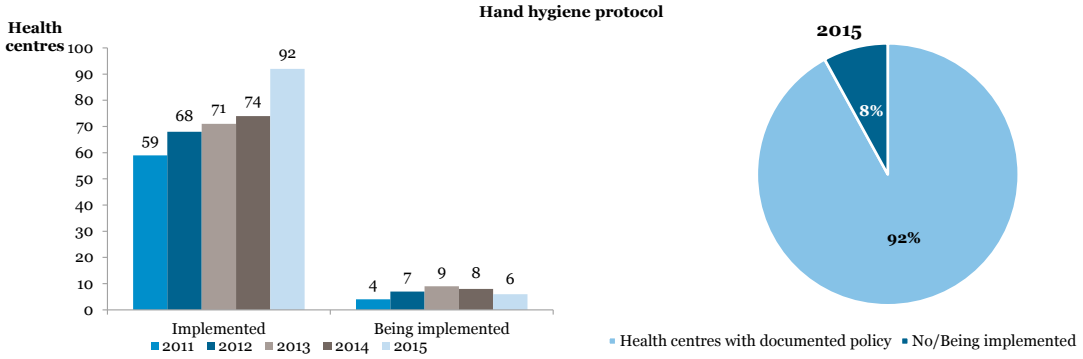
6.2.1. Hand hygiene protocol

We always insist that hand hygiene is undoubtedly the patient safety practice with the best cost-benefit ratio, and is key to preventing Healthcare Associated Infections (HAIs or nosocomial infections).

In analysing this indicator we can observe that the number of health centres that have implemented these policies has increased by 18 over last year, which means that most of the 15 new health centres that participated this year have these policies and that the 11 health centres that did not have them fully implemented last year now have them.

Considering the large number of participating health centres, we can conclude that the implementation of proactive hand hygiene policies has also become a quality standard in private healthcare.

INDICATOR 17.1.
Policies and procedures implemented for patient safety: Hand hygiene (2011-2015, protocolisation in %)
Number of hospitals 2011: 66; 2012: 77; 2013: 83; 2014: 85; and 2015: 100
2014/2015 variation: +17.6 %



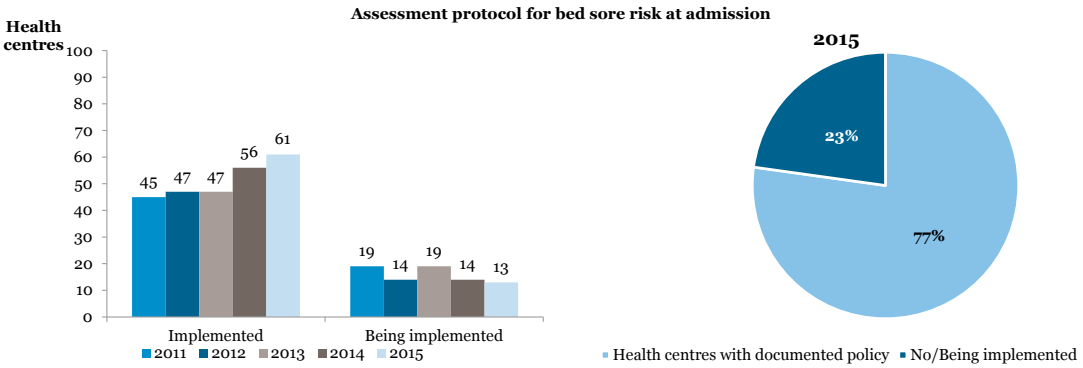
6.2.2. Assessment protocol for bed sore risk

Carrying out risk assessment programmes for bed sores consists of evaluating the degree of implementation of this protocol, in order to be able to plan and introduce prevention measures as required.

It is well known that the risk of developing bed sores is a major adverse event of long hospital stays, and especially with elderly and/or dependent patients, and is on the rise in hospitals.

This year, with 6 additional health centres participating, there are 5 more hospitals that have implemented the programme.

INDICATOR 17.2.
Policies and procedures implemented for patient safety: Assessment of bed sore risk (2011-2015, protocolisation in %)
Number of hospitals 2011: 66; 2012: 77; 2013: 71; 2014: 73; and 2015: 79
2014/2015 variation: +8.2 %



6.2.3. Identification protocol for medication-related problems

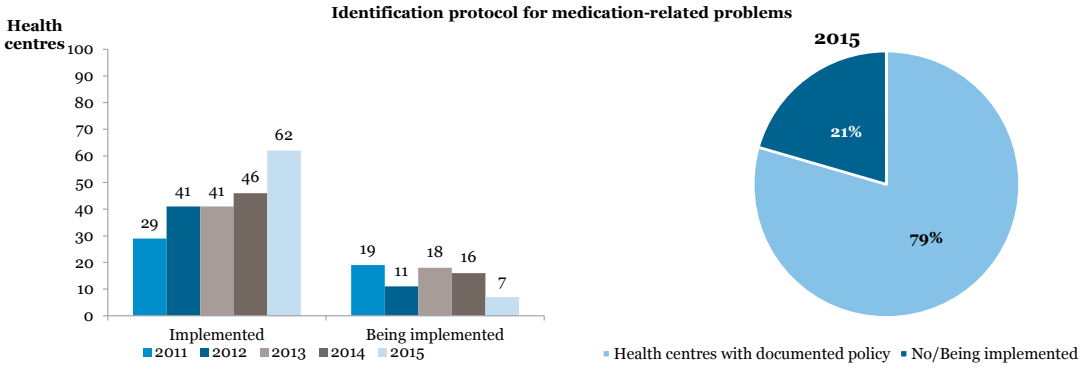
Of all the quality and patient security policies, programmes for identifying medication-related problems are the most difficult to implement.

The complexity of implementing them is reflected in the fact that each year just a few more health centres participate in this indicator (3 new health centres were added this year).

It is especially satisfactory to see the high number of health centres that now have these programmes fully implemented (an increase of 16 health centres), with only a small number of health centres in implementation phase or with no programme at the moment.

The number of health centres that have implemented this policy has doubled since 2011.

INDICATOR 17.3.
Policies and procedures implemented for patient safety: Medication-related problems (2011-2015, protocolisation in %)
Number of hospitals 2011: 66; 2012: 67; 2013: 73; 2014: 75; and 2015: 78
2014/2015 variation: +4.0 %

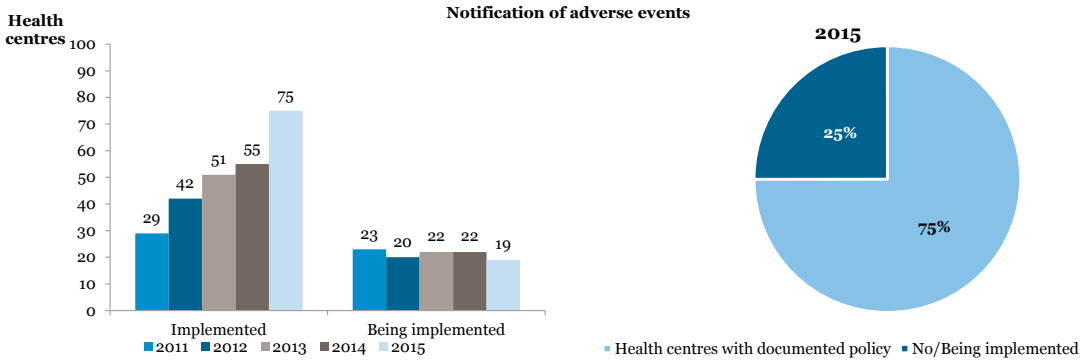


6.2.4. Notification system for adverse events

Notification systems for adverse events are one of the most useful healthcare practices to analyse and correct their root causes. They are anonymous reporting systems though which healthcare professionals can report any incident that has generated an adverse event or the risk of one occurring as part of the healthcare provided to patients. Analysing them enables us to implement measures to prevent the problem from happening again in the future.

In this case, the indicator shows a very positive trend, with 16 new health centres participating and 20 health centres with this notification system fully implemented.

INDICATOR 17.4.
Policies and procedures implemented for patient safety: Notification of adverse events (2011-2015, protocolisation in %)
Number of hospitals 2012: 77; 2013: 83; 2014: 84; and 2015: 100
2014/2015 variation: +19.0 %



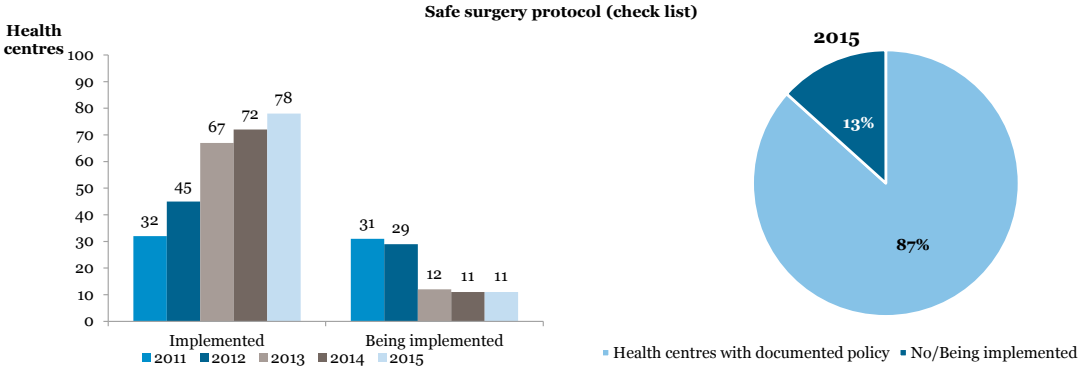
6.2.5. Safe surgery protocol (surgical check-list)

The World Health Organisation has generated and published a safe surgery protocol (*check-list*), which consists of a systematic verification of a set of parameters in three phases: when the patient is conscious, once they have been anaesthetised and after surgery.

Its impact on saving patient lives is widely documented in the bibliography.

The 6 new health centres that participated in this indicator have fully implemented this patient safety policy.

INDICATOR 17.5.
Policies and procedures implemented for patient safety: Safe surgery protocol (check-list) (2011-2015, protocolisation in %)
Number of hospitals 2012: 77; 2013: 82; 2014: 84; and 2015: 90
2014/2015 variation: +7.1 %



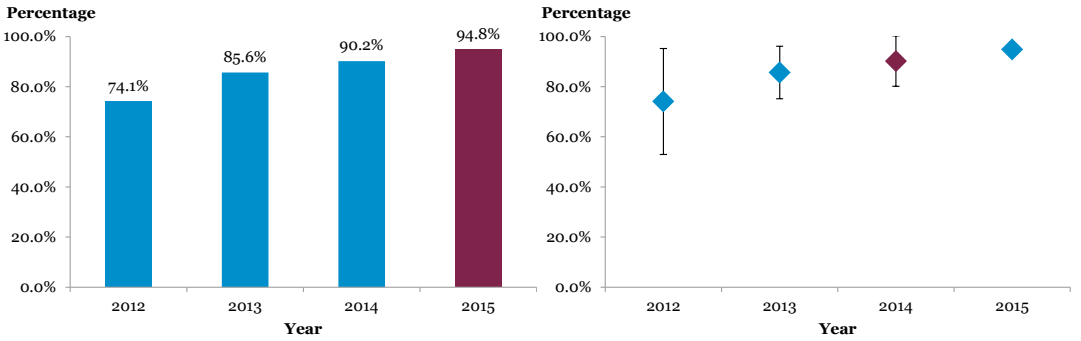
6.3. Safe surgery protocol (*surgical check-list*)

The quantification of the degree of application of this policy is determined by the percentage of surgical procedures in which the surgical *check-list* was carried out. It not only measures whether the protocol has been implemented but how it operates.

The limitations for calculating this indicator are due to the need for health centres to have included an assessment of compliance with the procedure for each patient undergoing surgery integrated into their computer systems.

The degree of compliance with this measure has a very similar outcome as last year, in terms of number of cases analysed and outcome, and stands at around 95%. The standard deviation is low, which means that all the health centres have very high results.

INDICATOR 18
RATE OF SAFE SURGICAL PROCEDURES (SURGICAL CHECK-LIST) (2012-2015, IN %)
NUMBER OF SURGICAL PROCEDURES 2012: 77,788; 2013: 79,689; 2014: 195,949; AND 2015: 149,329
2014/2015 VARIATION: -24.0 %



6.4. Survival rate for patients hospitalised for acute coronary syndrome

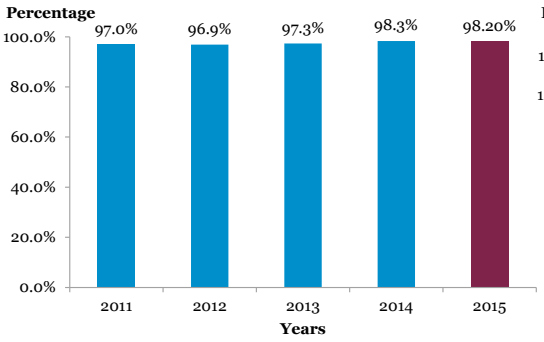
The survival rate for patients hospitalised for acute coronary syndrome after 48 hours is one of the most traditional outcome indicators. It is extracted from the hospitalisation CMBD, calculating the number of patients discharged due to death compared to the total number of patients hospitalised for Acute Coronary Syndrome.

