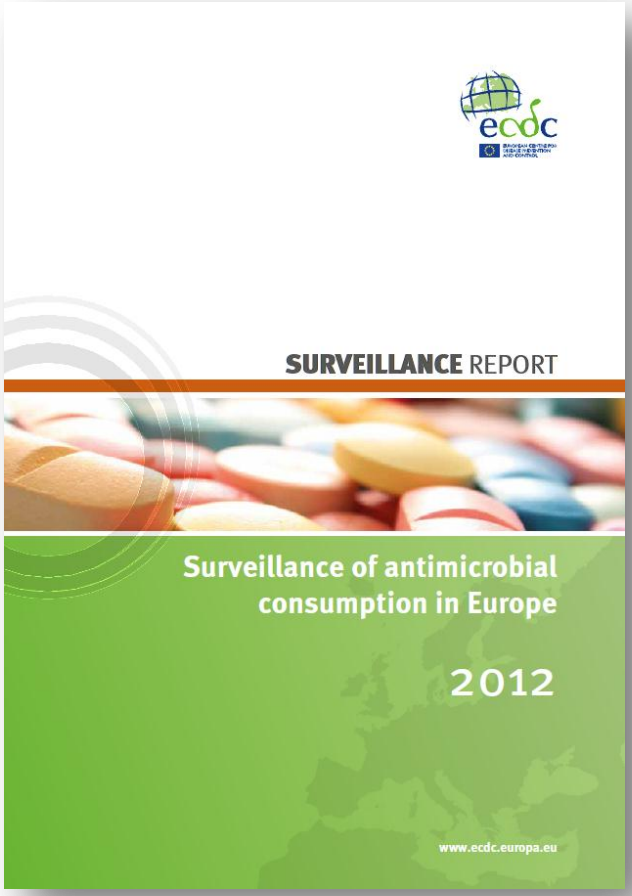
Uso de AB en Atención Primaria

GMISBAL
Javier Arranz Izquierdo
CS Arquitecte Bennàssar

Son Espases hospital universitari

X CURSO DE ANTIBIÓTICOS 2015

Qué sabemos?

