

La resistencia a los antibióticos: un problema creciente

Estudio Piloto de Vigilancia de Consumo de Antibióticos en Hospitales (ECDC/ESAC-Net; HOSPITAL-BASED PILOT SURVEY)

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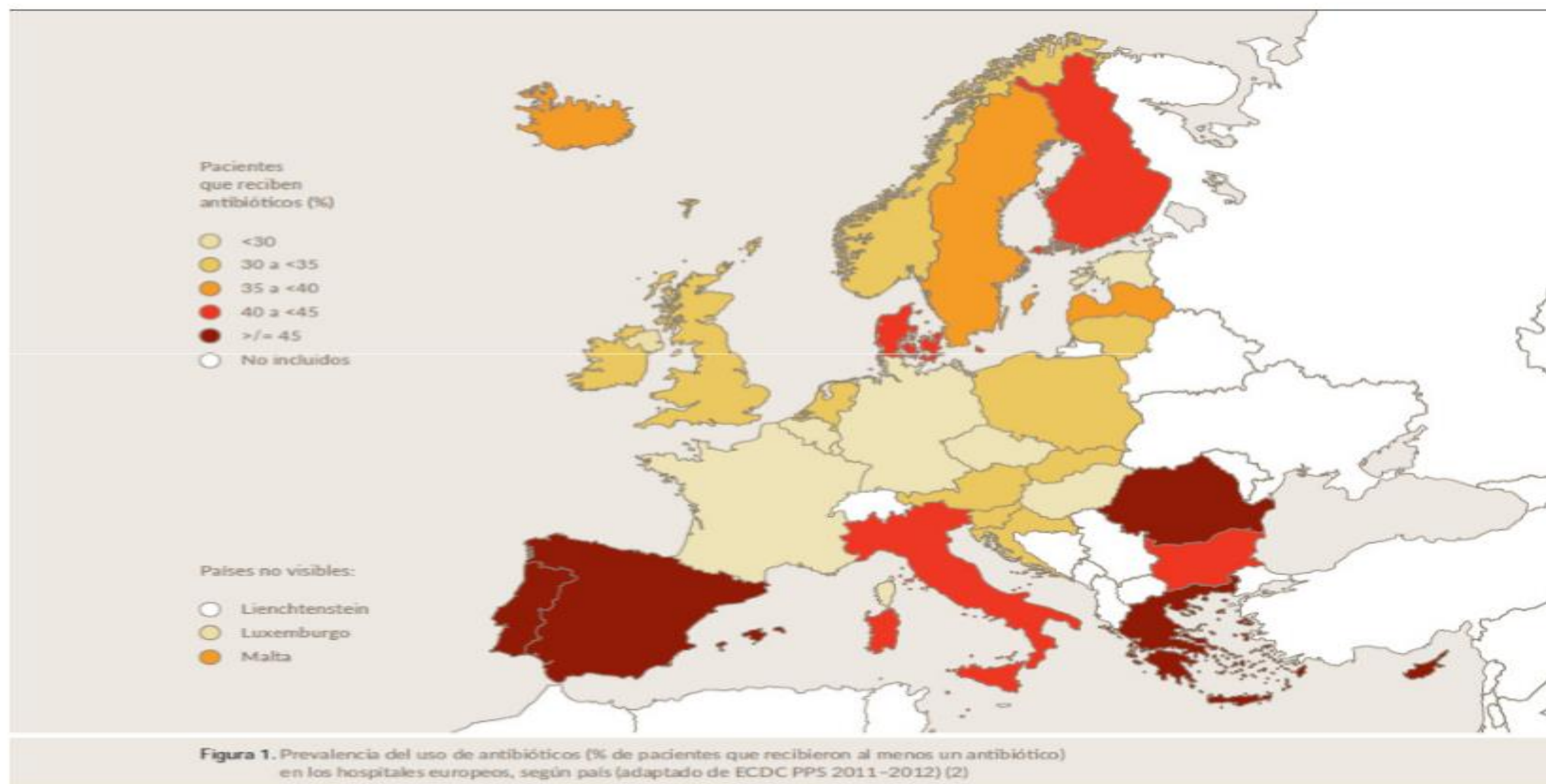
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Prevalencia uso de antibióticos hospitalales

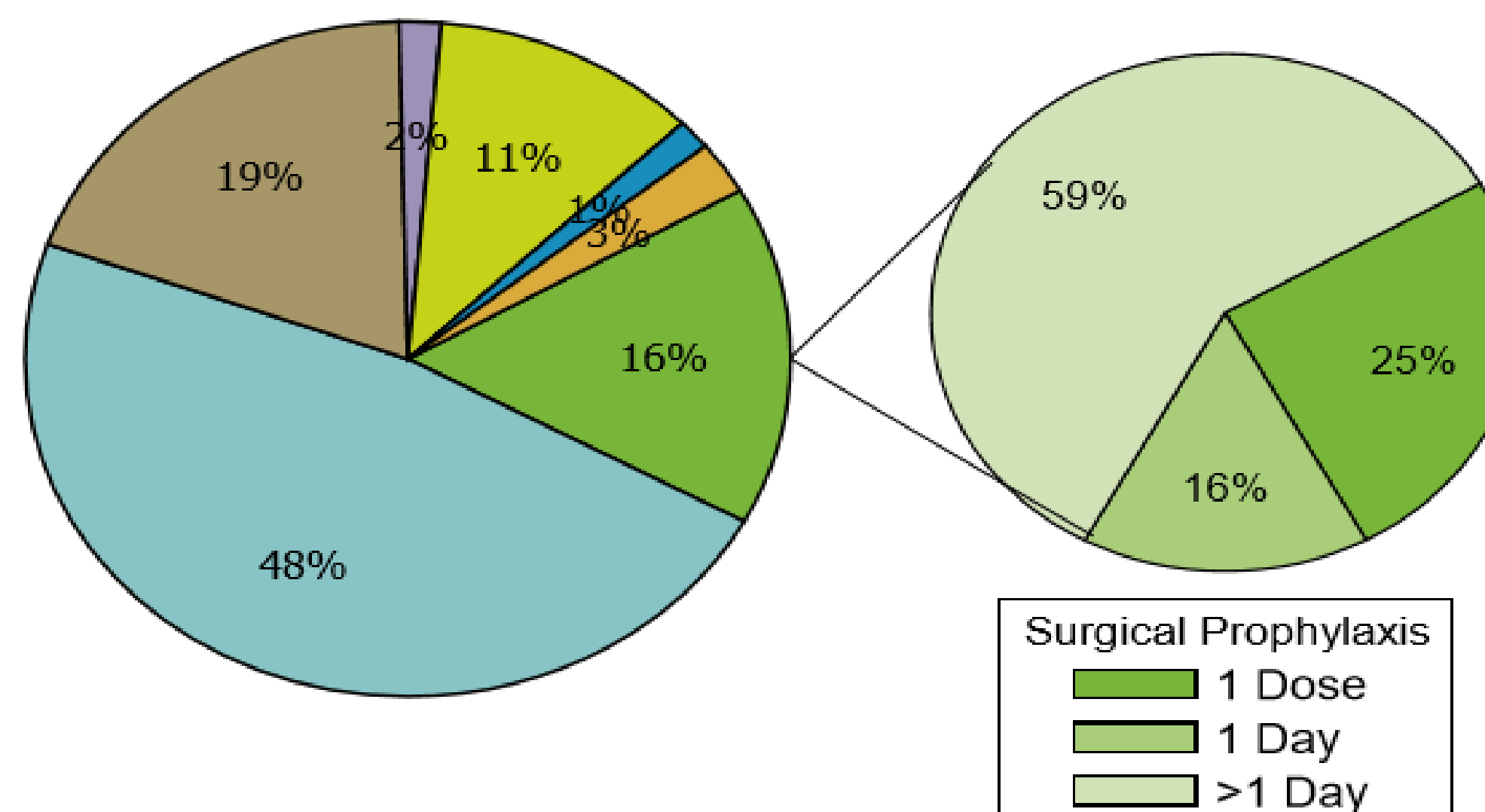
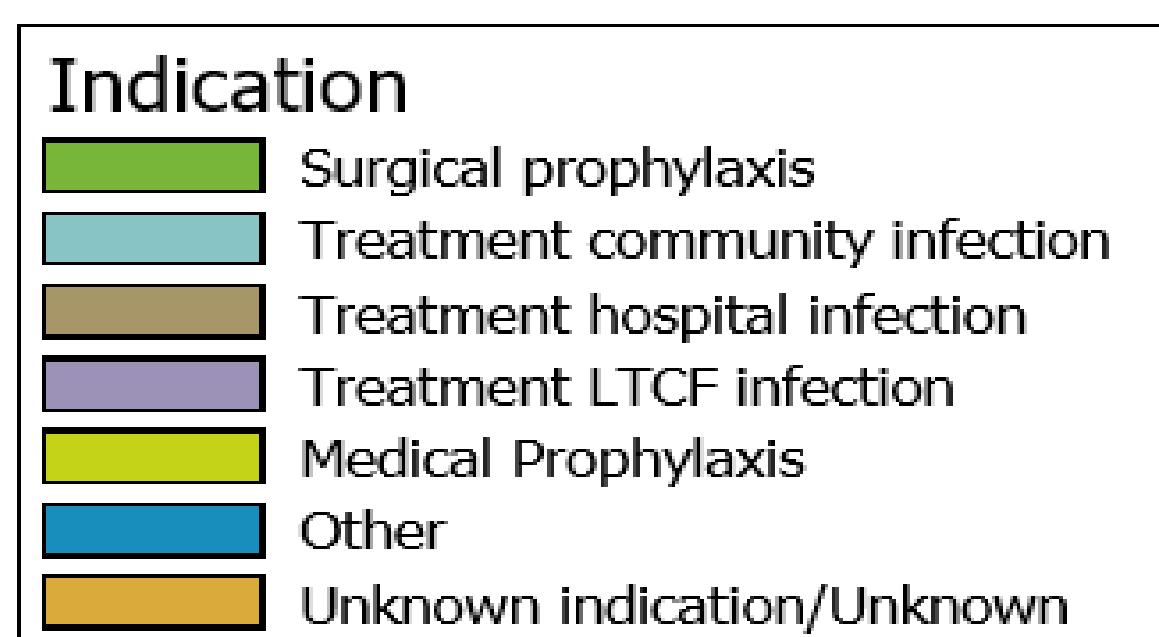