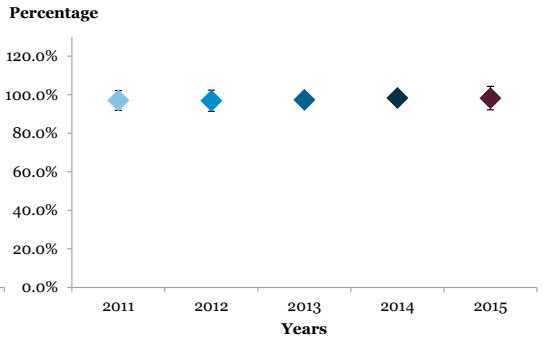
This year's outcome is similar to last year and comparable or better than most hospitals in our geographic region.

The survival rate for ACS is comparable or better than most hospitals in our geographic region

INDICATOR 19

SURVIVAL RATE FOR PATIENTS HOSPITALISED FOR ACUTE CORONARY SYNDROME (2011-2015, RATE IN %)
NUMBER OF PATIENTS HOSPITALISED FOR AMI 2011: 1,711; 2012: 4,137; 2013: 3,721; 2014: 3,613; AND 2015: 5,015
2014/2015 VARIATION: +38.8 %





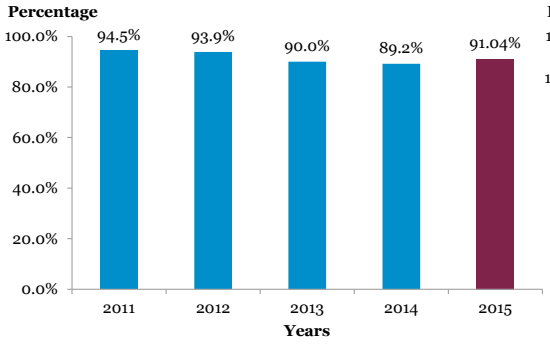
6.5. Rate of hip replacement surgery 48 hours of hospital admission

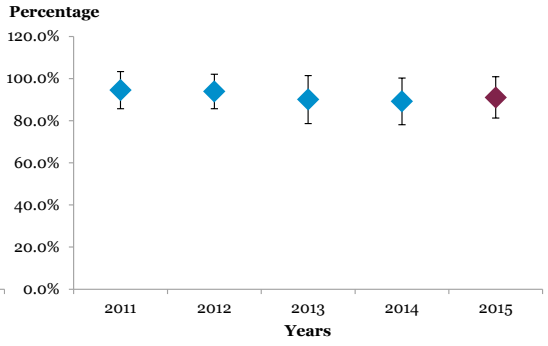
Studies have linked early intervention in cases of hip fracture to better prognosis, and an early start to rehabilitation is what helps improve the functional result; this is of special importance for a condition that mainly affects older people. The difficulty of applying this early technique derives, in part, from possible patient issues (like blood coagulant treatment) and the difficulties of scheduling surgeries.

This year's outcome is above 91%, in line with previous years. Private health centres therefore maintain an excellent standard in terms of their flexibility in scheduling these procedures within the recommended time frame. We can also observe that the indicator shows less variability, with a standard deviation lower than in the last two years, implying that the health centres are mostly improving their times.

The outcome is in line with excellent standards for scheduling these procedures in the recommended time frame

INDICATOR 20
RATE OF HIP REPLACEMENT SURGERY WITHIN 48 HOURS OF HOSPITAL ADMISSION (2011-2015, IN %)
NUMBER OF PATIENTS 2011: 2,205; 2012: 2,664; 2013: 5,394; 2014: 5,278; AND 2015: 4,778
2014/2015 VARIATION: -9.5 %



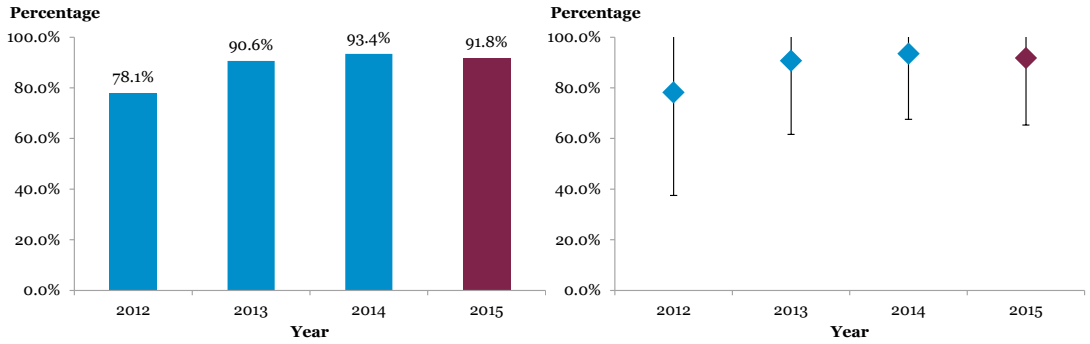


6.6. Rate of colonoscopies and gastroscopies performed under deep sedation

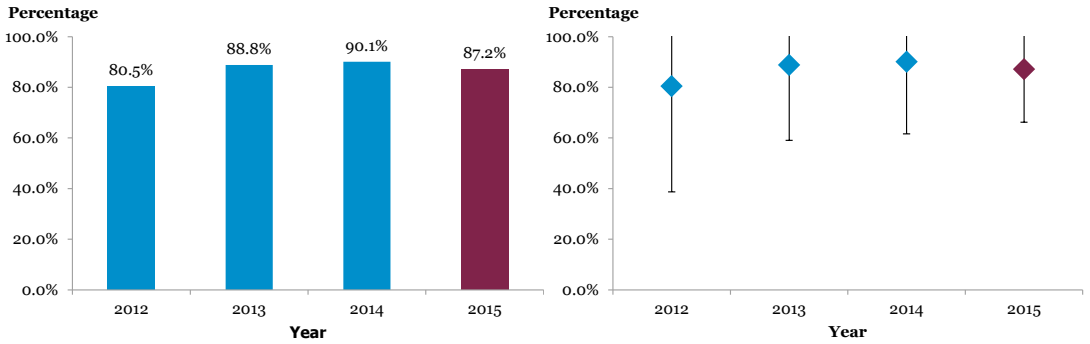
This indicator shows the level of care quality for performing endoscopic procedures at the hospitals participating in the study. Performing these types of procedures under deep sedation continues to become the industry standard in response to patient demand.

The outcomes for both tests are excellent, with very close to or above 90% of the endoscopic procedures analysed being performed under deep sedation. The variability of the outcomes also continues to progressively decline, especially in the case of gastroscopies. The volume of data increased significantly for gastroscopies and slightly decreased for colonoscopies.

INDICATOR 21
RATE OF COLONOSCOPIES PERFORMED UNDER DEEP SEDATION (2012-2015, IN %)
NUMBER OF COLONOSCOPIES 2012: 27,217; 2013: 50,454; 2014: 59,405; AND 2015: 57,828
2014/2015 VARIATION: -2.6 %



INDICATOR 22
RATE OF GASTROSCOPIES PERFORMED UNDER DEEP SEDATION (2012-2015, IN %)
NUMBER OF GASTROSCOPIES 2012: 6,037; 2013: 31,473; 2014: 35,599; AND 2015: 39,490
2014/2015 VARIATION: +10.9 %

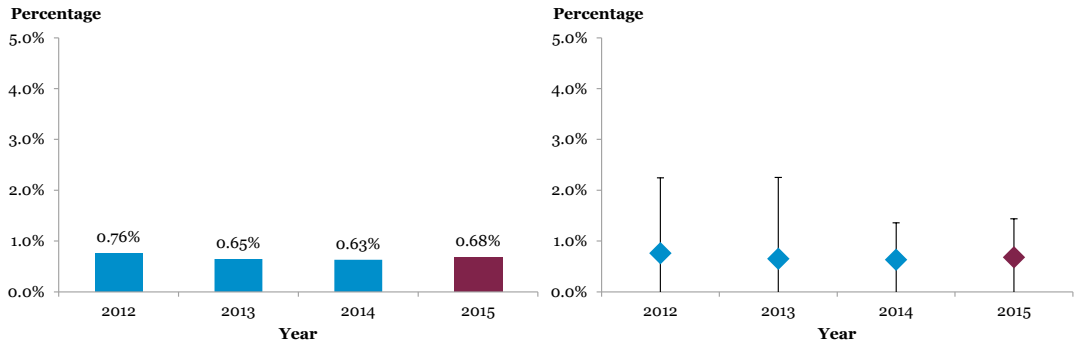


6.7. Readmission rate for outpatient surgery at 30 days

This safety indicator measures the rate of patient admissions within 30 days of having major outpatient surgery. It is therefore an important indicator of the safety and effectiveness of major outpatient surgery.

This year's outcome is very similar to the last three years with a very similar standard deviation. This implies that the health centres continue to have good outcomes for this indicator, which is usually around 1% for most healthcare systems.

INDICATOR 23
READMISSION RATE FOR OUTPATIENT SURGERY AT 30 DAYS (2012-2015, %)
NUMBER OF OUTPATIENT PROCEDURES 2012: 141,030; 2013: 288,150; 2014: 296,505; AND 2015: 315,439
2015/2014 INCREASE: +6.3%



6.8. Haemodialysis indicators

As was mentioned in the introduction, 4 haemodialysis indicators have been included this year. Although the inclusion of these indicators in the RESA Study has not been standardised across all the health centres, we are presenting the information provided by the 29 health centres that fostered the initiative by providing specific data in this area.

These indicators are being presented as a first edition and will be expanded to all dialysis centres in the future.

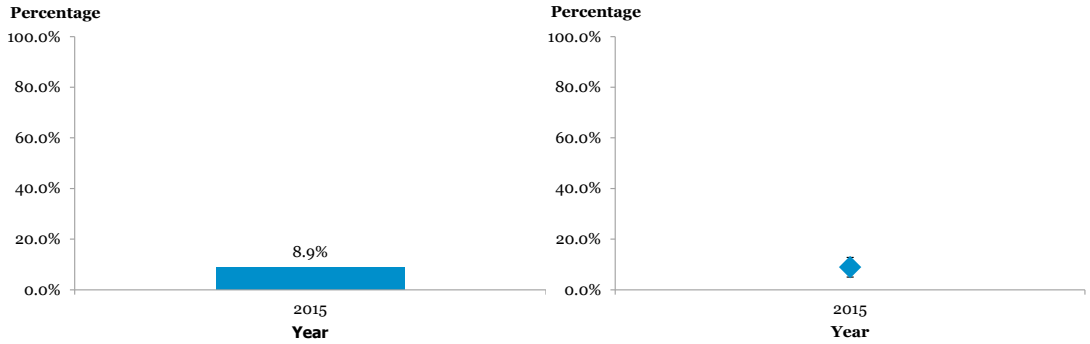
They are internationally-recognised indicators that measure outcomes in a field with particular complexity: haemodialysis.

Haemodialysis patients often have multiple diseases and functional impairment over time. This inevitability leads to significant mortality rates. These rates are considered to be a quality indicator. In this case we are presenting the crude mortality rate of participating centres.

The health centres participating in the haemodialysis indicators have high rates of achieving target levels with patients

INDICATOR 24

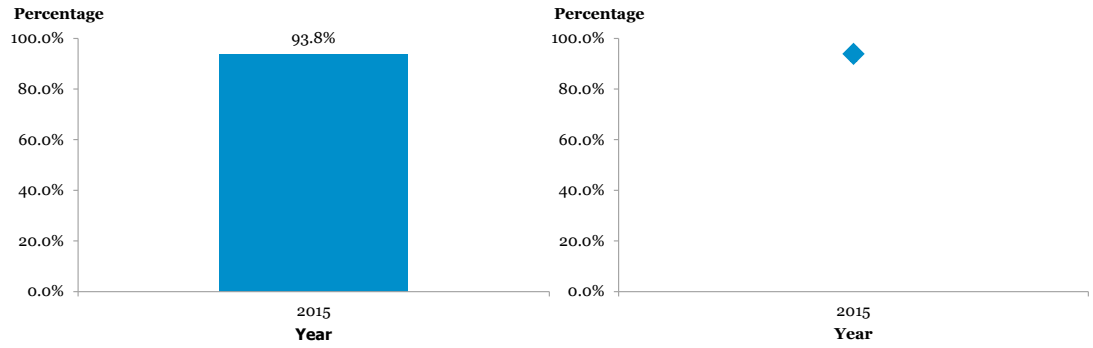
CRUDE MORTALITY RATE IN HAEMODIALYSIS (2015, IN %)
NUMBER OF CASES 2015: 2,920



The Kt/V indicator measures the dialyser clearance of urea (K) in time (t) and volume. It is a complex formula used in nephrology which has replaced the measurement of urea concentration over time. It is used because it has an established correlation with the survival rate. Thus, the higher the proportion of patients at the target levels the greater we can expect the survival rate to be.