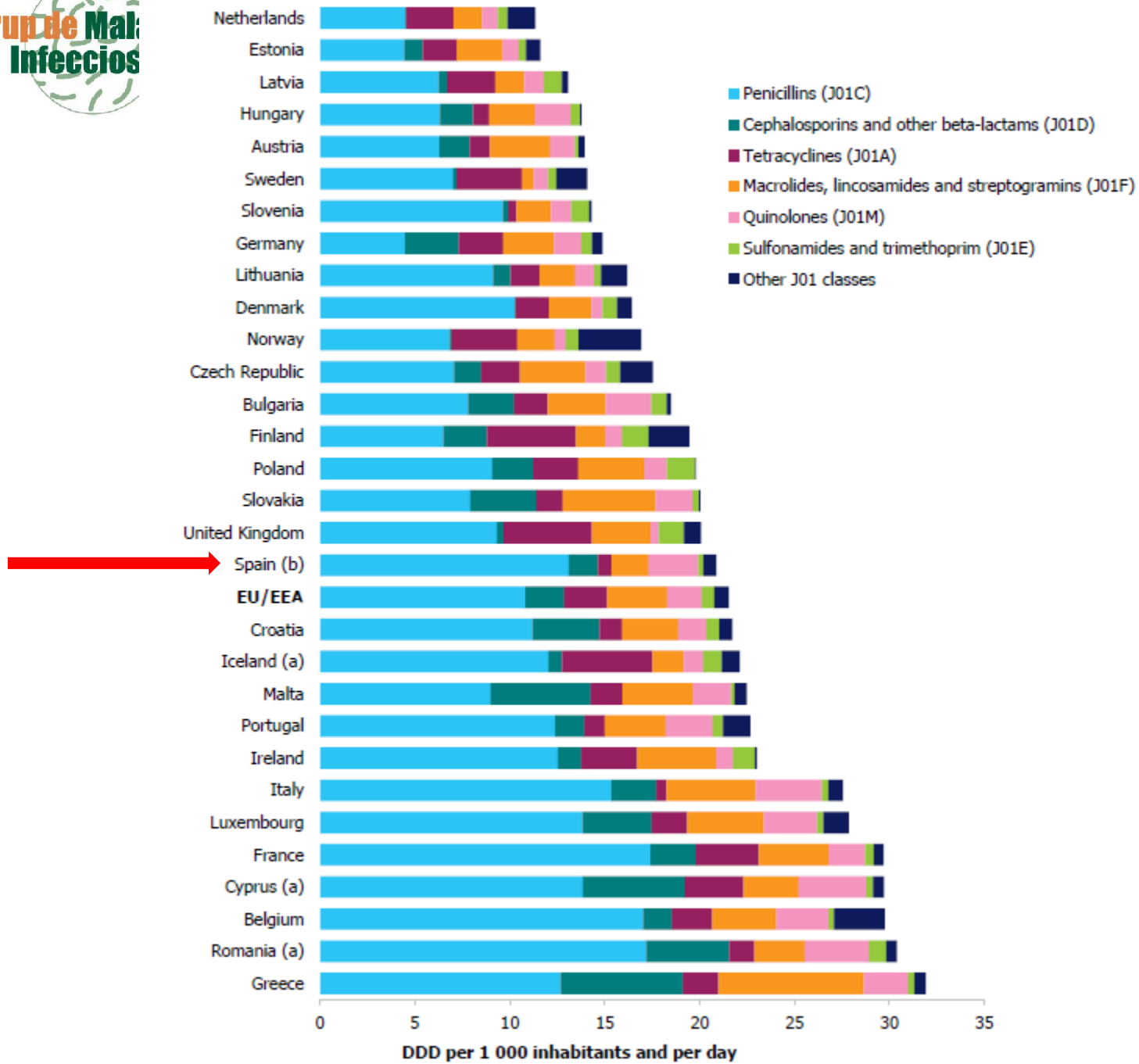


- La mayor parte del consumo de AB se produce en la atención extrahospitalaria.

- La media del consumo de AB (2010) en la UE fue de 18.3 DDD per 1000 habitants y en 2012 de 21.5.

- España se encuentra cerca de la media, con 20.9 DDD/ 1000 hab (en 1997 era de 21.3, siendo el punto temporal más bajo el 2001 con18.0 DDD /1000 hab)

European Centre for Disease Prevention and Control. Surveillance of antimicrobial consumption in Europe, 2012. Stockholm: ECDC; 2014

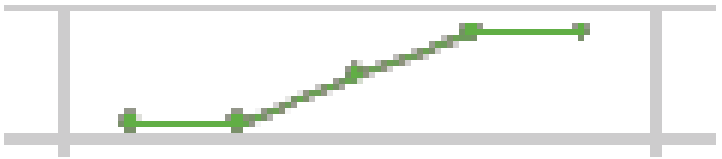


European Centre for Disease Prevention and Control. Surveillance of antimicrobial consumption in Europe, 2012. Stockholm: ECDC; 2014

Y la tendencia?

Table 3.3. **Trends of consumption of antibacterials for systemic use (ATC group J01) in the community, EU/EEA countries, 2008–2012, expressed as DDD per 1 000 inhabitants and per day**

Country	2008	2009	2010	2011	2012	Trends in antimicrobial consumption, 2008–2012	Average annual change 2008–2012	Statistical significance
Netherlands	11.2	11.4	11.2	11.4	11.3		0.02	n.s.
Estonia	11.9	11.1	11.1	12.1	11.6		0.04	n.s.
Latvia	11.4	10.9	11.8	12.8	13.1		0.53	significant
Hungary (c)	15.2	16.0	15.7	14.7	13.8			n.a.