<https://epidemio.wiv-isp.be/ID/Documents/Seminar/EU%20Point%20Prevalence%20Survey.pdf>

Antimicrobial use, ECDC PPS, 2011-2012



- Prevalence of antimicrobial use (AU):
 - 80 951/231 459 patients with ≥ 1 antimicrobial: **35.0%**
 - Country range: 21.4%-54.7%, bed-adjusted prevalence **32.7%**
 - ≥ 2 antimicrobial agents: 29.1% of 80951
- Route of administration: parenteral 70.6%



Source: ECDC PPS, 2011-2012. Report available from <http://www.ecdc.europa.eu/en/publications/Publications/healthcare-associated-infections-antimicrobial-use-PPS.pdf>

Datos globales del consumo de antibióticos



- Receta electrónica
- Facturación recetas



- Información disgregada
- Análisis individual de cada centro

Summary of the latest data on antibiotic consumption in the European Union

ESAC-Net surveillance data
November 2015

Indicador utilizado: DDD / 1000 habitantes/ día

Figure 3. Consumption of antibiotics for systemic use in the hospital sector by antibiotic group in 23 EU/EEA countries, 2014 (expressed in DDD per 1 000 inhabitants and per day)

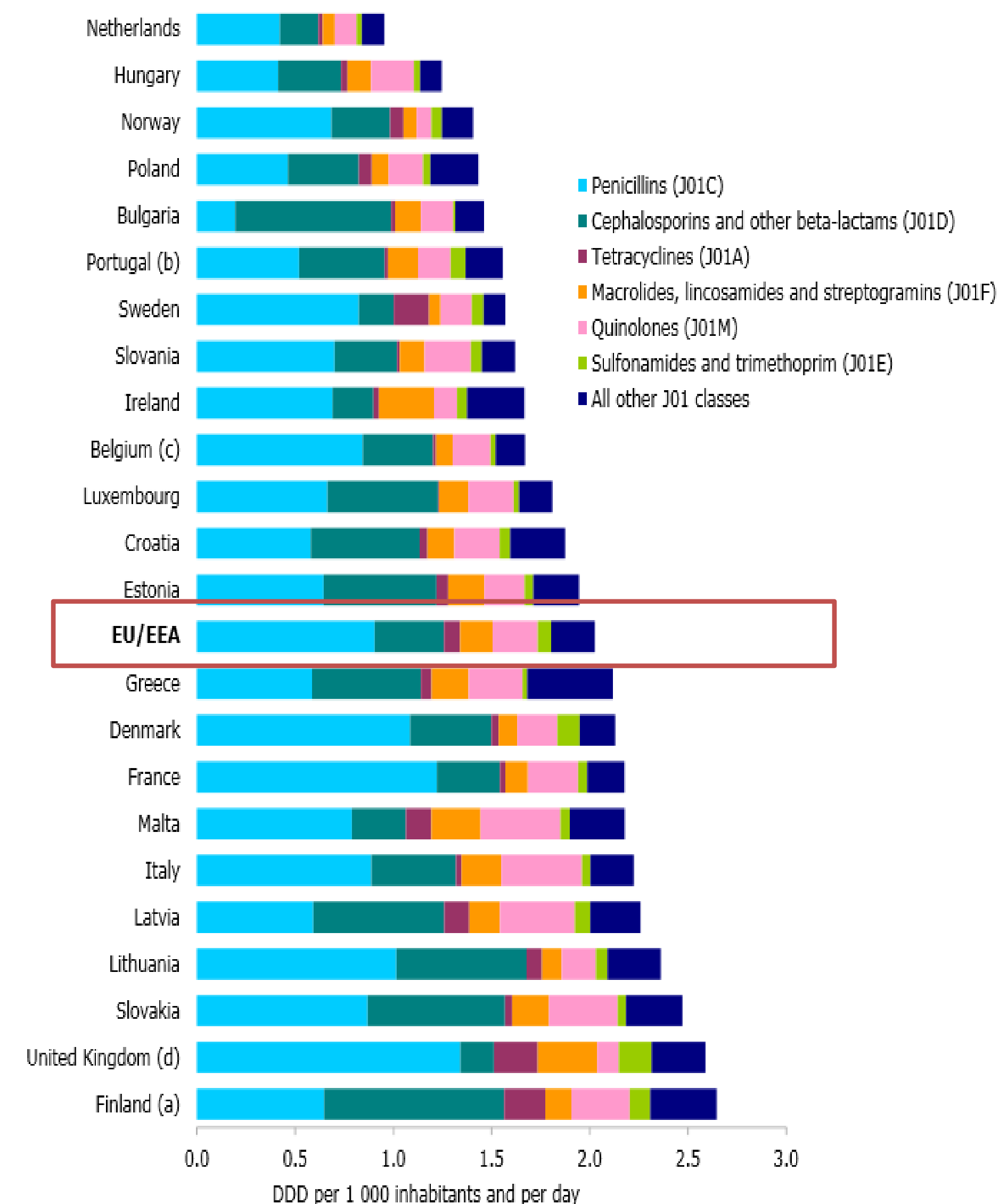


Table 3. Trends in consumption of antibiotics for systemic use in the hospital sector in EU/EEA countries, 2010–2014 (expressed in DDD per 1 000 inhabitants and per day)

Country	2010	2011	2012	2013	2014	Trends in antimicrobial consumption, 2010–2014	Average annual change 2010–2014	Statistical significance
Netherlands	1.1	1.0	1.0	1.0	1.0		-0.02	n.a.
Hungary	1.4	1.2	1.2	1.2	1.2		-0.02	n.s.
Norway	1.4	1.5	1.4	1.4	1.4		-0.01	n.s.
Poland (a)					1.4			n.a.
Bulgaria	1.5	1.5	1.4	1.4	1.5		-0.01	n.s.
Portugal (c)	1.4	1.5	1.5	1.6	1.6		0.05	n.s.
Sweden	1.5	1.6	1.7	1.7	1.6		0.02	n.s.
Slovenia	1.7	1.7	1.6	1.6	1.6		-0.03	n.s.
Ireland	1.8	1.8	1.8	1.8	1.7		-0.03	n.s.
Luxembourg	2.1	2.0	2.0	2.0	1.8		-0.06	n.s.
Croatia	1.8	1.9	2.0	1.8	1.9		<0.01	n.s.
Estonia	1.9	1.9	2.1	1.9	1.9		0.02	n.s.
EU/EEA	1.9	2.0	2.0	2.1	2.0		0.03	significant
Greece (a)		2.2	2.1	2.0	2.1			n.a.
Denmark	1.8	1.7	1.8	2.0	2.1		0.10	significant
France	2.2	2.1	2.1	2.2	2.2		-0.01	n.s.
Malta	2.0	1.7	1.4	1.7	2.2		0.05	n.s.
Italy	2.2	2.3	2.5	2.2	2.2		0.00	n.s.
Latvia	3.2	2.4	2.3	2.3	2.3		-0.20	n.s.
Lithuania (a)			2.4	2.4	2.4			n.a.
Slovakia (a)			2.0	2.3	2.5			n.a.
United Kingdom (a)(d)				2.5	2.6			n.a.
Finland (b)	2.8	3.1	2.8	2.8	2.6		-0.07	n.s.
Belgium (a)	2.0	2.0	1.7	1.7				n.a.