INDICATOR 25

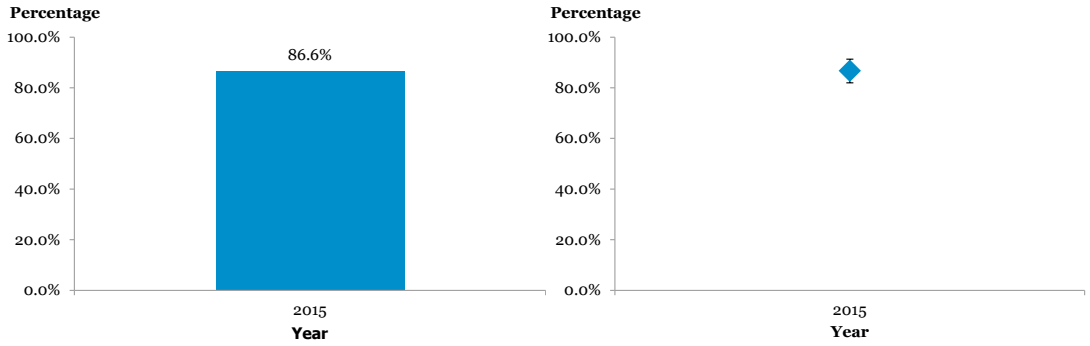
PERCENTAGE OF PATIENTS WITH TARGET KT/V (2015, IN %)
NUMBER OF CASES 2015: 2,920



Maintaining adequate albumin levels in the blood is desired in cases of chronic kidney failure. Doing so entails maintaining kidney function and patient quality of life.

INDICATOR 26

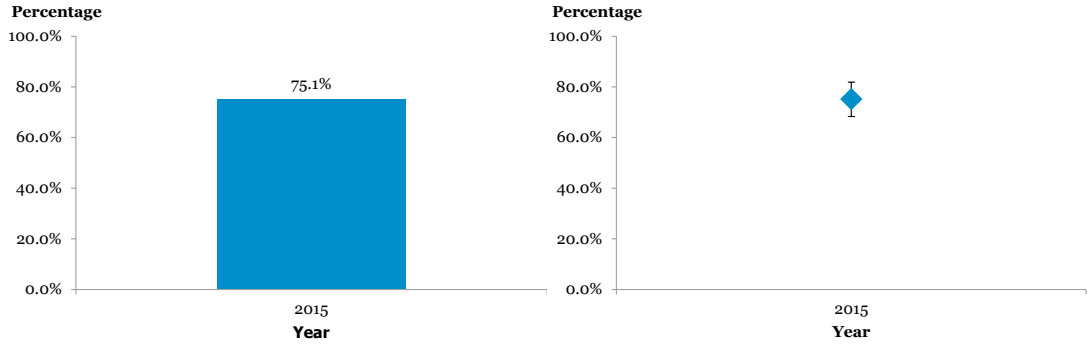
PERCENTAGE OF PATIENTS WITH ALBUMIN > 3.5 G/DL (2015, IN %)
NUMBER OF CASES 2015: 2,920



Autologous arteriovenous fistulas are done by connecting a vein and an artery near a patient's arm to facilitate the use of the haemodialysis catheter, and is an optimum solution because it has few complications and is easy to reverse. Although they are not performed on all patients, their prevalence is considered to be a quality indicator in haemodialysis.

INDICATOR 27

PERCENTAGE OF PATIENTS WITH AUTOLOGOUS AVF (2015, IN %)
NUMBER OF CASES 2015: 2,920



In the absence of a broader comparison, we can observe that the participating health centres have high levels of compliance with patient targets, especially in the case of the target Kt/V indicator, which includes the vast majority of their patients. Including more health centres in upcoming editions will allow us to have more references to compare data that, initially, show very good outcomes.

7 POSITIONING OF THE RESA STUDY AMONG QUALITY AND OUTCOME OBSERVATORIES

7.1. Introduction: Objectives of Quality and Outcome Observatories worldwide

The concept of "*public reporting*", or the transparent dissemination of health outcomes achieved by hospitals and other healthcare providers, is a growing trend among major healthcare systems in the developed world.

The first examples of systematic publication of healthcare information date back to the mid-1980s, and the trend was consolidated and standardised around the year 2000. In 2004, a report by the European Observatory on Health Systems and Policies, sponsored by the World Health Organisation, showed a broad and rich international panorama of initiatives of this types.

The development of this trend has been closely linked to the **goal of facilitating patients' informed decision-making** in order to help them choose from among different healthcare providers:

"*One of the primary reasons for* public reporting *of quality information is to assist patients and users, and purchasers of care, in making informed and rational choices regarding care providers. However, despite the extensive investments, take-up of choice and use of quality information to inform decisions by users and patients has been slow to materialise. This can be linked to a range of barriers, including a lack of* user-friendly *quality information.*"[1]

Observatories of this type usually present two types of quantitative information:

- Statistical data on the quality of performance outcomes for health centres or professionals extracted from administrative information (like the CMBD or insurance company billing processes) and clinical information (clinical history or ad-hoc records). Some countries also tend to include waiting times for the public national health service systems.

- Quantitative data on the opinions and satisfaction of patients, either through systematic satisfaction surveys or, more recently, scoring systems through which the patients themselves rate their experiences.

The goal of helping patients make decisions is a central focus of these initiatives. However, it is not the only one, and other equally important goals are mentioned in the literature:

- Encouraging providers to improve the quality of their services.

- Implementing the principles of results transparency and *accountability* in healthcare.

- Promoting competition between health centres.

The trend of publishing healthcare data is in many cases expanded to include other more traditional and basic information in "observatories." Information like the general health of the population, the incidence or prevalence of health problems, and specific areas of general interest were already being published by the majority of healthcare organisations, but including it in observatories causes it to gain visibility and importance. Although this information is not directly related to quality and performance results, it is often included in order to create more generic health system "observatories."

[1] Kumpunen S, Trigg L, Rodrigues R. Public reporting in health and long-term care to facilitate provider choice. European Observatory on Health Systems and Policies. World Health Organization 2014.

7.2. Origin of quality and outcome observatories

The initiative for these observatories usually originates in public health systems, either as an exercise in transparency and quality for the systems directly managed by public health centres (like the United Kingdom's National Health Service), or as a requirement of financial authorities for private health centres that provide healthcare (mostly the case in the United States).

Professional associations have greatly contributed to this trend, including the initiatives in the field of cardiac surgery in the United States and Europe (Euroscore), and in oncology.

There are also independent private initiatives, both non-profit (Robert Wood Johnson Foundation in the United States) and independent for-profit initiatives (Dr. Foster website in the United Kingdom), as well as a large number of initiatives in the United States aimed at helping consumers choose a health centre.

7.3. What impact do these initiatives have?

Curiously, the nuclear objective of these initiatives (helping patients choose providers) is what seems to be most widely discussed in the literature: a survey by JAMA magazine indicates that only 19% of consumers placed importance on comparative information on doctors, well below other criteria like years of experience, accessibility or opinions of family members and friends.

"Public reporting is more likely to be associated with changes in health care provider behaviours than with selection of health service providers by patients or families."[2]

The resistance of patients to use this information seems to indicate barriers to use: in the United States overall scores on private websites are much more widely-used than more technical comparisons of public systems based on indicators. This has led to the addition of visual aids to websites like traffic lights (England), coloured bars and scores between one and five (Finland), and ratings using stars (Holland).

However, *public reporting* systems seem to be making a promising impact on improving quality: this is rather evident in the literature on publishing outcomes by doctor, and there is also promising, though more variable, evidence regarding the publication of results by hospital.

"Data publication might give the poor-performing 'knaves' among clinicians no hiding place and force them to improve or stop carrying out procedures and operations. It might give the naturally competitive 'knights' a push to improve to be the best of their peers..."[3]

This scientific evidence does not necessarily mean that the systems aren't useful to users. We mustn't forget that not having clear scientific evidence for something does not mean that there is evidence against it. In this case we know that methodological limitations often are what prevent us from finding meaningful associations. Improvements to their content and presentation and the notable increase in Internet use by patients to orient themselves in the healthcare world may cause this situation to change in the future, but the role of these initiatives does seem to be playing a very promising role in improving quality due to the "ranking effect".

[2] AHRQ: Closing the Quality Gap: Revisiting the State of the Science Series: Public Reporting as a Quality Improvement Strategy. July 2012.
[3] Catherine Foot. Show us your data doctor. King's Fund Blog. 20th June 2013.

7.4. Some limitations of quality observatories

As in every example we have also indicated some potential side-effects of *public reporting*. Critics of the system point out the difficulty of ensuring excellent data quality, difficulties comparing results without proper standardisation by cause, and the risk of misrepresenting the actual quality of services based on certain indicators.

7.5. Health outcome observatories worldwide

On an international level, raised awareness about transparency in public systems, and more specifically in healthcare, has led to a great number of initiatives of this kind.

Some organisations with great international prestige —including the Agency for Healthcare Research and Quality (AHRQ) in the United States, the Australian Council on Healthcare Standards (ACHS), the National Health Service (NHS) in the United Kingdom and the Canadian Institute for Health Information (CIHI)— have developed tools that enable healthcare outcomes to be published openly and comparisons made between healthcare resources.

FIGURE 7
EXAMPLES OF INTERNATIONAL OBSERVATORIES

Country	Name of the initiative	Institution responsible	Start year
United States	Hospital Compare	CMS	2005
United Kingdom	Public Health Observatory	NHS	2001
United Kingdom	Dr. Foster	Private	2000
Australia	Clinical Indicator Program	ACHS	1989
Canada	Hospital Report Series	CIHI / Assoc. Hospitals Ontario	2001
France	Scope Santé	HAS	1999

Below are some specific examples of pioneering initiatives worldwide.

7.5.1. Europe

- United Kingdom

Basic information on hospital performance was first published in an isolated manner in the early 1980s, with other results like the mortality rate included in 1992. However, despite being publicly-available information, the publication of the data was for mere management purposes, with practically no impact on patients.

The first initiatives aimed at the general public, called the Patient's Charter, focused on waiting times for healthcare rather than on the quality of the care. In 1998 nation-wide initiatives were introduced in the United Kingdom, a decade after this occurred in the United States.

Since then British approaches to publishing data have been much more coordinated and strategic than those in the United States. In 1998 a national framework was introduced for rating performance (Performance Assessment Framework, or PAF) in order to motivate professionals based on their health outcomes (*pay for performance*). In 2001, the National Health Service (NHS) made this a priority initiative and it became the first government publication to introduce the concept of *report cards*. Subsequently, a total of 12 regional public health observatories were developed to convert the data collected into useful information for patients and providers.

The Quality of Outcomes Framework observatory and programme were developed as part of this initiative. This annual voluntary programme aims to encourage good clinical practices and reward those health centres and professionals with optimal quality indicators. Some of the practices that are rewarded are management of chronic diseases, management of public health problems (smoking, obesity, etc.) and the implementation of preventive health measures.

In 2000 an independent initiative was developed in the United Kingdom by two journalists from the *Sunday Times*: The Dr Foster website. This initiative publishes data on the activity and outcomes of British hospitals on its website and sells the information to the media. Unlike the programmes carried out by the NHS, the Dr. Foster website includes information about all the public hospitals offering acute care and most of the hospitals of the top private providers. Its main contribution to *public reporting* resides in the visibility of the website and in how it communicates data: weaknesses that government-backed health observatories still have to cope with.

Although the United Kingdom was a pioneer and continues to lead the trend in Europe, other countries on the continent have kept pace and have developed their own health observatories: Some examples are as follows:

- Switzerland

Swiss Health Observatory. It collects a total of 63 health indicators and publishes an annual report with the outcomes of the analysis performed by the observatory in-house.

France

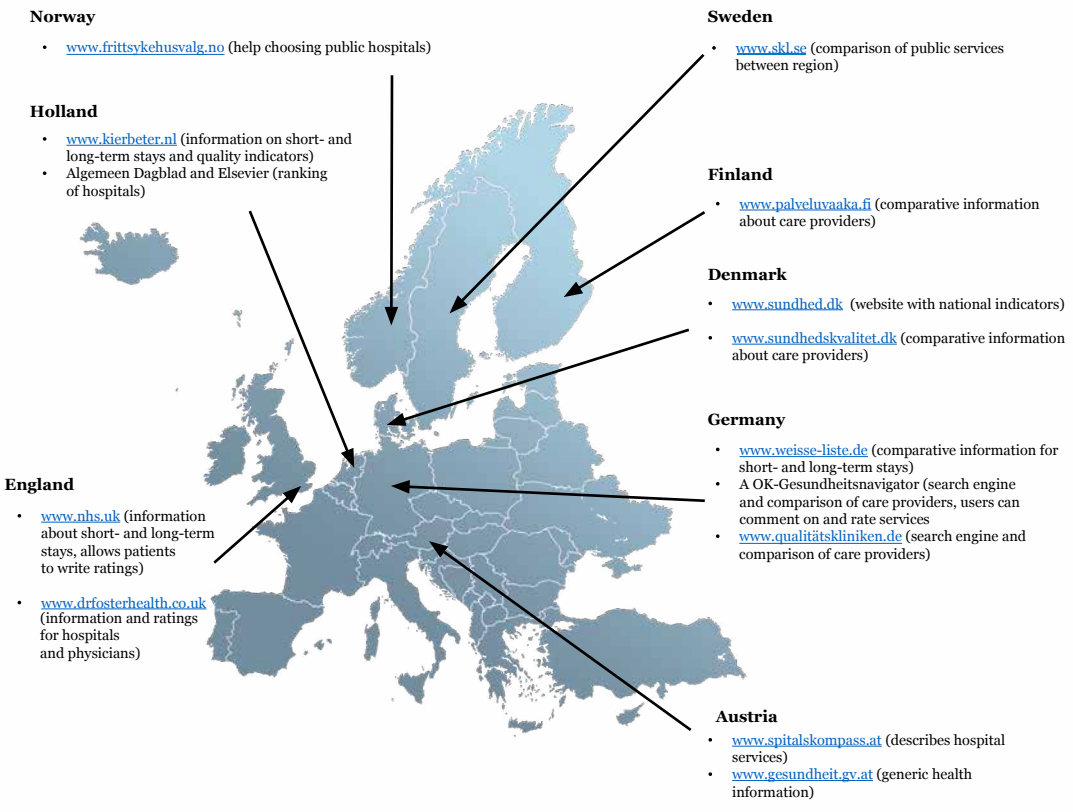
The National Authority for Health (HAS) is an independent public scientific agency responsible for making recommendations and verifying the quality of care in the country's public and private health centres. It has been organising quality certifications for all the health centres in France since 1999, and has been annually publishing the outcomes of the certification indicators on the website ScopeSanté since 2012, available to all users of public and private healthcare in France.