Austria	15.1	15.9	15.0	14.5	13.9		-0.34	significant
Sweden	14.6	13.9	14.2	14.3	14.1		-0.09	n.s.
Slovenia	15.0	14.4	14.4	14.4	14.3		-0.12	n.s.
Germany	14.5	14.9	14.5	14.1	14.9		-0.02	n.s.
Lithuania	25.1*	19.5*	17.7*	19.0*	16.2			n.a.
Denmark	16.0	16.0	16.5	17.4	16.4		0.35	n.s.
Norway	15.5	15.2	15.8	16.5	16.9		0.40	significant
Czech Republic	17.4	18.4	17.9	18.5	17.5		0.02	n.s.
Bulgaria	20.6	18.6	18.2	19.5	18.5		-0.25	n.s.
Finland	18.3	18.0	18.5	20.1	19.5		0.55	n.s.
Poland (c)	20.7	23.6	21.0	21.9	19.8			n.a.
Slovakia (a)	23.4	23.8		23.8*	20.0			n.a.
United Kingdom	16.9	17.3	18.7	18.8	20.1		0.76	significant
Spain (b)	19.7	19.7	20.3	20.9	20.9		0.34	significant
EU/EEA	**21.0**	**20.9**	**20.9**	**21.5**	**21.5**		**0.18**	**n.s.**
Croatia (a)					21.7			n.a.
Iceland	20.6	19.4	22.3*	22.3*	22.1*			n.a.
Malta	20.8	21.6	21.3	23.4	22.5		0.51	n.s.
Portugal	22.6	22.9	22.4	23.2	22.7		0.02	n.s.
Ireland	22.4	20.8	20.3	22.6	23.0		0.30	n.s.
Italy	28.5	28.7	27.3	28.2	27.6		-0.22	n.s.
Luxembourg	27.1	28.2	28.6	27.6	27.9		0.09	n.s.
France	28.0	29.6	28.2	28.7	29.7		0.24	n.s.
Cyprus	32.8*	34.4*	31.0*	32.0*	29.7*		-0.88	n.s.
Belgium	27.7	27.5	28.4	29.0	29.8		0.55	significant
Romania (a)(b)(c)		10.2		30.9*	30.4*			n.a.
Greece	45.2*	38.6	39.4*	35.1	31.9			n.a.