The number for EU/EEA refers to the corresponding population-weighted mean consumption, calculated by summing the products of each country's consumption in DDD per 1 000 inhabitants and per day × country population as in Eurostat, and then dividing this sum by the total EU/EEA population.

- (a) These countries did not report data for all years during the period 2010–2014.
(b) Finland: data include consumption in remote primary healthcare centres and nursing homes.
(c) Portugal: data relate to public hospitals only.
(d) United Kingdom: data do not include consumption from UK-Wales (2013) UK-Northern Ireland (2014).
n.a.: not applicable; linear regression was not applied due to missing data.
n.s.: not significant.

Table 4. Trends in consumption of carbapenems in the hospital sector for EU/EEA countries, 2010–2014 (expressed in DDD per 1 000 inhabitants and per day)

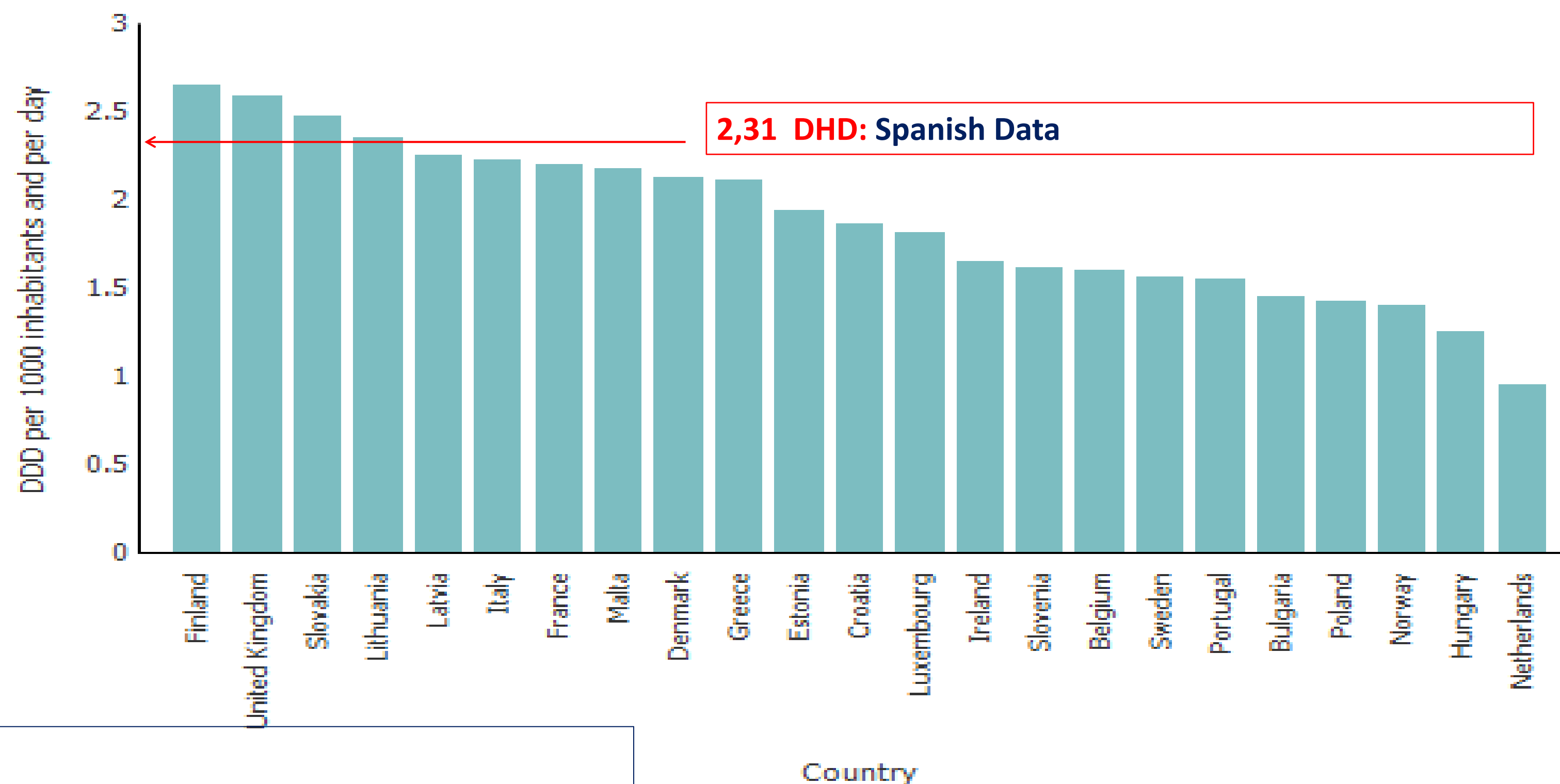
Country	2010	2011	2012	2013	2014	Trends in consumption of carbapenems, 2010–2014	Average annual change 2010–2014	Statistical significance
Netherlands	0.015	0.018	0.019	0.020	0.019		0.001	significant
Bulgaria	0.010	0.013	0.013	0.014	0.020		0.002	significant
Poland (a)					0.024			n.a.
Latvia	0.048	0.029	0.019	0.022	0.027		-0.005	n.s.
France	0.027	0.030	0.021	0.033	0.033		0.002	n.s.
Lithuania (a)			0.026	0.026	0.033			n.a.
Hungary	0.027	0.028	0.032	0.037	0.042		0.004	significant
Slovakia (a)			0.027	0.034	0.042			n.a.
Estonia	0.027	0.036	0.036	0.033	0.043		0.003	n.s.
Norway	0.044	0.044	0.045	0.046	0.047		<0.001	significant
Sweden	0.052	0.052	0.053	0.056	0.053		<0.001	n.s.
EU/EEA	0.046	0.048	0.053	0.060	0.058		0.004	significant
Slovenia	0.067	0.078	0.074	0.061	0.066		-0.002	n.s.
United Kingdom (a)(d)				0.064	0.071			n.a.
Croatia	0.055	0.058	0.065	0.060	0.073		0.004	n.s.
Italy	0.069	0.039	0.073	0.076	0.081		0.006	n.s.
Finland (b)	0.081	0.094	0.074	0.088	0.081		<0.001	n.s.
Denmark	0.056	0.060	0.063	0.087	0.085		0.008	significant
Luxembourg	0.096	0.086	0.101	0.095	0.087		-0.001	n.s.
Malta	0.077	0.105	0.052	0.066	0.101		0.001	n.s.
Ireland	0.058	0.057	0.061	0.088	0.109		0.013	significant
Portugal (c)	0.141	0.139	0.143	0.146	0.139		<0.001	n.s.
Greece (a)		0.130	0.133	0.135	0.143			n.a.
Belgium (a)	0.068	0.079	0.062	0.062				n.a.

The number for EU/EEA refers to the corresponding population-weighted mean consumption, calculated by summing the products of each country's consumption in DDD per 1 000 inhabitants and per day × country population as in Eurostat, and then dividing this sum by the total EU/EEA population.

- (a) These countries did not report data for all years during the period 2010–2014.
(b) Finland: data include consumption in remote primary healthcare centres and nursing homes.
(c) Portugal: data relate to public hospitals only.
(d) United Kingdom: data do not include consumption from UK-Wales (2013) or UK-Northern Ireland (2014).
n.a.: not applicable; linear regression was not applied due to missing data.
n.s.: not significant.

Europe: Total consumption of J01 in the HOSPITAL SECTOR by country (2014)-DHD

Consumption of Antibacterials For Systemic Use (ATC group J01) in the hospital sector in Europe, reporting year 2014



Hospitales

Panel de **148 hospitales** (públicos y privados) con una **cobertura del 100%** de los productos que se consumen a través de la farmacia hospitalaria.

Información del **consumo** tanto **en pacientes** externos como hospitalizados.

Data source:
Hospital consumption: Sales data (IMS health)

Organismos internacionales evaluación consumo de antibióticos

- USA:
 - ICARE
 - NNIS
- Europe:
 - ESAC
 - ESCMID
 - Países Bajos: NETHMAP
 - Suecia: SWEDRES
 - Dinamarca: DANMAP

- España:
 - REIPI
 - **SEFH**
- Andalucía:
 - Piraso
- Catalunya:
 - VINCat



ESAC-Net HOSPITAL-BASED PILOT SURVEY

*Draft protocol
January 2016*

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Objetivos:

- Proveer una base para futuros estudios sobre consumo de antibióticos en Europa utilizando denominadores de actividad hospitalaria.
- Proveer una **estandarización en los datos de consumos de antibióticos hospitalario para opcionalmente, vincular estos datos a las resistencias bacterianas y a las infecciones asociadas.**
- Proveer a nivel hospitalario **un estímulo para desarrollar la vigilancia continua** del consumo de antimicrobianos y desarrollo de programas de optimización antimicrobiana y proporcionar datos comparables a nivel nacional y de la UE.