Italy

National Health Observatory. Sponsored by the Universidad Católica del Sacro Cuore, this national observatory collects information on the country's different regional systems. It has an extensive library of indicators grouped into 30 categories.

Similar initiatives have also been developed in Norway, Sweden, Holland, Denmark, Finland, Germany, Austria, Belgium and Portugal. Spain has also had some interesting experiences in this area.

FIGURE 8
ONLINE HEALTH OBSERVATORY PLATFORMS IN EUROPE



Source: European Observatory on Health Systems and Policies. World Health Organization 2014.

7.5.2. North America and Australia

United States

United States was the indisputable pioneer in public reporting. The former Health Care Financing Administration (now called the Centers for Medicare and Medicaid Services, or CMS), began publishing specific mortality rates for every inpatient centre in 1986.

Much more recently, the CMS was responsible for developing the renowned observatory "Hospital Compare" which measures and publishes data on quality indicators like acute myocardial infarction, heart failure, pneumonia and general surgery. This observatory, launched in 2005, uses many different sources of data, including the Physician Quality Reporting System (PQRS) and the Surgical Care Improvement Project (SCIP). The addition of new sources ensures the quality of the data and has generated a growing number of *public reporting* initiatives. Hospital Compare currently includes all hospitals offering acute care and similar initiatives like Nursing Home Compare, which includes more than 16,000 healthcare centres.

The most recent boost to this type of initiatives was the passing of the Patient Protection and Affordable Care Act (PPACA, also known as Obamacare). The provisions of this healthcare reform, passed in 2012, include funds to support *public reporting* initiatives to reduce growing healthcare costs, create consistently high-performing healthcare systems and improve the overall quality of the healthcare system. One of the innovations introduced in the Affordable Care Act is the publication of performance data by individual physicians, instead of by health centre. It also set the trend to simplify data and present them in a more orderly way so they can be easily understood.

In parallel with advancements in Medicare, the Agency for Healthcare and Quality Research (AHQR) does important work collecting and publishing data in order to improve the quality, safety and outcomes of healthcare. Since 1994 the AHQR's Quality Indicators programme has been providing indicators grouped into four areas: Prevention Quality Indicators (PQIs), Inpatient Quality Indicators (IQIs), Patient Safety Indicators (PSIs) and Paediatric Quality Indicators (PDIs). To calculate these indicators, the AHRQ uses clinical administrative databases and International Classification of Diseases (ICD) coding.

Due to the particularities of the U.S. Healthcare system, the publicly-available data contains not only health outcomes but also data about healthcare processes, volumes of patients, structural data and information on patient experiences. The data that is published must always be statistically valid, reliable and useful for consumers, providers, buyers, lawmakers and health plans.

The importance of this trend can currently be seen in the proliferation of initiatives, of which 208 have been counted. Private initiatives with user *ratings* of healthcare processes alone include 70 websites.

Despite efforts to promote official observatories in the United States over the last decade, commercial observatories are currently the most widely-used.

Canada

Canada, meanwhile, developed a national health indicators programme following the implementation of the Communiqué on Health in 2000. According to this agreement, local governments had to begin publishing data on the healthcare programmes and services they offer. They jointly agreed on a set of comparable indicators in three main areas: general health, health outcomes and quality of services. The indicators were first published in 2002, and every two years since.

The Canadian Institute for Health Information (CIHI) collaborated on the initiative by helping to define the indicators to be included in the programme. This independent agency, founded in 1994, was conceived with the goal of improving the quality of the Canadian healthcare system through the dissemination of information. The CIHI currently has several databases on different aspects (activity and performance, personnel, healthcare costs, etc.) and publishes several annual reports to raise public awareness about the status and quality of the healthcare system.

The Hospital Report Series is a joint initiative launched in 2001 by the Ontario Hospitals Association and the Ontario regional government. The CIHI analyses and disseminates the indicators with the collaboration of the research team leading the project.

The CIHI also carries out the Canadian Hospital Reporting Program (CHRP), a national initiative with the participation of more than 600 hospitals in Canada. This project provides information on hospital indicators to the Canadian public, hospital managers and political decision-makers. In March 2013 this programme included 21 clinical indicators and 6 financial indicators that covered aspects of clinical effectiveness, patient safety, suitability of care, accessibility, efficiency and productivity.

Australia

Australia was a pioneer in the publication of data and report cards, along with the United States and the United Kingdom. The National Health Performance Authority (NHPA) is the independent government agency responsible for monitoring and publishing data on the activity of public and private hospitals, care centres and other care providers. NHPA has been publishing annual reports since 2012, and in 2013 it developed a web tool to allow patients to compare quality indicators in one geographical area with those for other areas of the country.

In addition to this public initiative there are other private ones, like that of The Australian Council on Health Standards (ACHS). Its programmes include the collecting, processing, analysing and publishing of clinical quality indicators for Australia and New Zealand since 1989. This data set enables the *benchmarking* of local and national health centres.

7.6. Health observatories in Spain

Despite being a strong trend in other countries, the systematic publication of outcomes in health, quality and patient safety is not widespread in Spain. However, the number of initiatives is growing constantly.

One of the pioneering institutions in Spain in this area was the Catalan Health Service (CatSalut), by developing their Central de Resultats platform (Outcomes Centre). This platform collects information and outcomes for the main public health providers in the entire Autonomous Community of Catalonia. This includes not only hospitals but primary care and the large sector of Catalan healthcare centres. In early 2009, the Health Department launched the Integrated Health Information System (Sistema Integrat d'Informació en Salut, or SIIS) programme in order to standardise, integrate and organise all the available information from healthcare information systems into a safe and accessible repository, and to distribute the information in the most convenient way to facilitate decision-making. The outcomes centre plays a key role in this project.

Starting with the 80 indicators included in the first report published, the observatory has been expanding and modifying indicators in line with the needs identified each year (case-specific indicators, nursing care assessment indicators, etc.). The outcomes centre currently provides information in the following categories: general data, patient care, suitability, effectiveness, safety, efficiency, sustainability, education, and information and communication technology.

Meanwhile, the Community of Madrid's Health Service (SERMAS) launched its own health outcomes observatory in 2014, publishing a report with outcomes for the last three years. The observatory was initially conceived to be an accessible tool to help citizens exercise their right to free choice of healthcare, allowing them to learn about the activities carried out and the results achieved in the region's public health centres, both in primary care and specialisations.

The Madrid Health Observatory's information is segmented into three major categories:

- **General health of the population**. This includes classic demographic health indicators like mortality rate and life expectancy. It has information on morbidity and the disease burden of major pathologies such as HIV, cancer, diabetes and asthma.
- **Primary Care**. This includes information on 53 indicators grouped into the following categories: general data, clinical effectiveness and patient safety, efficiency, patient care, education and research.
- **Hospitals**. The observatory has systematic information on 56 indicators grouped into the same categories as for Primary Care, for the region's 35 public hospitals.

Analysing the different indicators is the first step towards understanding the care provided by the Madrid healthcare system, evaluating the evolution of the outcomes over times, detecting new opportunities, and implementing actions to improve the quality of healthcare provided.

Although it has a different approach, it is also interesting to include the key indicators of the National Health System (INCLASNS) published annually by the Ministry of Health, Social Services and Equality. The system produces an annual report which, most interestingly, contains interactive tools that allow users to utilise databases like the CMBD (made anonymous for centres) and to calculate a large number of indicators. Although these tools are intended for expert use rather than public knowledge, they have great potential for a future public reporting system.

But these initiatives are not the only ones carried out in our country's public system. Other autonomous communities and institutions have developed their own observatories and programmes. Some include:

- Public Healthcare System Quality Outcomes in Andalusia.
- Health Observatory in Asturias.

And in the private sector, the Institute for Development and Integration of Healthcare (Fundación IDIS) publishes the RESA Study every year. Its first edition was published in 2011, marking a milestone for private healthcare in Spain. Circulated with the sole purpose of sharing the outcomes of private healthcare, it also aims to become a vehicle for raising awareness on the possibility of continually improving processes and procedures, and as a result, the health outcomes obtained.

7.6.1. Comparison of indicators of national observatories

Both the observatories in Madrid and Catalonia and the IDIS present a large quantity of information in the form of indicators grouped into various categories. Although these indicators and segmentations differ between observatories, some of them are similar or even identical.

The initiatives of the Autonomous Communities of Madrid and Catalonia have separate sections with general data including basic information like the number of admissions, number of surgical procedures, number of births, etc. Likewise, the IDIS observatory collects basic data on private health centres like resources, number of discharges and procedures, and number of specialist consultations.

Public observatories use clinical effectiveness indicators to collect information about the mortality rate from stroke, acute myocardial infarction and heart failure, and readmissions within 30 days for patients with heart failure and chronic obstructive pulmonary disease. The Catalonia observatory also collects indicators on transplants, and the Madrid observatory collects information about the rate of infections in operating rooms and sepsis, included by other observatories in the patient safety section. Meanwhile, in this study, IDIS includes data on the rates of readmission within 30 days and on the rate of return to A&E within 72 hours of discharge.

In terms of patient care, the observatories of the autonomous communities of Madrid and Catalonia include indicators for the patient satisfaction rate, satisfaction with the treatment received from healthcare professionals, etc. The Madrid Health Service observatory also collects indicators on the average waiting time for surgical procedures and to access specialised care. The RESA Study, despite not including indicators on patient satisfaction and treatment received (these are included in another study called the Private Healthcare Barometer), does include a wide range of indicators on waiting times in private healthcare (accessibility of care): average waiting time for additional tests, average waiting time for surgery, average stay in A&E, average waiting time for specialist consultation and average time between diagnosis and starting cancer treatment, among others.

The three observatories include efficiency indicators, like average adjusted stay and the rate of outpatient surgical procedures. The Community of Madrid also includes indicators on pharmaceutical costs (amount by prescription and % generic medications), while the IDIS collects information on the average stay pre-surgery.

Patient safety, a key element of quality healthcare, is assessed using indicators like complications, post-surgery infections and bloodstream infections. Catalonia and Madrid collect this type of indicators, while the IDIS, in turn, has developed an extensive battery of its own indicators, including the number of quality accreditations and certifications for hospital services, patient safety policies and procedures implemented, and the rate of safe surgical procedures (surgical *check-list*).

Public observatories have a section dedicated to education and research. Although the outcomes centre only includes two indicators on scores for the first three internal medicine residents and nursing residents entering the hospital, the SERMAS observatory provides indicators on the choice of internal medicine residents, hospitals with university accreditation, number of researchers, publications in indexed journals, impact factor and clinical studies begun, among others, with more complete and comprehensive results.

Finally, the Catalonia health observatory collects indicators that are not included in other initiatives, probably due to the greater maturity of the platform. CatSalut provides data on the sustainability of its health centres (economic profitability, solvency, liquidity, productivity adjusted by staff, etc.) and on information and communication technology (number of mobile care devices, remote diagnosis services, remote monitoring services, digitisation of clinical records, etc.). Although these indicators are not included in other observatories, the modernisation of healthcare and its adaptation to the era of new technology means that including and monitoring them is an indicative element of quality of care.

7.7. Positioning of the RESA Study among outcome quality observatories

> The RESA study has something unique: it is an independent initiative of a large group of health centres, not backed by the public sector or by outside private initiatives

As part of the necessary reflection following five years of publishing the RESA Study, we must pay particular attention to its positioning and role in the varied world of the Quality and Outcomes Observatories that we have reviewed.

In comparing the process followed by the RESA Observatory, and its features and content, with national and international initiatives, we can note several different trends that we consider to be very important:

- The RESA Report originates in a way that we have not seen for other observatories: it is an **independent initiative of a large group of health centres**, not backed by the public sector or by outside private initiatives. It has great future potential, as it entails a voluntary commitment to improve the quality of care and transparency. We think that both the participation of health centres and the impact of outcomes on improving quality benefit significantly from the voluntary nature of the project and its being implemented in the context of a quality strategy.

- A trait that is virtually unique among all of the initiatives analysed is the fact that it is a **group of private health centres** that are voluntarily developing the project without having to meet the requirements of public agencies. This is a virtually unique feature. Given the great variety and number of initiatives, we can not ensure that there is no similar initiative out there, but at the very least we can say that we have not observed this circumstance in any of the initiatives analysed in Europe.