European Centre for Disease Prevention and Control. Surveillance of antimicrobial consumption in Europe, 2012. Stockholm: ECDC; 2014

Y en Illes Balears?

ENS **2001**

	Tasa por 100 habitantes de 16 y más años
Andalucía	3,2
Aragón	
Asturias	0,8
Baleares	**4,2**
Canarias	1,9
Cantabria	3,4
Castilla y León	2,1
Castilla - La Mancha	2,7
Cataluña	3,0
Comunidad Valenciana	4,2
Extremadura	4,7
Galicia	1,7
Madrid	3,7
Murcia	2,6
Navarra	2,0
País Vasco	2,1
La Rioja	3,5
Ceuta y Melilla	4,1
Total	**3,0**

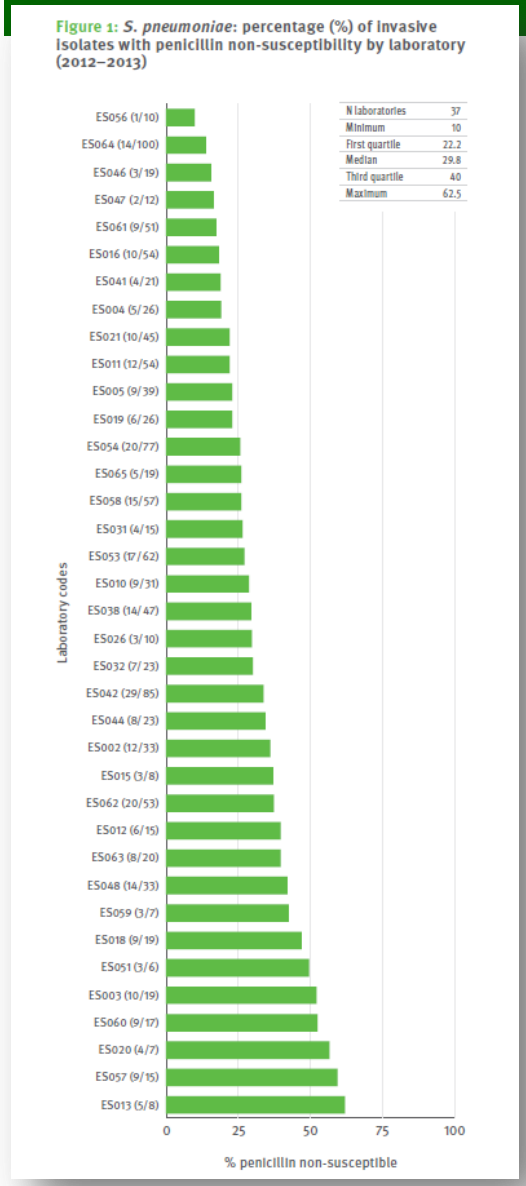
ENS **2011 / 12**

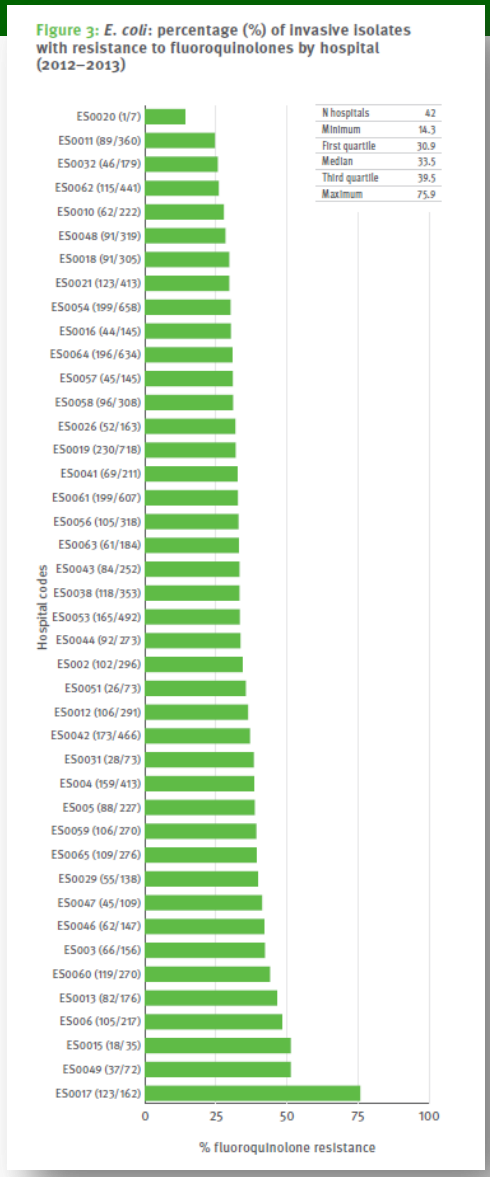
	ANTIBIÓTICOS SÍ
ANDALUCÍA	8,0
ARAGÓN	7,8
ASTURIAS, PRINCIPADO DE	9,4
BALEARS, ILLES	**8,0**
CANARIAS	8,1
CANTABRIA	3,2
CASTILLA Y LEÓN	7,9
CASTILLA-LA MANCHA	2,5
CATALUÑA	5,3
COMUNITAT VALENCIANA	9,1
EXTREMADURA	6,0
GALICIA	7,2
MADRID, COMUNIDAD DE	7,4
MURCIA, REGIÓN DE	6,3
NAVARRA, COMUNIDAD FORAL DE	4,3
PAÍS VASCO	6,4
RIOJA, LA	6,7
CEUTA	28,0
MELILLA	0,0
TOTAL	**7,2**

Consumo declarado durante los últimos 15 dias

http://www.msssi.gob.es/estadEstudios/estadisticas/encuestaNacional/encuesta2011.htm

Y las resistencias?





European Centre for Disease Prevention and Control. Antimicrobial resistance surveillance in Europe 2013. Annual Report of the European Antimicrobial Resistance Surveillance Network (EARS-Net). Stockholm: ECDC; 2014.

Grup de Malalties Infeccioses

Y las resistencias?

- EPOC colonizados por *Pseudomona.*
- *MARSA* comunitarios
- Diarreas por *Clostridium difficile.*
- ITUs de repetición *E Coli BLEE*
- ITSs resistentes.
- Otitis, faringitis o neumonías.

Y las resistencias?

Table 3 | Relations between antibiotic dose and resistance (by reference number)