Participantes:

1. El equipo del hospital, responsable de la recolección y validación, los datos a nivel de hospital e informar estos datos a la selección nacional;
2. El equipo nacional (AEM), responsable de reunir los datos de los hospitales participantes en el país e informar estos datos para el ECDC, así como analizar y comunicar los datos a nivel nacional, y proporcionar información a cada hospital participante de forma individual;
3. ECDC, responsable de reunir los datos del / los Estados miembros de la UE EEE, y analizar e informar los datos a nivel de la UE.

3.2. Hospital types

As in the ECDC PPS, hospitals are categorised according to the following four types:

1. Primary

- Often referred to as 'district hospital' or 'first-level referral'.
- Few specialities (mainly internal medicine, obstetrics-gynaecology, paediatrics, general surgery or only general practice).
- Limited laboratory services for general, but not for specialised, pathological analysis.
- Often corresponds to general hospital without teaching function.

2. Secondary

- Often referred to as 'provincial hospital' or 'second-level referral'.
- The hospital is highly differentiated by function with five to ten clinical specialities, such as haematology, oncology, nephrology, ICU.
- Takes some referrals from other (primary) hospitals.
- Often corresponds to general hospital with teaching function/mission.

3. Tertiary

- Often referred to as 'central', 'regional' or 'tertiary-level' hospital.
- Highly specialised staff and technical equipment (ICU, haematology, transplantatio cardio-thoracic surgery, and neurosurgery).
- Clinical services are highly differentiated by function.
- Specialised imaging units.
- Provides regional services and regularly takes referrals from other (primary and secondary) hospitals.
- Often a university hospital or associated to a university.

4. Specialised hospital

- Single clinical specialty, possibly with sub-specialties.
- Highly specialised staff and technical equipment.

3.5. Wards

All acute care inpatient wards in acute care hospitals must be included.

Long-term care wards in acute care facilities (e.g. nursing homes, spinal injury care) must be excluded.

Outpatient wards (e.g. renal dialysis, day-surgery) including accident and emergency departments (except for wards attached to A&E departments where patients are monitored for more than 24 hours) must be excluded. However, if data are reported by specialty, these outpatient wards can optionally be included under the general "outpatient" specialty. This should provide some insight into antimicrobial consumption in outpatient wards.

If long-term care wards in acute care facilities cannot be excluded, the "LTCIncluded" variable must be set to "Yes". Otherwise, it should be set to "No".

If not reporting by specialty but for the whole hospital and outpatient wards cannot be excluded, the "OutpatientIncluded" variable must be set to "Yes". Otherwise, it should be set to "No".

5.2.3. Adult/paediatric settings

All data referring to paediatrics must be reported under the specialty "Paediatrics".

All other data referring to other specialties are considered adult settings.

5. Antimicrobial consumption

5.1. Data sources

Sources of data on antimicrobial consumption in hospitals can be defined as:

- Purchase data - correspond to the purchase of antimicrobials by the hospital/hospital pharmacy;
- Ward dispensation data - correspond to delivery of antimicrobials to the wards by the hospital pharmacy;
- Prescription data - correspond to antimicrobials prescribed to patients;
- Billing data – correspond to antimicrobials charged to the patients' accounts and either paid directly by the patients or reimbursed by the patients' insurance companies.
- Administration data - correspond to antimicrobials actually given to and taken by the patients.

The levels of detail of the data sources are the hospital for purchase data, the ward for the ward dispensation data, and the patient for prescription, billing and administration data.

Each participating hospital is free to choose one of these data sources.

Se optó por la forma más fácil para todos los hospitales españoles participantes: **consumos de ATB o datos de dispensación.**

En el protocolo se solicitaban **los consumos por cajas** → España reportó que el consumo se hace unitario en los hospitales y así se reportarían

6. Hospital activity and resulting indicators of antimicrobial consumption

Two variables on hospital activity must be collected.

Hospital activity data must be collected at the same setting's level as the consumption data are collected (see options 1 and 2, chapter 5.2.1).

They must be collected for the same year as for antimicrobial consumption data.

6.1. Admissions

The number of admissions to the hospital as a whole must be collected by the hospital team even if antimicrobial consumption data are provided at the specialty category level.

If the number of admissions is not available, the number of discharges must be used.

The indicator DDD per 100 admissions will only be used to express antimicrobial consumption at the hospital level, not at the specialty category.

6.2. Patient-days

The hospital team must also collect the number of patient-days.

If the number of patient-days is not available, the number of occupied bed-days can be used..

In the hospital questionnaire, the hospital team must report which of patient-days or bed-days ("PatientBedDaysIndicator") is reported and must give a definition of the indicator used ("PatientBedDaysDefinition").

The indicator DDD per 100 admissions will be used at the hospital level only. The indicator DDD per 100 patient-days will be used to express consumption at both the hospital level and the specialty category level.

6.2.1. EU level

The number of patient-days must be reported for the hospital or for the categories of specialties, depending at which level the antimicrobial consumption data were collected (see chapter 5.2.1).

6.2.2. National level

The number of patient-days must be reported for the hospital or for the categories of specialties, depending at which level the antimicrobial consumption data were collected (see chapter 5.2.1).

- El año solicitado fue 2014
- Los indicadores a proporcionar:
ddd/100 admisiones o ddd/100 altas
España adicionó: ddd/100 estancias
- Los hospitales debían proporcionar los indicadores de actividad del hospital en: número de pacientes/día y número de ocupación de camas/día → **problemas en las definiciones**
- Ante la falta de tiempo y respuesta de la ECDC, se decidió enviar los **datos globales** de consumos (no estratificados por servicios: médicos, quirúrgicos y críticos)

7. Hospital questionnaire

Each participating hospital must complete a questionnaire to provide information supporting interpretation of the data at the national and the EU level.

The hospital questionnaire covers four topics:

1. Hospital characteristics;
2. Ward characteristics;
3. Antimicrobial consumption data characteristics;
4. Antimicrobial consumption quality indicators

Indicadores TATFAR

<http://www.cdc.gov/drugresistance/tatfar/index.html>

2	ReportingCountry	General Questions	
5	DateUsedForStatistics		
7	NationalHospitalID		
9	EOCHospitalID		
11	NationalHospitalGroupID		
13	EOCHospitalGroupID		
14			
15		Hospital Characteristics	
17	HospitalType		
19	HospitalGroupPart		
21	(If hospital is part of an administrative group of hospitals,		
23	HospitalGroupSite		
25	(If only a site of the administrative group of hospitals is included,		
27	HospitalGroupSiteNoBeds		
29	HospitalGroupSiteAdmissions		
31	PatientBedDayIndicator		
33	HospitalNumberOfBeds		
35	HospitalNumberOfAcuteBeds		
37	PatientBedDayIndicator		
39	PatientBedDaysDefinition		
40			
41		Ward Characteristics	
43	WardPaediatrics		
45	WardPaediatricsNoBeds		
47	WardICU		
49	WardICUNoBeds		
51	WardPaediatricICU		
53	WardPaediatricICUNoBeds		
55	WardHighRisk		
57	WardHighRiskNoBeds		
58			
59			
60		Consumption data characteristics	
62	AMDataTypes		
64	AMDischarged		
66	AMDischargedExcluded		
68	AMOutpatient		
70	AMOutpatientExcluded		
72	AMLongTermCare		
74	AMLongTermCareExcluded		
76	AMInpatientUniqueSource		
78			
80		Quality Indicators	
81			
82	PatientDatabase		
84	PrescribingSupportSystem		
86	TATFAR_ASP_11		
88	TATFAR_ASP_12		
90	TATFAR_ASP_13		
92	TATFAR_ASP_14		
94	TATFAR_ASP_15		
96	TATFAR_ASP_16		
98	TATFAR_ASP_17		
100	TATFAR_ASP_18		
102	TATFAR_ASP_19		
104	TATFAR_ASP_110		
106	TATFAR_ASP_111		
108	TATFAR_ASP_112		
110	TATFAR_ASP_113		
112	TATFAR_ASP_114		

Final Set of Core and Supplemental Indicators for Hospital Antimicrobial Stewardship Programs