- **The original objective** of the study, unlike most of these international initiatives, is **to measure the quality of the outcomes** without initially having considered the objective of helping users choose health centres. Specifically, we are pleased to see in the scientific evidence we have reviewed that this objective appears to be the most promising in terms of achieving practical results. Clearly, we should not underplay the potential that our outcomes could have in terms of helping choose health centres, but it would certainly require a very different approach to the content and presentation of the outcomes, as has been identified by international experience. Our own observation of the process is that the publication of the RESA Study is an important stimulus to our hospitals to improve accessibility and quality.

- A more technical difference is the inclusion in the study of not only quantitative outcome data but also information about the **implementation process of quality initiatives** (the implementation of accreditation measures and patient safety protocols). This is consistent with the study's focus on quality of care and enriches the outcome data by presenting qualitative data about the process.

- Finally, we should highlight the **onset of the project** in Spain. The RESA Study was first published with 2011 data, just two years after the launch of the Catalan Outcome Centre and three years before the Madrid Observatory. The RESA Study is, therefore, one of the first systematic transparency initiatives on Outcomes and Quality for a large healthcare sector that represents one of every five hospital discharges in Spain.

When we began the RESA Project we were convinced that there would be a high level of quality and outcomes in the private sector and that the country and its citizens deserved for these to be recognised in order to ensure their belief that they live in a country where both public and private healthcare are worthy of the trust that users place in it.

8 CONCLUSIONS

The RESA study is now fully established in its fifth year and is one of the leading reports in terms of transparent outcomes of healthcare centres nationwide.

The RESA Study is a **voluntary private initiative**, and that gives it a special character, as *public reporting* and outcome transparency initiatives are usually led by regulators, restricted to the public sector, and of mandatory compliance.

The initial goal of the study was always **a commitment to improve the quality of care**, and once again this year the RESA Study demonstrates that commitment with the annual publication of outcomes. In this context we should point out not only the good outcomes obtained, comparable with any national or international healthcare system, but an even more important aspect: the observation and measurement of these quality indicators is leading to a continuous improvement in the outcomes.

This study is **fully representative of the private sector**, as its fifth edition includes 62% of acute care private hospital beds and nearly one in every 5 public and private hospital discharge in the country.

The outcomes obtained in this edition are once again very satisfactory, thus corroborating those from previous editions. Once again, therefore, private health centres can demonstrate their excellent outcomes in managing healthcare, accessibility, quality and patient safety.

Some aspects that have contributed to this success include growing participation for the vast majority of the indicators in the study; this is due both to the addition of new health centres and the health centres that have participated in previous editions participating in more indicators.

The 2016 RESA Study **highlights private healthcare's commitment to patients and presents excellent outcomes comparable with any national or international healthcare system**, and yet, the most important part of all is that it confirms that private healthcare has initiative, drive and a strong desire to continue improving.

This commitment is consistent with the positioning of the RESA Study among existing Outcome Observatories. Our review highlights some special features of the RESA Study:

- It is an independent initiative of the private hospital sector in a context where most initiatives are public or *semi-public*.
- Focusing on quality to present outcomes and using it as an instrument for improvement.
- It is one of the first initiatives of this type in Spain, placing the private sector at the forefront of current trends.

The additional analysis conducted this year on quality observatories strengthens our belief that we are working in line with international trends on outcomes and that this work opens up great possibilities for the future.

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9 APPENDICES

9.1. Indicator selection and definition process

The 2016 RESA Study Expert Committee, appointed by the IDIS Foundation, was responsible for determining the scope of this year's report.

This committee considered it best to not continue increasing the set of indicators in the RESA Study, arguing that the existing indicators already clearly reflect the outcomes and quality of care provided in private hospitals in Spain.

However, at the initiative of a group of haemodialysis centres, a pilot programme with haemodialysis indicators was carried out and included in the Study.

The sections of the document included below are part of the data collection manual given to participants:

9.2. Indicator sheets

The following sheets describe the definition, formula and terms for each of the indicators in the 2016 RESA Study:

Code: 1	**Name:** Average stay adjusted by case
Definition: Number of stays in days for patients treated at the hospital adjusted for each DRG compared to the number of discharges by DRG.	
Formula: ((A1 * P1)+...+(An * Pn)) / ((B1 * P1)+...+(Bn * Pn))	
Numerator (A and P): A1... An: Total number of days of hospitalisation for patients classified into DRG 1...DRG n, excluding outsiders. P1... Pn: Proportion of cases of DRG 1...DRG n in the group of health centres studied (Standard).	**Denominator (B and P):** B: Total number of patients discharged at the hospital for DRG 1... DRG n, excluding outsiders. P1... Pn: Proportion of cases of DRG 1...DRG n in the group of health centres studied (Standard).

Code: 2	**Name:** Average stay pre-surgery
Definition: Number of days from the date of admission into hospital until the date of the surgical procedure for all patients scheduled for procedures.	
Formula: A/B	
Numerator (A): Sum of the difference between the date of the procedure and the date of admission.	**Denominator (B):** Total number of hospital discharges with surgical procedures.

Code: 3	**Name:** Rate of outpatient surgeries
Definition: Total number of outpatient surgical procedures (OSP) compared to the total number of surgical procedures (inpatient + outpatient).	
Formula: (A/B)*100	
Numerator (A): Total number of surgical procedures without hospitalisation.	**Denominator (B):** Total number of surgical procedures performed at the inpatient centre.

Code: 4 (4.1, 4.2, 4.3)	**Name:** Average waiting time for scheduling additional tests
Definition: Average number of days that patients must wait between requesting an appointment to perform an additional test (General mammogram, Musculoskeletal magnetic resonance and cranial CAT scan) and the date of the test (appointment).	
Formula: ∑ (A-B)/C	
Numerator (A and B): A: Patient appointment date. B: Date of requesting the additional test.	**Denominator (C):** Number of patients who have been scheduled for an additional test.

Code: 5 (5.1, 5.2, 5.3)	**Name:** Average waiting time for additional test reports
Definition: Average number of days patients have to wait for additional test reports, starting with the date the test is performed and ending when the report is available to the doctor. The tests analysed are: mammogram, musculoskeletal and limb magnetic resonance imaging and CAT scans.	
Formula: ∑ (A-B)/C	
Numerator (A and B): A: Date when the additional test report is available to the doctor. B: Date when the patient has the additional test.	**Denominator (C):** Number of patients who have had additional tests.

Code: 6 (6.1, 6.2, 6.3, 6.4)	**Name:** Average waiting time for a consultation with a specialist (Ophthalmology, Dermatology, Traumatology, and Gynaecology and Obstetrics)
Definition: Average number of days that patients must wait between requesting an appointment for a first consultation with a specialist (Ophthalmology, Dermatology, Traumatology, and Gynaecology and Obstetrics) and the date of the consultation (appointment).	
Formula: ∑ (A-B)/C	
Numerator (A and B): A: Patient appointment date. B: Date of requesting specialist consultation.	**Denominator (C):** Total number of patients scheduled for a first consultation with a specialist.

Code: 7	**Name:** Average time in emergency *triage* care
Definition: Average waiting time from checking in at A&E until emergency *triage*.	
Formula: ∑ (A-B) / C	
Numerator (A and B): A: Date and time of *triage* at A&E. B: Date and time of checking in at A&E.	**Denominator (C):** Number of patients checked in at A&E.

Code: 8	**Name:** Average waiting time for initial medical treatment in A&E
Definition: Average waiting time between triage and receiving medical attention.	
Formula: ∑ (A-B) / C	
Numerator (A and B): A: Date and time of medical attention. B: Date and time of *triage* in A&E.	**Denominator (C):** Number of patients checked in at A&E.

Code: 9	**Name:** Average surgery waiting time
Definition: Total number of days between the pre-anaesthesia consultation and the date of the surgery (On a particular cut-off date including procedures performed and pending procedures to be performed).	
Formula: ∑ [(A-B)+(C-A)]/ D	
Numerator (A, B and C): A: Date of pre-anaesthesia consultation. B: Date of requesting pre-anaesthesia consultation. C: Date of the surgical procedure.	**Denominator (D):** Total number of patients with scheduled surgical procedure and pre-anaesthesia assessment.

Code: 10	**Name:** Average time between diagnosis and starting breast cancer treatment
Definition: Average number of days between a definite diagnosis of breast cancer and starting oncology treatment. Patients who were not diagnosed at the hospital, who did not start treatment, and voluntary discharges and/or referrals to other health centres are not included.	
Formula: ∑ (A-B) / C	
Numerator (A and B): A: Scheduled date to begin oncology treatment for breast cancer (can be adjusted to the date of closing the diagnostic report for patients who are pending starting treatment). B: Date of the breast cancer diagnostic report.	**Denominator (C):** Total number of patients with a breast cancer diagnostic report.
Adjustments: Patients who did not receive their diagnosis at the inpatient centre are excluded. Patients who did not start treatment at the inpatient centre are excluded. Voluntary discharges and referrals to other inpatient centres are excluded.	

Code: 11	**Name:** Average time between diagnosis and starting colon cancer treatment
Definition: Average number of days between a definite diagnosis of colon cancer and starting oncology treatment. Patients who were not diagnosed at the hospital, who did not start treatment, and voluntary discharges and/or referrals to other health centres are not included.	
Formula: ∑ (A-B) / C	
Numerator (A and B): A: Scheduled date to begin oncology treatment for colon cancer (can be adjusted to the date of closing the diagnostic report for patients who are pending starting treatment). B: Date of the colon cancer diagnostic report.	**Denominator (C):** Total number of patients with a colon cancer diagnostic report.
Adjustments: Patients who did not receive their diagnosis at the inpatient centre are excluded. Patients who did not start treatment at the inpatient centre are excluded. Voluntary discharges and referrals to other inpatient centres are excluded.	

Code: 12	**Name:** Average time between diagnosis and starting lung cancer treatment
Definition: Average number of days between a definite diagnosis of lung cancer and starting oncology treatment. Patients who were not diagnosed at the hospital, who did not start treatment, and voluntary discharges and/or referrals to other health centres are not included.	
Formula: ∑ (A-B) / C	
Numerator (A and B): A: Scheduled date to begin oncology treatment for lung cancer (can be adjusted to the date of closing the diagnostic report for patients who are pending starting treatment). B: Date of the lung cancer diagnostic report.	**Denominator (C):** Total number of patients with a lung cancer diagnostic report.
Adjustments: Patients who did not receive their diagnosis at the inpatient centre are excluded. Patients who did not start treatment at the inpatient centre are excluded. Voluntary discharges and referrals to other inpatient centres are excluded.	

Code: 13	**Name:** Rate of return to A&E within 72 hours of discharge for the same diagnosis
Definition: Percentage of patients who return to the hospital's A&E service within 72 hours of their first visit to A&E.	
Formula: (A/B)*100	
Numerator (A): Total number of patients discharged from A&E who return to A&E for treatment within 72 hours (calculated using check-in times at A&E).	**Denominator (B):** Total number of patients discharged from A&E over the studied period up to 72 hours prior to the day and time of the end of the period of study.

Code: 14	**Name:** Hospital readmission rate 30 days from discharge
Definition: Percentage of readmissions after patients are discharged from the same hospital within 30 days of the initial episode (the readmission must be caused by the same pathology, or a related pathology, as the initial admission).	
Formula: (A/B)*100	
Numerator (A): Total number of patients discharged (index cases) who are readmitted to the hospital for the same cause, or a cause potentially related to the initial pathology, within 30 days of discharge.	**Denominator (B):** Total number of patients admitted to hospital in compliance with the "Inpatient Discharge" administrative procedure.

Code: 15	**Name:** Complications within 3 days of cataract surgery
Definition: Percentage of patients with a diagnosis of uncomplicated cataract who had cataract surgery and must undergo another cataract procedure due to major complications within 3 days of the initial surgery.	
Formula: (A/B)*100	
Numerator (A): Total number of patients undergoing a second cataract surgery for: • Retaining nuclear fragments • Endophthalmitis • Dislocation or intraocular lens with incorrect power • Retinal detachment • Wound dehiscence	**Denominator (B):** Total number of cataract surgeries performed at the inpatient centre.

Code: 16	**Name:** Accreditation and certification of hospital units and services
Definition: Number of units and/or services that have received external quality recognitions (certification, accreditation, etc.) in the main areas of hospital operations (self-declaratory indicator).	
Formula: ∑ A / B	
Numerator (A): Number of inpatient centres that, over the period studied, have obtained an ISO, EFQM or Joint Commission certificate and/or accreditation for hospital services: a) Hospitalisation; b) Day Hospital; c) Specialist consultations and outpatient services; d) Surgical and obstetrics unit; e) A&E, f) Central diagnostic and therapeutic services; and g) Patient management (admissions, patient care and clinical records).	**Denominator (B):** Number of inpatient centres that participated in the study.