Study	High dose/ concentration	Standard dose and duration	Antibiotic to which resistance was measured	Time*	OR (95% CI)
Schrag 2001[32]	High dose amoxicillin 90 mg/kg for 5 days	Normal dose amoxicillin 40 mg/kg per day for 10 days	Penicillin	5 days	0.9 (0.6 to 1.2)
				10 days	1.16 (0.88 to 1.53)
				28 days	0.77 (0.06 to 0.97)
Hillier 2007[19]	High dose amoxicillin 500 mg	Normal dose amoxicillin 250 mg	Ampicillin	0-12 months	2.26 (1.13 to 4.55)
	Amoxicillin >7 days	Amoxicillin <7 days	Ampicillin	0-12 months	1.50 (0.76 to 2.92)
	Trimethoprim >7 days	Trimethoprim <7 days	Ampicillin	0-12 months	2.89 (1.44 to 5.78)
Hillier 2007[19]	2 courses amoxicillin	1 course amoxicillin	Ampicillin	0-12 months	1.58 (0.77 to 3.27)
	3 courses amoxicillin	1 course amoxicillin	Ampicillin	0-12 months	3.95 (1.06 to 14.72)
	2 courses trimethoprim	1 course trimethoprim	Trimethoprim	0-12 months	0.98 (0.39 to 2.49)
	3 courses trimethoprim	1 course trimethoprim	Trimethoprim	0-12 months	3.62 (1.25 to 10.48)
Hay 2005[18]	2 courses any antibiotic	1 course any antibiotic	Trimethoprim	0-12 months	1.18 (0.53 to 2.37)
	3 courses any antibiotic	1 course any antibiotic	Trimethoprim	0-12 months	0.4 (0.12 to 1.31)
	4 courses any antibiotic	1 course any antibiotic	Trimethoprim	0-12 months	2.77 (0.94 to 8.15)
	Increasing dose of trimethoprim by 200 mg	Normal dose of trimethoprim	Trimethoprim	0-12 months	1.01 (1.01 to 1.02)
	Increasing dose of β lactam by 500 mg	Normal dose of β lactam	Amoxicillin	0-12 months	1.00 (0.99 to 1.01)

*Either exact time at which individuals took antibiotics, or time period during which antibiotic prescribing was recorded, before measurement of resistance.

Effect of antibiotic prescribing in primary care on antimicrobial resistance in individual patients: systematic review and meta-analysis. BMJ 2010;340:c2096 doi:10.1136/bmj.c2096

Grup de Malalties Infeccioses

Y las resistencias?

New Interventions to Address the Antibiotic-Resistance Crisis.*

Intervention	Status
Preventing infection and resistance	
"Self-cleaning" hospital rooms; automated disinfectant application through misting, vapor, radiation, etc.	Some commercially available but require clinical validation; more needed
Novel drug-delivery systems to replace IV catheters; regenerative-tissue technology to replace prosthetics; superior, noninvasive ventilation strategies	Basic science and conceptual stages
Improvement of population health and health care systems to reduce admissions to hospitals and skilled nursing facilities	Implementation research stage
Niche vaccines to prevent resistant bacterial infections	Basic and clinical development stage
Refilling antibiotic pipeline by aligning economic and regulatory approaches	
Government or nonprofit grants and contracts to defray up-front R&D costs and establish nonprofits to develop antibiotics	Models in place, expansion needed in number and scope; new nonprofit corporations needed
Institution of novel approval pathways (e.g., Limited Population Antibiotic Drug proposal)	Proposed, legislative and regulatory action needed
Preserving available antibiotics, slowing resistance	
Public reporting of antibiotic-use data as a basis for benchmarking and reimbursement	Policy action needed to develop and implement
Development of and reimbursement for rapid diagnostic and biomarker tests to enable appropriate use of antibiotics	Basic and applied research and policy action needed
Elimination of use of antibiotics to promote livestock growth	Legislation proposed
New waste-treatment strategies; targeted chemical or biologic degradation of antibiotics in waste	One strategy approaching clinical trials
Studies to define shortest effective courses of antibiotics for infections	Some trials completed
Developing microbe-attacking treatments with diminished potential to drive resistance	Preclinical, proof-of-principle stage
Immune-based therapies, such as infusion of monoclonal antibodies and white cells that kill microbes	
Antibiotics or biologic agents that don't kill bacteria but alter their ability to trigger inflammation or cause disease	
Developing treatments attacking host targets rather than microbial targets to avoid selective pressure driving resistance	Preclinical, proof-of-principle stage
Direct moderation of host inflammation in response to infection (e.g., cytokine agonists or antagonists, PAMP receptor agonists)	
Sequestration of host nutrients to prevent microbial access to nutrients	
Probiotics that compete with microbial growth	

* IV denotes intravenous, PAMP pathogen-associated molecular pattern, and R&D research and development.

The Future of Antibiotics and Resistance

Brad Spellberg, M.D., John G. Bartlett, M.D., and David N. Gilbert, M.D.

N ENGL J MED 368;4 NEJM.ORG JANUARY 24, 2013

Qué hacer?