CORE INDICATORS for hospital antimicrobial stewardship programs		
Infrastructure	C1	Does your facility have a formal antimicrobial stewardship program accountable for ensuring appropriate antimicrobial use?
	C2	Does your facility have a formal organizational structure responsible for antimicrobial stewardship (e.g., a multidisciplinary committee focused on appropriate antimicrobial use, pharmacy committee, patient safety committee or other relevant structure)?
	C3	Is an antimicrobial stewardship team available at your facility (e.g., greater than one staff member supporting clinical decisions to ensure appropriate antimicrobial use)?
	C4	Is there a physician identified as a leader for antimicrobial stewardship activities at your facility?
	C5	Is there a pharmacist responsible for ensuring appropriate antimicrobial use at your facility?
	C6	Does your facility provide any salary support for dedicated time for antimicrobial stewardship activities (e.g., percentage of full-time equivalent (FTE) for ensuring appropriate antimicrobial use)?
	C7	Does your facility have the IT capability to support the needs of the antimicrobial stewardship activities?
Policy and Practice	C8	Does your facility have facility-specific treatment recommendations based on local antimicrobial susceptibility to assist with antimicrobial selection for common clinical conditions?
	C9	Does your facility have a written policy that requires prescribers to document an indication in the medical record or during order entry for all antimicrobial prescriptions?
	C10	Is it routine practice for specified antimicrobial agents to be approved by a physician or pharmacist in your facility (e.g., pre-authorization)?
	C11	Is there a formal procedure for a physician, pharmacist, or other staff member to review the appropriateness of an antimicrobial at or after 48 hours from the initial order (post-prescription review)?
Monitoring and Feedback	C12	Has your facility produced a cumulative antimicrobial susceptibility report in the past year?
	C13	Does your facility monitor if the indication is captured in the medical record for all antimicrobial prescriptions?
	C14	Does your facility audit or review surgical antimicrobial prophylaxis choice and duration?
	C15	Are results of antimicrobial audits or reviews communicated directly with prescribers?
	C16	Does your facility monitor antimicrobial use by grams [Defined Daily Dose (DDD)] or counts [Days of Therapy (DOT)] of antimicrobial(s) by patients per days?
	C17	Has an annual report focused on antimicrobial stewardship (summary antimicrobial use and/or practices improvement initiatives) been produced for your facility in the past year?

C = Core Indicator

SUPPLEMENTAL INDICATORS for hospital antimicrobial stewardship programs			
Infrastructure	NA	S1.	Does your facility have a named senior executive officer with accountability for antimicrobial leadership?
	C3		Is an antimicrobial stewardship team available at your facility (e.g., greater than one staff member supporting clinical decisions to ensure appropriate antimicrobial use)?
		S2.	If YES, Is an infection preventionist or hospital epidemiologist involved in stewardship activities?
		S3.	If YES, Is a microbiologist (laboratory staff) involved in stewardship activities?
		S4.	Is clinical infectious disease (ID) consultation available at your facility?
C4		Is there a physician identified as a leader for antimicrobial stewardship activities at your facility?	
	S5.	If YES, are stewardship duties included in the job description and/or annual review?	
C5	S6.	If YES, has this physician had specialized training in infectious diseases, clinical microbiology and/or antimicrobial stewardship?	
		Is there a pharmacist responsible for ensuring antimicrobial use at your facility?	
Policy and Practice	C9	S7.	If YES, has this pharmacist had specialized training in infectious disease management or stewardship?
			Does your facility have facility-specific treatment recommendations based on local antimicrobial susceptibility to assist with antimicrobial selection for common clinical conditions:
		S8.	If YES, for surgical prophylaxis ?
		S9.	If YES, for community-acquired pneumonia ?
	C11, C12	S10.	If YES, for urinary tract infection ?
S11.		If YES to any of the clinical conditions above, are these treatment recommendations easily accessible to prescribers on all wards (printed ‘pocket guide’ or electronic summaries at workstations)?	
		Are any of the following actions implemented in your facility to improve antimicrobial prescribing?	
S12.		Standardized criteria for changing from intravenous to oral antimicrobial therapy in appropriate situations?	
Monitoring	NA	S13.	Dose optimization (pharmacokinetics/pharmacodynamics) to optimize the treatment of organisms with reduced susceptibility?
		S14.	Discontinuation of specified antimicrobial prescriptions after a pre-defined duration ?
	C15	S15.	Does your facility measure the percentage of antimicrobial prescriptions that are consistent with the local treatment recommendations for either UTI or CAP?
			Does your facility audit or review surgical antimicrobial prophylaxis choice and duration?
		S16.	If YES, are antimicrobial prescriptions for surgical prophylaxis compliant with facility-specific guidelines in >80% of sampled cases in your facility?

C = Core Indicator
S = Supplemental Indicator
NA = Not applicable to a specific Core Indicator

Indicadores TATFAR

Metodología utilizada:

➤ Basada en el **sistema ATC/DDD** (dosis diaria definida) desarrollado por el grupo de utilización de medicamentos de la OMS:

- **cuantifica la utilización de medicamentos de forma estandarizada y permite la comparación entre instituciones, regiones o países.**

http://www.whocc.no/atc_ddd_index/

➤ La **DDD** (dosis diaria definida): es la dosis media habitual de mantenimiento diaria de un fármaco utilizado para su principal indicación en adultos.

▪ **INDICADOR → DDD/100 E** (Dosis Diarias Definidas /100 estancias)

$$\text{Nº DDD/100 E} = \frac{\text{Consumo}^*}{\text{DDD}} \times \frac{100}{\text{estancias}}$$

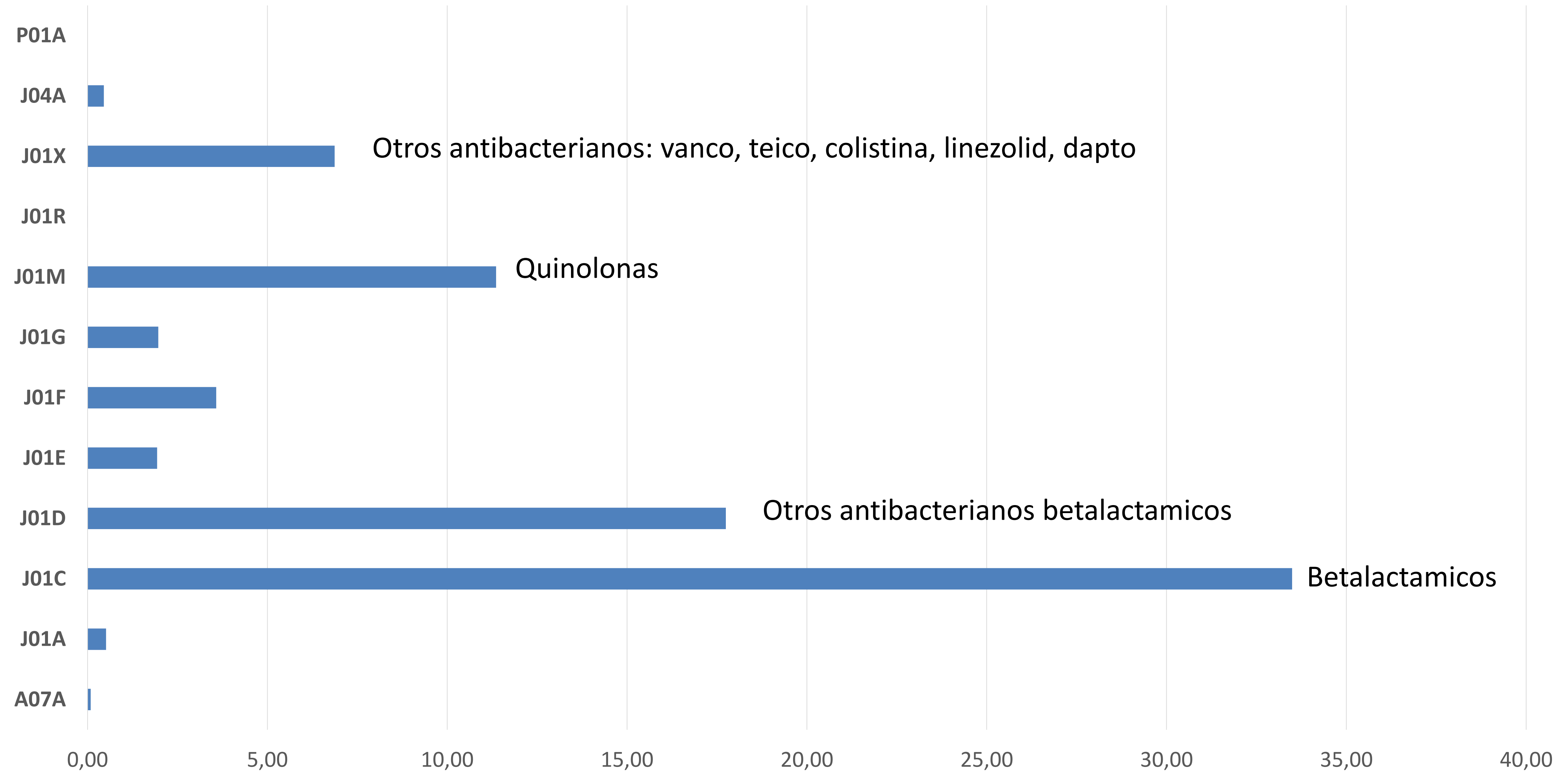
▪ **INDICADOR → DDD/100 E** (Dosis Diarias Definidas /100 admisiones)

$$\text{Nº DDD/100 A} = \frac{\text{Consumo}^*}{\text{DDD}} \times \frac{100}{\text{admisiones}}$$