Code: 17 (17.1, 17.2, 17.3, 17.4, 17.5)	**Name:** Policies and procedures implemented for patient safety
Definition: Number of patient safety policies and procedures implemented at the hospital in priority areas: 1) hand hygiene; 2) protocol for assessing bed sore risk; 3) protocol for identifying medication-related problems; 4) anonymous notification systems for adverse events; and 5) surgical *check-list.* Self-declaratory indicator.	
Formula: ∑ A / B	
Numerator (A): Number of patient safety policies and procedures implemented in the hospital that meet the defined criteria.	**Denominator (B):** Number of inpatient centres participating in the study.

Code: 18	**Name:** Rate of safe surgical procedures (*surgical check-list*)
Definition: Percentage of surgical procedures under general anaesthesia with a completed safety *check-list* compared to the total number of surgical procedures performed at the hospital.	
Formula: (A/B)*100	
Numerator (A): Number of surgical procedures under general anaesthesia appearing in the clinical records with a standardised safe surgery *check-list* that meets the criteria for safe surgery, completed and signed.	**Denominator (B):** Total number of surgical procedures under general anaesthesia performed at the hospital over the established period.

Code: 19	**Name:** Survival rate for patients hospitalised for Acute Coronary Syndrome
Definition: Percentage of patients still alive within 48 hours of being admitted for acute myocardial infarction compared to the total number of admissions for this diagnosis.	
Formula: (A/B)*100	
Numerator (A): Total number of discharges of patients admitted to hospital for Acute Coronary Syndrome (ICD: 410.xx and 411.xx), that are not discharged due to "death/exitus" within 48 hours of admission in the period studied.	**Denominator (B):** Number of discharges of patients admitted to hospital for Acute Coronary Syndrome (ICD: 410.xx and 411.xx.).
Adjustments: Discharges due to transferring the patient to another hospital are excluded.	

Code: 20	**Name:** Rate of hip replacement surgery within 48 hours of hospital admission
Definition: Number of procedures performed within 48 hours of emergency admission compared to the total hip replacement surgeries performed in the period of study.	
Formula: (A/B)*100	
Numerator (A): Total number of hip replacement surgeries performed within 48 hours of the patient's A&E admission at the hospital during the period of study.	**Denominator (B):** Total number of hip replacement surgeries performed on patients who were admitted to A&E at the hospital in the period of study.

Code: 21	**Name:** Rate of colonoscopies performed under deep sedation
Definition: Percentage of colonoscopies performed under deep sedation compared to the total number of colonoscopies performed at the inpatient centre.	
Formula: (A/B)*100	
Numerator (A): Number of patients who underwent colonoscopies under deep sedation.	**Denominator (B):** Number of patients who underwent colonoscopies at the inpatient centre.

Code: 22	**Name:** Rate of gastroscopies performed under deep sedation
Definition: Percentage of gastroscopies performed under deep sedation compared to the total number of gastroscopies performed at the inpatient centre.	
Formula: (A/B)*100	
Numerator (A): Number of patients who underwent gastroscopies under deep sedation.	**Denominator (B):** Number of patients who underwent gastroscopies at the inpatient centre.

Code: 23	**Name:** Readmission rate for outpatient surgery at 30 days
Definition: Percentage of patients who underwent outpatient surgical procedures (OSPs) who were admitted to the same centre where the OSP was performed due to complications related to the procedure.	
Formula: (A/B)*100	
Numerator (A): Total number of patients who underwent an OSP and were admitted due to a complication related to the procedure within 30 days.	**Denominator (B):** Number of patients who underwent an OSP at the inpatient centre.

Code: 24	**Name:** Crude mortality rate in haemodialysis
Definition: The crude mortality rate is the number of deaths per year for patients receiving haemodialysis compared to all haemodialysis patients for the same year.	
Formula: (A/B)*100	
Numerator (A): Number of haemodialysis patient deaths in the year.	**Denominator (B):** Haemodialysis prevalence in the year.

Code: 25	**Name:** Percentage of patients with target Kt/V
Definition: The percentage of patients with target Kt/V is the number of patients with average spkt/v over 1.3 in the period compared to the number of prevalent haemodialysis patients in the same period.	
Formula: (A/B)*100	
Numerator (A): Number of bimonthly denominator patients with average spkt/v >1.3 in the period.	**Denominator (B):** Number of prevalent patients in the period who have been in haemodialysis for 3 months and who receive dialysis 3 times per week.

Code: 26	**Name:** Percentage of patients with Albumin >3.5 g/dl
Definition: The percentage of patients with Albumin > 3.5 g/dl is the ratio of the number of patients with average serum albumin levels of over 3.5 g/dl in the period compared to the number of prevalent haemodialysis patients in the same period.	
Formula: (A/B)*100	
Numerator (A): Number of patients in the denominator with average serum albumin levels > 3.5 g/dl in the period of study.	**Denominator (B):** Number of prevalent haemodialysis patients in the same period.

Code: 27	**Name:** Percentage of patients with autologous AVF
Definition: The percentage of prevalent patients with autologous AVF is the number of patients with autologous AVF compared to the total number of prevalent patients at the end of the year.	
Formula: (A/B)*100	
Numerator (A): Number of patients with autologous AVF.	**Denominator (B):** Number of prevalent haemodialysis patients in the same period.

9.3. Methodological specifications

The information was provided on an IDIS 2016 RESA Survey Excel spreadsheet.

CMBD

The Excel spreadsheet requested the Basic Minimum Data Set for the previous year (2015). This could be sent as part of the Excel spreadsheet or in Access format, ensuring that all the requested fields were filled in.

Additionally, they had to indicate the DRG classification system used for the CMBD.

In every case, and to avoid confusion when managing aggregated data, they had to indicate the identification code for the hospital. This code could be the official hospital registration code or any identification code reported to us.

Completion of the item identifying users in the CMDB and patients for indicators that so required.

Patients' personal data did not appear in the databases used in the study.

For indicators where it was necessary to provide individual patient information in order to cross-reference data to get, for instance, readmission rates, a number was used to ensure patient anonymity (for example, a health centre could provide us a random personal identification number that only the manager of the health centre could match up with the clinical records or personal identification of patients).

These personal identification numbers were coded by the heads of the study so that the database was left with no identifier that could be used to trace patient data to their clinical records or personal identification. The lists matching the codes assigned by the study and the codes initially assigned by the health centre were returned to the centres and the leaders of the study did not keep any copies.

9.3.1. Average stay adjusted by case

The average stay adjusted by case was calculated based on the necessary data from the CMBD.

9.3.2. Average stay pre-surgery

The average stay pre-surgery was calculated based on the necessary data from the CMBD on surgical activity.

9.3.3. Rate of outpatient surgeries

The sampling of cases used to calculate the rate of outpatient surgeries (OPS) included surgeries for which the admission date was the same as the discharge date in the CMDB of surgical activity.

They did not include patients whose discharge record shows that they had been referred to another inpatient centre.

Source: CMBD of surgical activity of the Hospital Information System (HIS) or similar.

9.3.4. Average waiting time for scheduling additional tests

It included the following tests performed in 2015:

- Mammogram.
- Computerised Axial Tomography scan (CAT scan).
- Musculoskeletal Nuclear Magnetic Resonance (NMR).

The following data was provided for each of the tests:

- Test (of the three indicated).
- Date (dd/mm/yyyy) of requesting the test, whether requested by the professional or the patient.
- Date scheduled to perform the test (dd/mm/yyyy).

Source: Hospital Information System (HIS) or departmental testing system.

9.3.5. Average waiting time for additional test reports

It included only the following tests performed in 2015:

- Mammogram.
- Computerised Axial Tomography scan (CAT scan).
- Musculoskeletal Nuclear Magnetic Resonance (NMR).

Inpatient and outpatient services were differentiated (with outpatient including A&E patients).

The following data was provided for each test:

- Test (of the three indicated).
- Date of the test. They had to indicate the date (dd/mm/yyyy) and the time (hh:mm).
- Date the test was available. They had to use the same format to indicate the date on which the doctor had the report available electronically or delivered in person, or the date on which the test was available to be picked up by the patient, regardless of when they finally picked it up.

Source: Hospital Information System (HIS) or departmental testing system.

9.3.6. Average waiting time for first specialist consultation

It included the following specialist consultations in 2015:

- Ophthalmology
- Dermatology
- Traumatology
- Gynaecology and Obstetrics

It included all first consultations scheduled in 2015 (regardless of whether the appointment was carried out) where the patient was given the first available appointment on the schedule or another similar date at their convenience.

The following data was provided for each of the first consultations:

- Date of requesting the first consultation (dd/mm/yyyy).
- Date scheduled for the consultation (dd/mm/yyyy).

Source: Hospital Information System (HIS).

9.3.7. Average time in emergency triage care

Includes all patients treated at A&E in 2015.

The following information was provided:

- Date (dd/mm/yyyy) and time (hh:mm) on record for emergency admission (or date and time of arrival at emergency services if the patient is already checked in). If the emergency admission is not recorded upon arrival the centre is excluded.
- Date (dd/mm/yyyy) and time (hh:mm) on the record for starting *triage* care by nursing staff or doctors

Source: Hospital Information System (HIS).

9.3.8. Average waiting for initial medical treatment in A&E physician's care

Includes all patients treated at A&E in 2015.

The following information was provided:

- Date (dd/mm/yyyy) and time (hh:mm) on the record for starting *triage* care by nursing staff or doctors. If the *triage* at A&E is not recorded the centre was excluded.
- Date (dd/mm/yyyy) and time (hh:mm) of start of care provided by the first doctor who sees the patient.

Source: Hospital Information System (HIS).

9.3.9. Average surgery waiting time

Includes all patients receiving scheduled surgical procedures with general anaesthesia (including with and without patient hospitalisation).

Includes patients whose surgery was scheduled during the year, including cases subsequently cancelled for any reason.

The following information was provided:

- Date (dd/mm/yyyy) and time (hh:mm) for requesting the anaesthesia assessment consultation prior to the procedure.
- Date (dd/mm/yyyy) and time (hh:mm) for scheduling the procedure.
- Total number of patients with scheduled surgical procedures with general anaesthesia and anaesthesia assessment consultation prior to the procedure.

9.3.10. Average time between diagnosis and breast cancer treatment

Includes all patients whose diagnosis and first treatment (surgical or medical) were performed at the hospital during the period of study. For diagnoses made at the end of the year in question and treated during the first months of the following year, the cut-off date for inclusion in the study was 31 January of the following year (2015 to 31 January 2016).

The following information was provided:

- Date of confirmation of diagnosis (dd/mm/yyyy).
- Date of starting the first surgical or medical treatment (dd/mm/yyyy).

Patients who did not have the diagnosis and start treatment at the same centre, patients referred from other centres, and voluntary discharges were excluded.

Source: Electronic records, HIS, or departmental systems.

9.3.11. Average time between diagnosis and colon cancer treatment

Includes all patients whose diagnosis and first treatment (surgical or medical) were performed at the hospital during the period of study. For diagnoses made at the end of the year in question and treated during the first months of the following year, the cut-off date for inclusion in the study was 31 January of the following year (2015 to 31 January 2016).

The following information was provided:

- Date of confirmation of diagnosis (dd/mm/yyyy).
- Date of starting the first surgical or medical treatment (dd/mm/yyyy).

Patients who did not have the diagnosis and start treatment at the same centre, patients referred from other centres, and voluntary discharges were excluded.

Source: Electronic records, HIS, or departmental systems.

9.3.12. Average time between diagnosis and lung cancer treatment

Includes all patients whose diagnosis and first treatment (surgical or medical) were performed at the hospital during the period of study. For diagnoses made at the end of the year in question and treated during the first months of the following year, the cut-off date for inclusion in the study was 31 January of the following year (2015 to 31 January 2016).

The following information was provided:

- Date of confirmation of diagnosis (dd/mm/yyyy).
- Date of starting the first surgical or medical treatment (dd/mm/yyyy).

Patients who did not have the diagnosis and start treatment at the same centre, patients referred from other centres, and voluntary discharges were excluded.

Source: Electronic records, HIS, or departmental systems.

9.3.13. Rate of return to A&E within 72 hours of discharge for the same diagnosis

The last year (2015) was requested in the format of the attached Excel spreadsheet. There were two calculations:

1 Patients with 2 or more visits within 72 hours. This contained all patients who made more than one visit to A&E within a period of 72 hours between when they were admitted for the first visit and the second visit.

- The main diagnostic item was optional if it was indicated in the centre's information systems.

2 Additionally, a description was requested of the total number of visits to A&E by patients segmented by age and sex in order to obtain rates of repeated visits.

Source: Hospital Information System (HIS) or similar.

9.3.14. Hospital readmission rate 30 days from discharge

The readmission rate 30 days from discharge was calculated based on the necessary data from the CMBD.

9.3.15. Rate of complications within 3 days of cataract surgery

The rate of complications within 3 days of cataract surgery that require additional surgical procedures was calculated based on the necessary data from the CMBD.

Patients who have complications within 3 days of cataract surgery have:

- Retaining nuclear fragments
- Endophthalmitis
- Dislocation or intraocular lens with incorrect power
- Retinal detachment
- Wound dehiscence

9.3.16. Accreditation and certification of hospital units and services

Only certifications granted by the main international organisations and/or of renowned calibre were included.

Accreditations given on a multi-annual basis obtained prior to the period of study that were kept valid during the period could be included.

Not included: honours, prizes and similar recognitions from non-professional organisations.

Given that there could be many different cases, centres were advised to ask if in doubt.