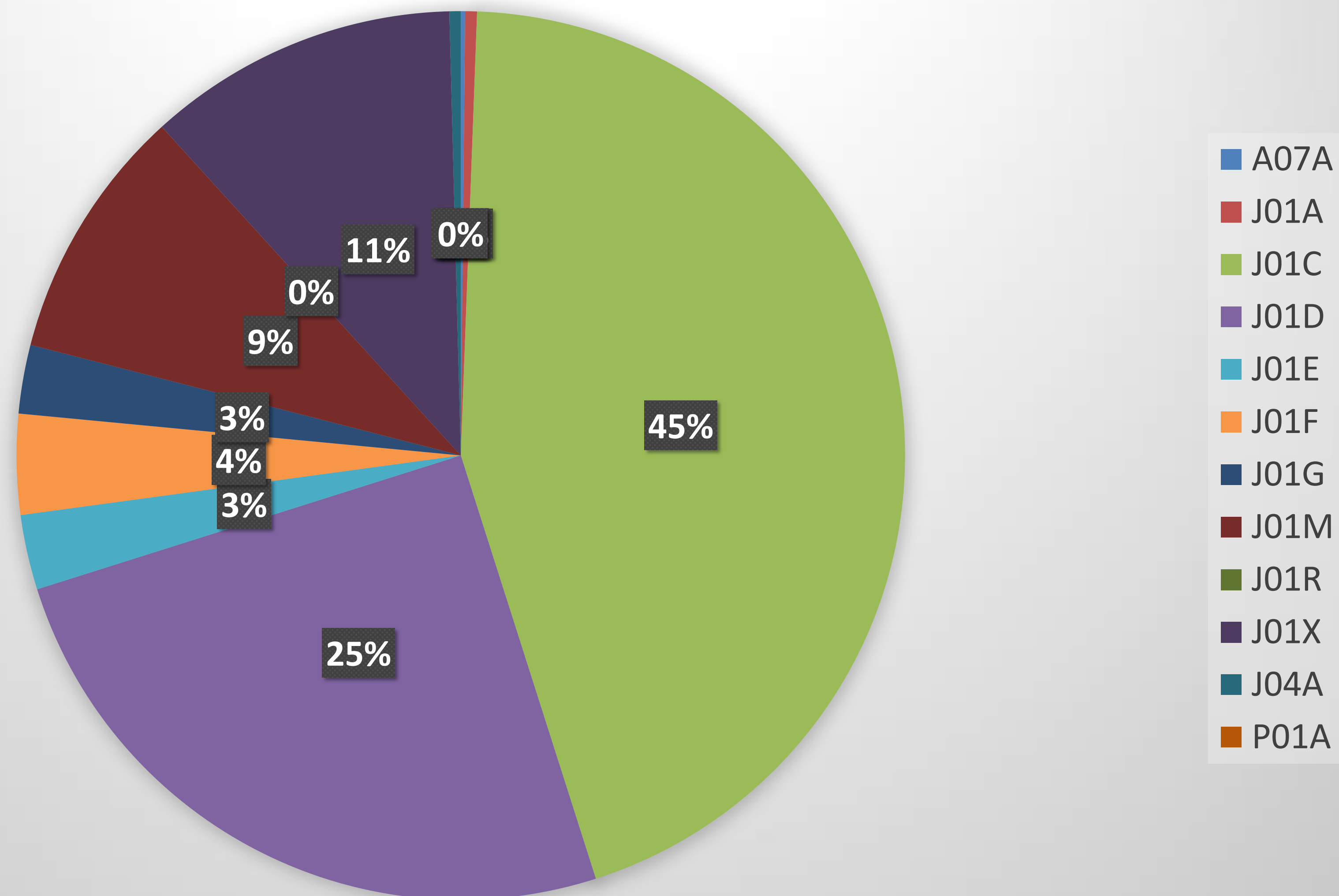
Los resultados obtenidos han sido....

	NIVEL DE HOSPITAL	NIVEL 1	NIVEL 2	NIVEL 2	NIVEL 3	NIVEL 3	NIVEL 3	NIVEL 3	NIVEL 3	TOTAL Nº DDD
	TOTAL nº DDD	23.375	70.644	106.175	184.667	72.828	167.908	242.724	253.059	1.121.381
Ingresos=	Nº ADMISIONES	3.879	12.749	17.935	26.394	15.195	29.426	49.937	40.278	183.044
Pacientes- días=	Nº ESTANCIAS	24.638	76.178	122.019	211.942	103.289	211.403	318.369	369.852	1.437.690
	INDICADORES ECDC									
	DDD/100 ADMISIONES	602,59	554,12	592,00	699,66	479,29	570,61	486,06	628,28	612,63
100 Pacientes- días	DDD/100 ESTANCIAS	94,87	92,74	87,02	87,13	70,51	79,43	76,24	68,42	78,00

Nº DDD/100 estancias año 2014 Globales



Consumo global (en porcentaje) por grupos de ATB año 2014



	DDD/100 est		
Grupo ATC	Nivel 1	Nivel 2	Nivel 3
A07A	0,0	0,0	0,1
J01A	0,4	0,4	0,5
J01C: betalactamicos	28,5	28,8	34,4
J01D: otros betalactamicos	24,3	22,4	16,9
J01E: sulfamidas y TMP	6,1	2,2	1,8
J01F: macrolidos y lincosamidas	6,5	7,7	2,8
J01G	1,5	2,7	1,9
J01M: quinolonas	21,2	16,1	10,4
J01R	0,0	0,0	0,0
J01X	6,4	8,5	6,6
J04A	0,0	0,4	0,5
P01A	0,0	0,0	0,0
Total global DDD/100 est por nivel de hospital	94,9	89,2	75,8

J01C

ATB DDD/100 est	NIVEL 1	NIVEL 2	NIVEL 3
Amoxicilina	0,5	2,7	2,0
Amoxicilina/clavulanico	18,4	14,3	19,9
Ampicilina	1,1	3,3	3,1
Cloxacilina	0,6	2,0	3,7
Penicilina	0,3	0,5	0,7
Piperacilina/tazobactam	7,6	6,0	5,0
Sulbactam	0,0	0,0	0,0
Total DDD/100 est	28,5	28,8	34,4

J01D

ATB DDD/100 est	NIVEL 1	NIVEL 2	NIVEL 3
Aztreonam	0,7	0,2	0,3
Cefaclor	0,0	0,0	0,0
Cefadroxilo	0,0	0,0	0,0
Cefalexina	0,0	0,0	0,0
Cefazolina	3,4	4,0	2,4
Cefditoreno	0,2	1,5	0,0
Cefepime	0,5	0,4	1,2
Cefixima	1,0	0,4	0,0
Cefminox	0,0	0,0	0,0
Cefonicid	0,0	0,0	0,1
Cefotaxima	0,6	0,4	1,2
Cefoxitina	0,2	0,1	0,0
Cefpodoxima	0,0	0,0	0,0
Ceftarolina	0,0	0,0	0,0
Ceftazidima	0,5	1,5	1,4
Ceftibuteno	0,0	0,0	0,0
Ceftolozano/Tazobactam	0,0	0,0	0,0
Ceftriaxona	5,5	4,2	1,2
Cefuroxima	0,0	1,1	1,8
Ertapenem	0,2	0,5	1,4
Imipenem/Cilastatina	9,7	4,6	1,1
Meropenem	1,6	3,5	4,7
Total DDD/100 est	24,3	22,4	16,9

J01M

ATB DDD/100 est	NIVEL 1	NIVEL 2	NIVEL 3
Ácido pipemídico	0,0	0,0	0,0
Ciprofloxacino	4,1	6,3	5,3
Levofloxacino	17,0	9,8	4,7
Moxifloxacino	0,1	0,0	0,4
Ofloxacino	0,0	0,0	0,0
Total DDD/100 est	21,2	16,1	10,4

J01X

ATB DDD/100 est	NIVEL 1	NIVEL 2	NIVEL 3
Colistimetato	0,1	0,0	0,1
Dalbavancina	0,0	0,0	0,0
Daptomicina	0,5	0,3	1,1
Fosfomicina	0,3	0,4	0,4
Linezolid	1,9	0,9	1,1
Metronidazol	2,3	3,7	1,4
Nitrofurantoína	0,0	0,0	0,0
Tedizolid	0,0	0,0	0,0
Teicoplanina	0,1	0,7	1,0
Vancomicina	1,2	2,4	1,5
Total DDD/100 est	6,4	8,5	6,6



Medida del consumo de antibióticos

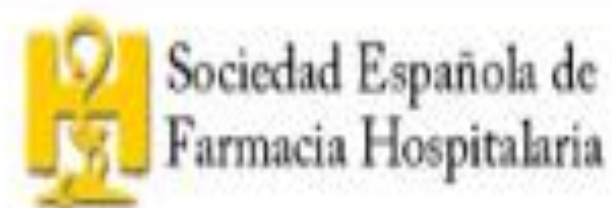
La monitorización del consumo hospitalario de antimicrobianos se considera fundamental para:

OBJETIVOS

- Promover su uso prudente y racional,
- Ayudar al control de las infecciones nosocomiales,
- Reducir la aparición y diseminación de bacterias resistentes.

ANALISIS

- Registro estandarizado, basado sobre todo en el sistema ATC/DDD de la Organización Mundial de la Salud.
- Analizar las diferencias en el consumo entre diferentes servicios (UCIs, servicios médicos, quirúrgicos y otros) y entre hospitales similares.
- Conocer y analizar las tendencias temporales evolutivas del consumo.
- Determinar posibles relaciones temporales entre el consumo de antimicrobianos y las resistencias bacterianas.



Acceso de usuarios

Usuario

Contraseña

ACCEDER

[¿Has olvidado tu clave?](#)

Aplicación Informática Consumo de Antibióticos



1. Archivo de datos

ATC	MEDICAMENT-PRESENTACIÓ	GLOBAL	UCI
J02AA01VA	AMFOTERICINA B 50mg IV VIAL		
J02AA01VB	AMFOTERICINA B 100mg IV VIAL		
J02AA01VC	AMFOTERICINA B LIPOSÓMICA 50mg VIAL		
J02AA01VD	AMFOTERICINA B COMPLEX LIPIDIC 50 mg VIAL 10 ml		
J02AA01VE	AMFOTERICINA B COMPLEX LIPIDIC 100 mg VIAL 20 ml		
J01GB06VA	AMIKACINA 125mg VIAL		
J01GB06VB	AMIKACINA 250mg VIAL		
J01GB06VC	AMIKACINA 500mg VIAL		
J01GB06VD	AMIKACINA 1g VIAL		
J01CA04AA	AMOXICIL·LINA 250mg CAPS		
J01CA04AB	AMOXICIL·LINA 500mg CAPS		
J01CA04AC	AMOXICIL·LINA 250mg COMP		
J01CA04AD	AMOXICIL·LINA 500mg COMP		

2. DDDs/100e

DCSA	ATC	FÁRMACO	DDD (Gramos)	VIA adm.
	J01	ANTIBACTERIANOS PARA USO SISTÉMICO		
	J01A	TETRACICLINAS		
10504007	J01AA02	Doxidiclina		0.1 O.P
57530001	J01AA03	Clortetraciclina		1 O
22969001	J01AA06	Oxitetraciclina		1 O.P
66261000	J01AA07	Tetraciclina		1 O.P
13512003	J01AA08	Minociclina		0.2 O.P
410631002	J01AA12	Tipeciclina		0.1 P
	J01B	ANFENICÓLES		
	J01BA	ANFENICÓLES		
57191001	J01BA01	Cloranfenicol		3 O.P
	J01C	ANTIBACTERIANOS BETA·LACTÁMICOS „PENICILINAS		
	J01CA	PENICILINAS CON ESPECTRO AMPLIADO		
31067000	J01CA01	Ampicilina		2 O.P,R

$$N^{\circ} \text{ DDD}/100 \text{ E} = \frac{\text{Consumo}^*}{\text{DDD}} \times \frac{100}{\text{estancias}}$$

*expresado en gramos

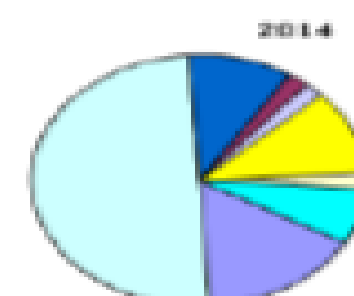
3. Explotación de datos centros

	2013	2014
J01CA01;AMPICILINA;Total;3	3.357	3.343
J01CA04;AMOXICILINA;Total;1	1.602	1.092
J01CF02;CLOXACILINA;Total;0	0.069	0.025
J01CR02;AMOXICILINA/CLAVULANATO;Total;5	5.937	7.557
J01CR05;PIPERACILINA/TAZOBACTAM;Total;0	0.627	0.498
J01DB04;CEFAZOLINA;Total;19	19.523	24.352
J01DB05;CEFADROXILO;Total;0	0.258	1.083
J01DC02;CEFUROXIMA;Total;0	0.129	0.389
J01DC02;CEFUROXIMA;Total;0	0.655	0.356

Aplicación Web de gestión de consumo de medicamentos.

Gráfica 3A para el periodo 2014.

Distribución por grupos ATC (%)			
PENICILINAS:	34.15	CEFALOSPORINAS:	50.25
QUINOLONAS:	9.58	CARBAPENEMS:	0.32
AMINOGLUCÓSIDOS:	1.64	TETRACICLINAS:	0
GLICOPÉPTIDOS:	1.65	ANTIANEERÓBICOS:	10.6
MACRÓLIDOS:	1.57	ANTIVIRÓICOS:	0.04
ANTIFÚNGICOS:	0	RESTO:	0.18