Electronic copy of the accreditation documents included in the study was received.

9.3.17. Policies and procedures implemented for patient safety

This included the existence of certain patient safety policies and procedures. The policies included were:

a) Hand hygiene protocol. This involves at least providing a systematic training plan for at least healthcare personnel, reviewing hand-washing stations and supplying them with a water-alcohol solution, monitoring hand washing and carrying out different communication campaigns. There must be standard documentation containing the hand hygiene plan (a copy was sent in electronic format).

b) Assessment protocol for bed sores on admission. This involves the existence of a formal protocol approved by governing bodies (an electronic copy was attached), the definition of risk criteria for bed sores in patients, carrying out a preventive bed-sore assessment on high-risk patients with at least the identification of high-risk patients and the use of a standard classification for the entire health centre, and regularly calculating a bed sore indicator and reporting the information systematically to management at least quarterly.

c) Identification protocol for medication-related problems. This involves bringing in a different professional from the usual patient healthcare professional to identify the medications prescribed to the patients in hospital upon discharge, the medications the patient has prescribed or used prior to admission, and to carry out at least an analysis of duplications or incompatibilities. The protocol must be written (an electronic copy was sent).

d) Anonymous notification system for adverse events. This involves the existence of a mechanised system for reporting adverse events with treated patients that respects the anonymity of the reporter, analysing the adverse event (Ishikawa diagram, root cause, and other tools for analysing causes) and disseminating findings to the affected unit or units. Information about the operation of the system used was sent electronically to be read by staff.

e) Safe surgery protocol (check-list). This involves, as mentioned in the section above, the existence of a protocol, formally approved by the hospital's governing bodies, and of mandatory compliance in the surgical unit, which includes carrying out a check-list of the main risk variables for patients (an electronic copy was attached).

A safety policy or procedure must:

- Be included and detailed in a formal document (send copy in electronic format).
- Have been formally approved by the centres' governing bodies (considered to be care managers and similar personnel).
- Have been implemented across selected areas or services (not necessarily in all hospital areas and services). Committees must hold at least two meetings per year.
- Have included staff training.
- Have included at least one assessment, check or follow-up.

9.3.18. Rate of safe surgical procedures (surgical check-list)

This involves the existence of a protocol, formally approved by the hospital's governing bodies, and of mandatory compliance in the surgical unit (scheduled surgeries with general anaesthesia with or without patient admission), which includes carrying out a check-list of the main variables of patient safety.

The centres provided a monthly sample of consecutive days after 31 August 2015, to be freely chosen by the hospital.

A check-list has been properly performed whenever:

1. There is a verification sheet included in the patient's clinical records in accordance with the programme adopted by the health centre.
2. This sheet is signed by the manager or managers.
3. At least one of the items included in the tool has been completed and the health centre has written confirmation of compliance (the indicator did not include the quality of compliance this year, just the compliance itself).

The information provided was:

- Numerator: Total number of scheduled surgical procedures with general anaesthesia performed in the selected month (with or without patient admission) where there is proof that the hospital's check-list protocol was performed.
- Denominator: Total number of scheduled surgical procedures with general anaesthesia performed in the selected month (with or without patient admission).

9.3.19. Survival rate for patients hospitalised for Acute Coronary Syndrome

The survival rate for patients hospitalised for Acute Coronary Syndrome was calculated based on the necessary data from the CMBD.

9.3.20. Rate of hip replacement surgery 48 hours of hospital admission

The rate of hip replacement surgery 48 hours of hospital admission was calculated based on necessary data from the CMBD.

9.3.21. Rate of colonoscopies performed under deep sedation

We requested information on colonoscopies performed under deep sedation during one month of 2015. The sample month could be selected by the health centre, though it had to have a minimum of 30 colonoscopies (n minimum = 30). In cases where the selected month did not have the minimum number, the sample was completed by adding as many consecutive days from the next month as necessary to reach the minimum.

Source: Hospital Information System (HIS) or similar.

9.3.22. Rate of gastroscopies performed under deep sedation

We requested information on gastroscopies performed under deep sedation during one month of 2015. The sample month could be selected by the health centre, though it had to have a minimum of 30 gastroscopies (n minimum = 30). In cases where the selected month did not have the minimum number, the sample was completed by adding as many consecutive days from the next month as necessary to reach the minimum.

Source: Hospital Information System (HIS) or similar.

9.3.23. Readmission rate for outpatient surgery at 30 days

To calculate the readmission rate for outpatient surgery we used all the surgeries in the CMBD of surgical activity for which the patient admission date was the same as the discharge date.

Patients whose discharge record indicates that they were referred to another inpatient centre were not included in the calculation for the indicator.

Source: CMBD of surgical activity of the Hospital Information System (HIS) or similar.

9.3.24. Crude mortality rate in haemodialysis

The reference year for the information provided for this indicator was 2015. Patients with admission dates at the health centre in the previous three months of 2015 were included.

9.3.25. Percentage of patients with target Kt/V

The reference year for the information provided for this indicator was 2015. Patients hospitalised for at least 180 days were included.

9.3.26. Percentage of patients with albumin > 3.5 gr.dl

The reference year for the information provided for this indicator was 2015. Patients hospitalised for at least 180 days were included.

9.3.27. Percentage of patients with autologous AVF

The reference period for the information provided for this indicator was the month of December 2015.

9.4. List of participants

9.4.1. Hospitals and clinics with inpatient care

List of hospitals and clinics participating in the 2016 RESA Study[1]:

ASISA (HLA GRUPO HOSPITALARIO)

- CLÍNICA MONTPELLIER (Zaragoza)
- CLÍNICA PERPETUO SOCORRO (Lleida)
- CLÍNICA SANTA ISABEL (Seville)
- CLÍNICA VISTAHERMOSA (Alicante)
- HOSPITAL EL ÁNGEL (Malaga)
- HOSPITAL INMACULADA CONCEPCIÓN (Granada)
- HOSPITAL JEREZ PUERTA DEL SUR (Jerez de la Frontera, Cadiz)
- HOSPITAL LA VEGA (Murcia)
- HOSPITAL MEDITERRÁNEO (Almeria)
- HOSPITAL MONCLOA (Madrid)

IGUALATORIO MÉDICO QUIRÚRGICO CLINICS

- IMQ VIRGEN BLANCA (San Sebastian)
- IMQ ZORROTZAURRE (Bilbao)

GEHOSUR GROUP

- HOSPITAL INFANTA LUISA (Seville)
- HOSPITAL SAN AGUSTÍN (Dos Hermanas, Seville)

GRUPO HM HOSPITALES

- HOSPITAL HM MODELO Y MATERNIDAD HM BELÉN (A Coruña)
- HOSPITAL HM VALLÉS (Alcalá de Henares, Madrid)
- HOSPITAL UNIVERSITARIO HM MADRID (Madrid)
- HOSPITAL UNIVERSITARIO HM MONTEPRÍNCIPE (Boadilla del Monte, Madrid)
- HOSPITAL UNIVERSITARIO HM NUEVO BELÉN (Madrid)
- HOSPITAL UNIVERSITARIO HM PUERTA DEL SUR (Móstoles, Madrid)
- HOSPITAL UNIVERSITARIO HM SANCHINARRO (Madrid)
- HOSPITAL UNIVERSITARIO HM TORRELODONES (Torrelodones, Madrid)

[1] For the calculations of the study, all medical and outpatient centres associated with inpatient centres that contributed data on indicators were included.

GRUPO HOSPITALARIO QUIRÓNSALUD

- CENTRO MÉDICO TEKNON
  (Barcelona)
- CLÍNICA LA MERCED
  (Poio, Pontevedra)
- CLÍNICA ROTGER
  (Palma de Mallorca)
- HOSPITAL EL PILAR – CENTRE CARDIOVASCULAR SANT JORDI
  (Barcelona)
- HOSPITAL GENERAL DE VILLALBA
  (Collado Villalba, Madrid)
- HOSPITAL LA LUZ
  (Madrid)
- HOSPITAL QUIRÓNSALUD A CORUÑA
  (A Coruña)
- HOSPITAL QUIRÓNSALUD ALBACETE
  (Albacete)
- HOSPITAL QUIRÓNSALUD BARCELONA
  (Barcelona)
- HOSPITAL QUIRÓNSALUD BIZKAIA
  (Erandio, Vizcaya)
- HOSPITAL QUIRÓNSALUD CÁCERES
  (Caceres)
- HOSPITAL QUIRÓNSALUD CAMPO DE GIBRALTAR
  (Cadiz)
- HOSPITAL QUIRÓNSALUD CIUDAD REAL
  (Ciudad Real)
- HOSPITAL QUIRÓNSALUD CLIDEBA
  (Badajoz)
- HOSPITAL QUIRÓNSALUD COSTA ADEJE
  (Santa Cruz de Tenerife)
- HOSPITAL QUIRÓNSALUD DEL VALLÉS
  (Sabadell, Barcelona)
- HOSPITAL QUIRÓNSALUD MÁLAGA
  (Malaga)
- HOSPITAL QUIRÓNSALUD MARBELLA
  (Marbella, Malaga)
- HOSPITAL QUIRÓNSALUD MURCIA
  (Murcia)
- HOSPITAL QUIRÓNSALUD PALMAPLANAS
  (Palma de Mallorca)
- HOSPITAL QUIRÓNSALUD PONTEVEDRA
  (Pontevedra)
- HOSPITAL QUIRÓNSALUD SAGRADO CORAZÓN
  (Seville)
- HOSPITAL QUIRÓNSALUD SAN JOSÉ
  (Madrid)
- HOSPITAL QUIRÓNSALUD SANTA JUSTA
  (Villanueva de la Serena, Badajoz)
- HOSPITAL QUIRÓNSALUD SUR
  (Alcorcón, Madrid)
- HOSPITAL QUIRÓNSALUD TENERIFE
  (Santa Cruz de Tenerife)
- HOSPITAL QUIRÓNSALUD TOLEDO
  (Toledo)
- HOSPITAL QUIRÓNSALUD TORREVIEJA
  (Torrevieja, Alicante)
- HOSPITAL QUIRÓNSALUD VALENCIA
  (Valencia)
- HOSPITAL QUIRÓNSALUD VITORIA
  (Vitoria)
- HOSPITAL QUIRÓNSALUD ZARAGOZA
  (Zaragoza)
- HOSPITAL RUBER INTERNACIONAL
  (Madrid)
- HOSPITAL RUBER JUAN BRAVO 39
  (Madrid)
- HOSPITAL RUBER JUAN BRAVO 49
  (Madrid)
- HOSPITAL UNIVERSITARI DEXEUS
  (Barcelona)
- HOSPITAL UNIVERSITARI GENERAL DE CATALUNYA
  (Sant Cugat del Vallés, Barcelona)
- HOSPITAL UNIVERSITARI SAGRAT COR
  (Barcelona)
- HOSPITAL UNIVERSITARIO FUNDACIÓN JIMÉNEZ DÍAZ
  (Madrid)

- HOSPITAL UNIVERSITARIO INFANTA ELENA
  (Valdemoro, Madrid)
- HOSPITAL UNIVERSITARIO QUIRÓNSALUD MADRID
  (Pozuelo de Alarcón, Madrid)
- HOSPITAL UNIVERSITARIO REY JUAN CARLOS
  (Madrid)
- POLICLÍNICA GUIPUZKOA
  (San Sebastian)

GRUPO HOSPITALARIO SAN ROQUE

- HOSPITAL SAN ROQUE LAS PALMAS
  (Las Palmas de Gran Canaria)
- HOSPITAL SAN ROQUE MASPALOMAS
  (Maspalomas, Gran Canaria)

GRUPO HOSPITALES NISA

- HOSPITAL AGUAS VIVAS
  (Valencia)
- HOSPITAL 9 DE OCTUBRE
  (Valencia)
- HOSPITAL PARDO DE ARAVACA
  (Madrid)
- HOSPITAL REY DON JAIME
  (Castellon de la Plana)
- HOSPITAL SEVILLA ALJARAFE
  (Castilleja de la Cuesta, Seville)
- HOSPITAL VALENCIA AL MAR
  (Valencia)
- HOSPITAL VIRGEN DEL CONSUELO
  (Valencia)

GRUPO HOSPITEN

- HOSPITEN BELLEVUE
  (Puerto de la Cruz, Tenerife)
- HOSPITEN CLÍNICA ROCA
  (San Agustín, Gran Canaria)
- HOSPITEN ESTEPONA
  (Estepona, Malaga)
- HOSPITEN LANZAROTE
  (Puerto del Carmen, Gran Canaria)
- HOSPITEN RAMBLA
  (Santa Cruz de Tenerife)
- HOSPITEN SUR
  (Arona, Tenerife)
- MD ANDERSON CANCER CENTER
  (Madrid)

GRUPO RECOLETAS

- HOSPITAL CAMPO GRANDE
  (Valladolid)
- HOSPITAL FELIPE II
  (Valladolid)
- HOSPITAL RECOLETAS BURGOS
  (Burgos)
- HOSPITAL RECOLETAS CUENCA
  (Cuenca)
- HOSPITAL RECOLETAS PALENCIA
  (Palencia)
- HOSPITAL RECOLETAS SEGOVIA
  (Segovia)
- HOSPITAL RECOLETAS ZAMORA
  (Zamora)