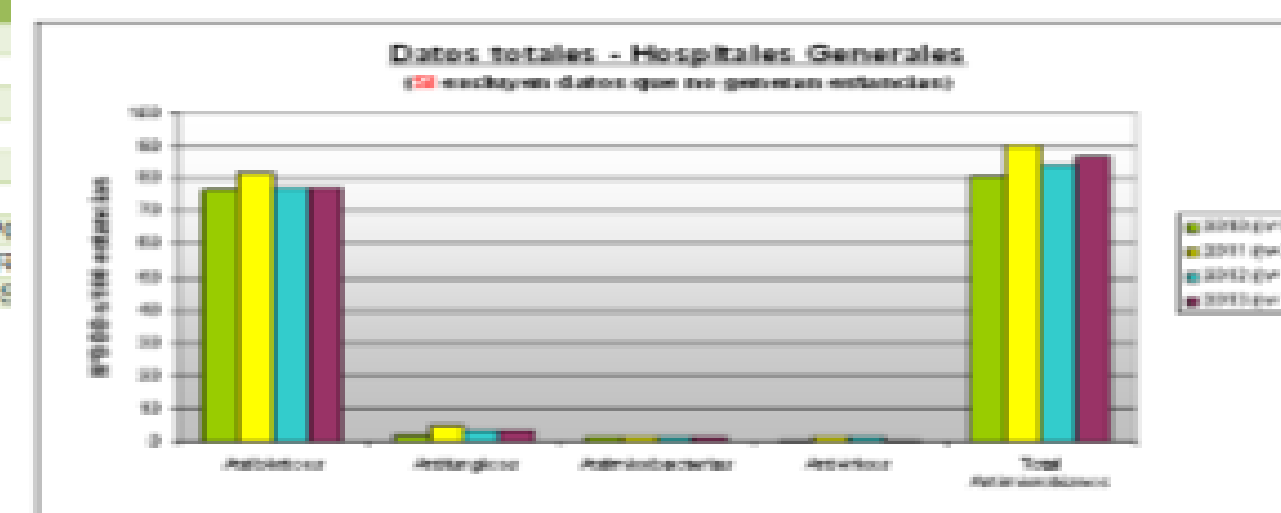


Situa el cursor encima para mostrar detalles

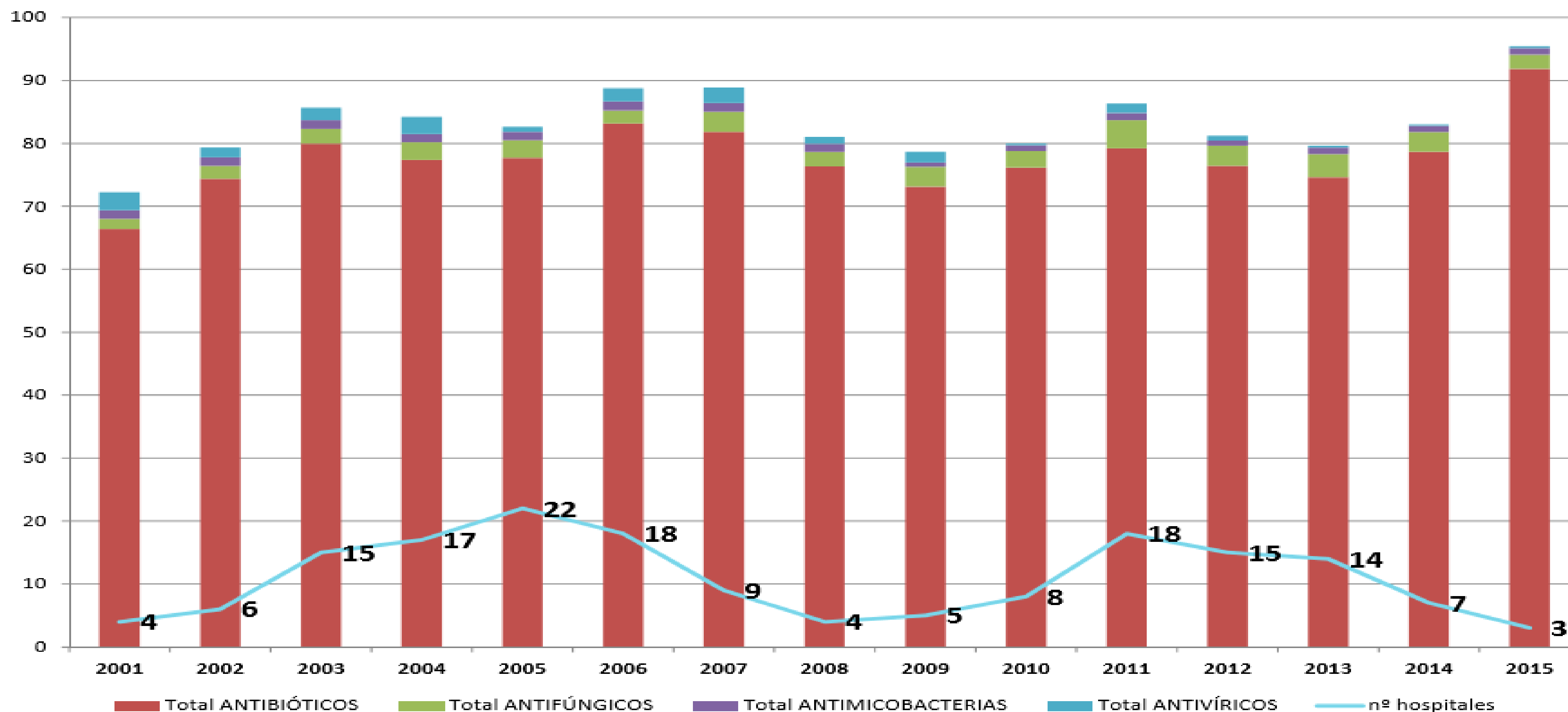
4. Comparación con otros centros

CODI 3 ATC	ANTIMICROBIANS	Global	Global Grup I
J01	ANTIBACTERIANS	87.86	89.98
J02	ANTIMICÒTICS*	2.12	5.45
* DDD d'amfotericina B liposòmica i complex lipídic: 0.28 g i 0.35 g, respectivament.			
CODI 3 ATC OR PAR	ANTIMICROBIANS OR PAR	Global	Global Grup I
J01OR	ANTIBACTERIANS VIA ORAL	34.41	27.86
J01PAR	ANTIBACTERIANS VIA PARENTERAL	53.45	62.12
J02OR	ANTIMICÒTICS VIA ORAL	0.78	2.42
J02PAR	ANTIMICÒTICS VIA PARENTERAL	1.34	3.03

CODI FAMILIA	FAMILIA
J01A	TETRACICLINES
J01B	AMFENICOLS
J01C	PENICIL·LINES
J01DBCDE	CEFALOSPORINES
J01DF	MONOBACTAMS
J01DH	CARBAPENEMS
J01DI	ALTRES CEFALOSPORINES
J01E	SULFONAMIDES I TRIMETOPRIM
J01F	MACRÒLIDS, LINCOSÀMIDS



Datos consumo: Hospitales Generales que excluyen consumos sin estancias





Plan Nacional Resistencia Antibióticos



Plan estratégico y de acción para reducir el riesgo de selección y diseminación de la resistencia a los antibióticos



Figura 4. Línea

Monitorizar el consumo de antibióticos

Monitorizar el consumo de antibióticos es indispensable para conocer la presión que el uso de los mismos ejerce en la aparición de resistencias; en el ámbito de la salud animal es fundamental mejorar las herramientas disponibles para obtener datos del consumo de antibióticos por especies animales. En el ámbito de la salud humana, no existe una red de vigilancia de consumo a nivel hospitalario, similar a la existente en atención primaria.

SALUD HUMANA
ACCIONES

I.1.1. Mejorar la obtención de datos del consumo de antibióticos en la comunidad y los hospitales.

I.1.2. Asegurar la explotación y análisis de los datos a nivel local, regional y nacional y el retorno de información.

Vigilancia del consumo y de la resistencia a los antibióticos

MEDIDA	MEDIDA	MEDIDA	MEDIDA
I.1 Monitorizar el consumo de antibióticos	I.2 Mejorar la vigilancia de la resistencia a antibióticos	I.3 Controlar el uso de antibióticos críticos	I.4 Participar en proyectos europeos e internacionales para intercambiar información

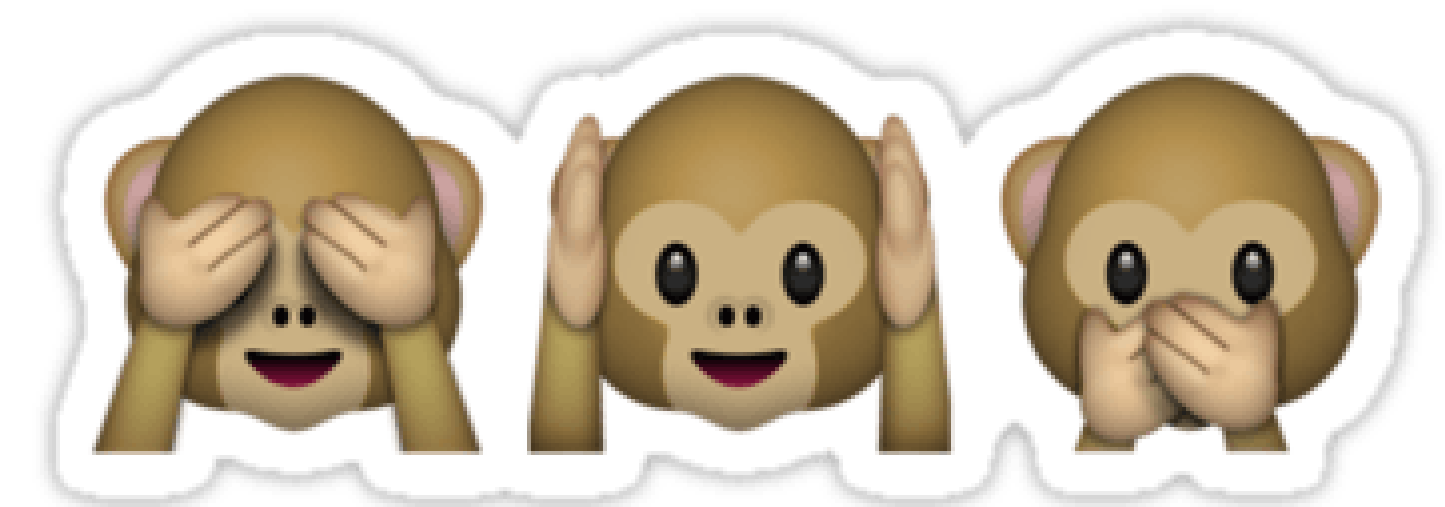
Figura 5. Línea Estratégica I

Conclusiones:

- Un programa de consumo de antimicrobianos presenta **utilidades** para monitorizar su utilización, permitiendo:
 - ✓ Estandarización de datos de consumo
 - ✓ Transformación directa de unidades de consumo en nº DDDs
 - ✓ Explotación y seguimiento de datos propios
 - ✓ Comparación con otros hospitales
- Una amplia colaboración de las administraciones, sociedades y servicios de farmacia es necesaria para que los datos sean representativos a nivel estatal en los hospitales españoles.



Alguna pregunta??





MUCHAS GRACIAS

**Far de Favàritx.
Menorca**