GRUPO VITHAS

- HOSPITAL MEDIMAR INTERNACIONAL
  (Alicante)
- HOSPITAL MONTSERRAT
  (Lleida)
- HOSPITAL NUESTRA SEÑORA DE AMÉRICA
  (Madrid)
- HOSPITAL NUESTRA SEÑORA DE FÁTIMA
  (Vigo, Pontevedra)
- HOSPITAL NUESTRA SEÑORA DE LA SALUD
  (Granada)
- HOSPITAL PARQUE SAN ANTONIO
  (Malaga)
- HOSPITAL PERPETUO SOCORRO
  (Alicante)

- HOSPITAL SAN JOSÉ
  (Vitoria)
- HOSPITAL SANTA CATALINA
  (Las Palmas de Gran Canaria)
- HOSPITAL SANTA CRUZ
  (Santa Cruz de Tenerife)
- HOSPITAL VIRGEN DEL MAR
  (Almeria)
- XANIT HOSPITAL INTERNACIONAL
  (Benalmádena, Malaga)

RIBERA SALUD

- HOSPITAL UNIVERSITARIO DE LA RIBERA
  (Alzira, Valencia)
- HOSPITAL UNIVERSITARIO DE TORREVIEJA
  (Torrevieja, Alicante)
- HOSPITAL UNIVERSITARIO DEL VINALOPO
  (Elche, Alicante)

SANITAS HOSPITALES

- HOSPITAL DE MANISES
  (Manises, Valencia)
- HOSPITAL SANITAS CIMA
  (Barcelona)
- HOSPITAL UNIVERSITARIO DE TORREJÓN
  (Torrejón de Ardoz, Madrid)
- HOSPITAL UNIVERSITARIO SANITAS LA MORALEJA
  (Madrid)
- HOSPITAL UNIVERSITARIO SANITAS LA ZARZUELA
  (Madrid)

OTHERS

- CENTRO MÉDICO ASTURIAS
  (Oviedo)
- CLÍNICA SANTA ELENA
  (Madrid)
- FUNDACIÓN ONKOLOGIKOA FUNDAZIOA
  (San Sebastian)
- HOSPITAL SAN FRANCISCO DE ASÍS
  (Madrid)
- HOSPITAL SANTÍSIMA TRINIDAD
  (Salamanca)
- POLICLÍNICA COMARCAL EL VENDRELL
  (Santa Oliva, Tarragona)

9.4.2. Outpatient centres

DIAVERUM

- CENTRO DE DIÁLISIS AXARQUÍA (Torredelmar, Malaga)
- CENTRO DE DIÁLISIS BAIX LLOBREGAT (L'Hospitalet de Llobregat, Barcelona)
- CENTRO DE DIÁLISIS CEDICAS (Castellon)
- CENTRO DE DIÁLISIS COSTA DE LA LUZ (Huelva)
- CENTRO DE DIÁLISIS EMILIO ROTELLAR (Barcelona)
- CENTRO DE DIÁLISIS ESTEPONA (Estepona, Malaga)
- CENTRO DE DIÁLISIS GAMAPAL (Valencia)
- CENTRO DE DIÁLISIS ISLA DE LA CARTUJA (Santiponce, Seville)
- CENTRO DE DIÁLISIS LOLA PALOMAR (Villareal, Castellon)
- CENTRO DE DIÁLISIS MALAGA (Malaga)
- CENTRO DE DIÁLISIS MARESME (Pineda de Mar, Barcelona)
- CENTRO DE DIÁLISIS MATARÓ (Mataró, Barcelona)
- CENTRO DE DIÁLISIS NEFROCLUB (Valencia)
- CENTRO DE DIÁLISIS NEFROPLANA (Castellon)
- CENTRO DE DIÁLISIS NEPHROS (Barcelona)
- CENTRO DE DIÁLISIS NTRA. SRA. DE LA CABEZA (Motril, Granada)
- CENTRO DE DIÁLISIS OROPESA (Oropesa de Mar, Castellon)
- CENTRO DE DIÁLISIS PALAU (Barcelona)
- CENTRO DE DIÁLISIS PLAYAS DE CARTAYA (Cartaya, Huelva)
- CENTRO DE DIÁLISIS PONTEVEDRA (Pontevedra)
- CENTRO DE DIÁLISIS RIOTINTO (Minas de Riotinto, Huelva)
- CENTRO DE DIÁLISIS SANTA CATALINA (Jaen)
- CENTRO DE DIÁLISIS TORREMOLINOS (Torremolinos, Malaga)
- CENTRO DE DIÁLISIS VILLAGARCIA (Vilagarcía de Arousa, Pontevedra)
- CENTRO DE DIÁLISIS VINAROZ (Vinaroz, Castellon)
- CENTRO DE DIÁLISIS VIRGEN DE MONTSERRAT (Barcelona)
- CENTRO DIÁLISIS BURJASSOT (Burjassot, Valencia)
- INSTITUTO DE HEMODIÁLISIS BARCELONA (Barcelona)
- INSTITUTO MÉDICO DE BADALONA (Badalona, Barcelona)

GRUPO ERESA

- ERESA BEATA (Madrid)
- ERESA CAMPANAR (Valencia)

GRUPO IMO

- IMONCOLOGY ALCÁZAR DE SAN JUAN (Alcázar de San Juan, Ciudad Real)
- IMONCOLOGY ALICANTE (Alicante)
- IMONCOLOGY ARAVACA (Madrid)
- IMONCOLOGY ARTURO SORIA (Madrid)
- IMONCOLOGY GUADALAJARA (Guadalajara)

- IMONCOLOGY LA MILAGROSA
  (Madrid)
- IMONCOLOGY MESA DEL CASTILLO
  (Murcia)
- IMONCOLOGY MURCIA
  (Murcia)
- IMONCOLOGY SAN FRANCISCO DE ASÍS
  (Madrid)
- IMONCOLOGY SEVILLA
  (Seville)
- IMONCOLOGY TALAVERA DE LA REINA
  (Talavera de la Reina, Toledo)
- IMONCOLOGY TOLEDO
  (Toledo)

GRUPO INNOVA OCULAR

- INNOVA OCULAR BEGITEK
  (San Sebastian)
- INNOVA OCULAR CLÍNICA DR. SOLER
  (Elche, Alicante)
- INNOVA OCULAR CLÍNICA FERRERUELA
  (Lleida)
- INNOVA OCULAR CLÍNICA MUIÑOS
  (Santa Cruz de Tenerife)
- INNOVA OCULAR CLÍNICA VILA
  (Valencia)
- INNOVA OCULAR ICO BARCELONA
  (Barcelona)
- INNOVA OCULAR IOA MADRID
  (Madrid)
- INNOVA OCULAR LA ARRUZAFA
  (Cordoba)
- INNOVA OCULAR OCULSUR
  (Cadiz)
- INNOVA OCULAR VIRGEN DE LUJÁN
  (Seville)

GRUPO HEALTH TIME

- HEALTH TIME ALGECIRAS
  (Algeciras, Cadiz)
- HEALTH TIME ANDÚJAR
  (Jaen)
- HEALTH TIME CABRA
  (Cabra, Cordoba)
- HEALTH TIME CÁDIZ
  (Cadiz)
- HEALTH TIME CÓRDOBA ASISA
  (Cordoba)
- HEALTH TIME CRISTO REY
  (Jaen)
- HEALTH TIME CRUZ ROJA
  (Cordoba)
- HEALTH TIME EL EJIDO
  (El Ejido, Almeria)
- HEALTH TIME JEREZ DE LA FRONTERA
  (Jerez de la Frontera, Cadiz)
- HEALTH TIME LAS NIEVES
  (Jaen)
- HEALTH TIME LINARES
  (Linares, Jaen)
- HEALTH TIME MANZANARES
  (Manzanares, Ciudad Real)
- HEALTH TIME MONTILLA
  (Montilla, Cordoba)
- HEALTH TIME POZOBLANCO
  (Pozoblanco, Cordoba)
- HEALTH TIME SAN JUAN DE DIOS
  (Cordoba)
- HEALTH TIME SANLÚCAR DE BARRAMEDA
  (Sanlúcar de Barrameda, Cadiz)
- HEALTH TIME VALDEPEÑAS
  (Valdepeñas, Ciudad Real)

GRUPO SCANNER

- CENTRO SCANNER VIZCAYA (NMR)
  (Bilbao)
- CENTRO SCANNER VIZCAYA (CAT)
  (Bilbao)
- CLÍNICA VICENTE SAN SEBASTIÁN TC 64
  (San Sebastian)

9.4.3. Expert Committee

The expert committee for the 2016 RESA Study includes:

- Benito García-Legaz, HLA Grupo Hospitalario.
- Celia Moar, HM Hospitales.
- Ignacio Conde, Innova Ocular.
- Leticia Moral, Quirónsalud
- José Francisco Tomás. Sanitas
- Manuel Vilches. Hospitales NISA.
- Nicolás Guerra, IMQ.

9.4.4. Responsible entities (IDIS and Antares Consulting)

The team responsible for the fieldwork for the 2016 RESA Study included professionals from IDIS and Antares Consulting:

Coordination:
Manuel Vilches, General Director of IDIS

- Carmen Ruiz. IDIS.
- Victoria Ramirez, IDIS.
- Alicia Coduras, Antares Consulting.
- Bárbara Rosado, Antares Consulting.
- Esteban Carrillo, Antares Consulting.
- Joan Barrubés, Antares Consulting.
- Víctor Cañellas, Antares Consulting.

9.5. IDIS members

Trustees

- ACES
- ADESLAS
- ASISA
- AXA
- CASER
- DIAVERUM
- DKV
- ERESA
- Gehosur hospitales
- Grupo Hospitalario Recoletas
- HMC Hospitales Católicos de Madrid
- HM Hospitales
- Hospitales Nisa
- Hospital Perpetuo Socorro
- Hospiten
- IMOncology
- IMQ
- Innova Ocular
- Instituto Hispalense de Pediatría
- MAPFRE
- Quirónsalud
- Red Asistencial Juaneda
- Sanitas
- Vithas

Freely appointed trustees

- Alianza General de Pacientes
- Asebio
- Consejo General de Colegios de Enfermería
- Consejo General de Colegios Oficiales de Farmacéuticos
- Facme
- Farmaindustria
- Fenin
- Foro Español de Pacientes
- Organización Médica Colegial

Sponsors

- Amgen
- Boston Scientific
- GE Healthcare
- Indra
- Johnson & Johnson Medical Companies
- Medtronic
- MSD
- Philips
- Roche
- Siemens
- TBS

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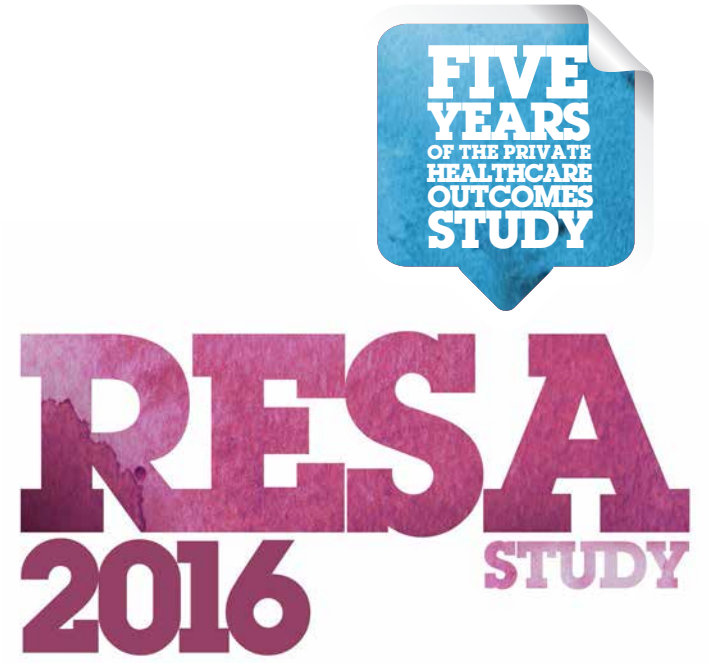
- Air Liquide Healthcare
- Aliad
- A.M.A.
- Aramark
- AstraZeneca
- Carburos Medica
- Chip-Card Salud
- DNV Business Assurance
- Dräger
- Efron Consulting
- El Corte Inglés
- Elekta
- Emsor
- Esteve
- FBA Consulting
- Fundación Abbott
- GMV
- Grupo Cofares
- Hartmann
- IN2 Ingeniería de la Información, S.L.
- Mindray
- Mölnlycke
- Novartis
- Palex
- Promede
- Sodexo
- St.Jude Medical
- Vlfor Pharma
- Willis Iberia
- 3M Health Care

Associates

- Abacid
- Analiza
- Asefa
- Centro Médico de Asturias
- Cerba Internacional
- Clínica San Francisco
- Clínica Santa Elena
- Fundación Onkologikoa Fundazioa de San Sebastián
- Fundación Tejerina
- Ginefiv
- Grupo Previsión Sanitaria Nacional
- Hospital General Santísima Trinidad
- Hospital San Francisco de Asís
- Hospitales San Roque
- Sanyres
- Unilabs


FIVE
YEARS
OF THE PRIVATE
HEALTHCARE
OUTCOMES
STUDY
RESA
2016
STUDY