Preserving available antibiotics, slowing resistance	
Public reporting of antibiotic-use data as a basis for benchmarking and reimbursement	Policy action needed to develop and implement
Development of and reimbursement for rapid diagnostic and biomarker tests to enable appropriate use of antibiotics	Basic and applied research and policy action needed
Elimination of use of antibiotics to promote livestock growth	Legislation proposed
New waste-treatment strategies; targeted chemical or biologic degradation of antibiotics in waste	One strategy approaching clinical trials
Studies to define shortest effective courses of antibiotics for infections	Some trials completed

The Future of Antibiotics and Resistance

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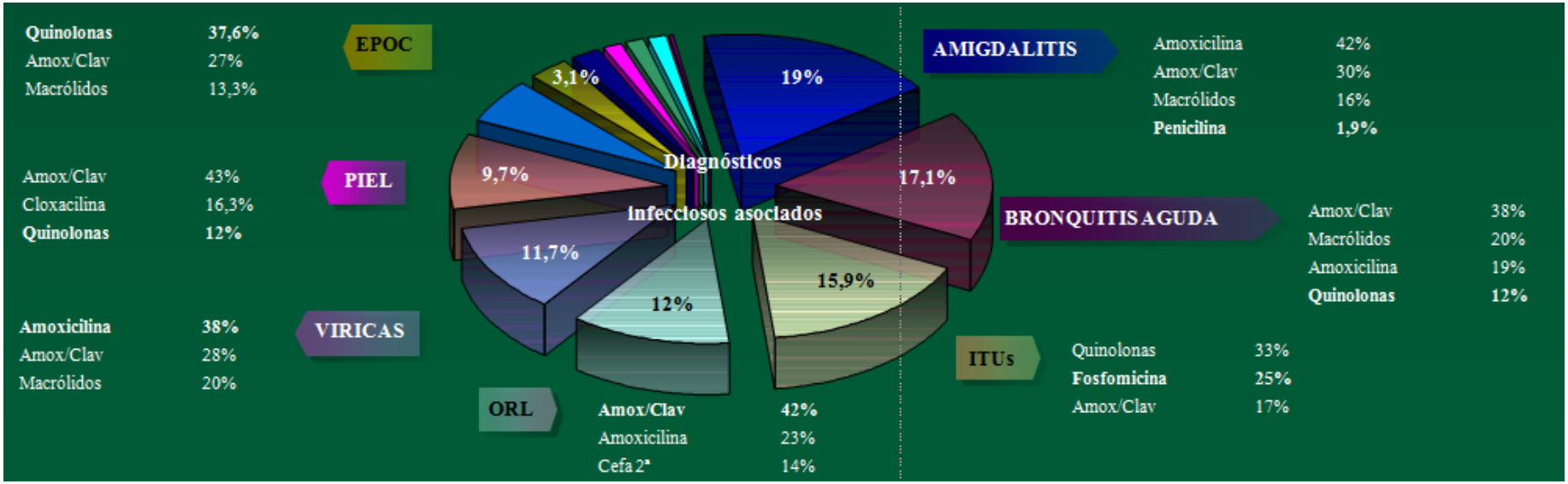
Análisis de prescripción 2007...



- Sólo el 27% de les Recetas Impresas (N=473.000) en Mallorca tenían un diagnóstico asociado.
- De estas el 81% tenían un diagnóstico de tipo infeccioso.
- 4 tipos de antibióticos, representaron casi el 90% de las recetas impresas:
  - Amoxicilina / Clavulànic, Amoxicilina, Quinolonas y Macrólidos

Arranz J, Vicente MA, Calvo C, Llabrés C, Ballester A, Comas F.

Análisis del contenido real de la historia clínica centralizada: Uso de antibióticos en un área sanitaria ¿Util para mejorar?

HAPPY AUDIT 2010

- Una intervención completa de **formación**, ***feedback* de la información** de prescripción-indicación i **el uso de técniques diagnósticas** "*point-of-care*" mejoraron la prescripción .

- La prescripción de antibióticos pasó del 69 al 43.9% en el grupo intervención frente a 61.3 al 56.2% en el grupo control

- la mayor diferencia se encontró en las prescripciones asociadas a las bronquitis agudas (62.3% al 30.2%).

Carl Llor et al. **Interventions to reduce antibiotic prescribing for lower respiratory tract infections Happy Audit study.** *ERJ Express. Published on December 19, 2011 as doi: 10.1183/09031936.00093211*

ABPresclin

1. Obtenir dades sobre la prescripció d'antibiòtics a l'Atenció Primària en la Comunitat de les Illes Balears.

2. Conèixer la relació entre la prescripció d'antibiòtics a l'Atenció Primària i la clínica que la motiva

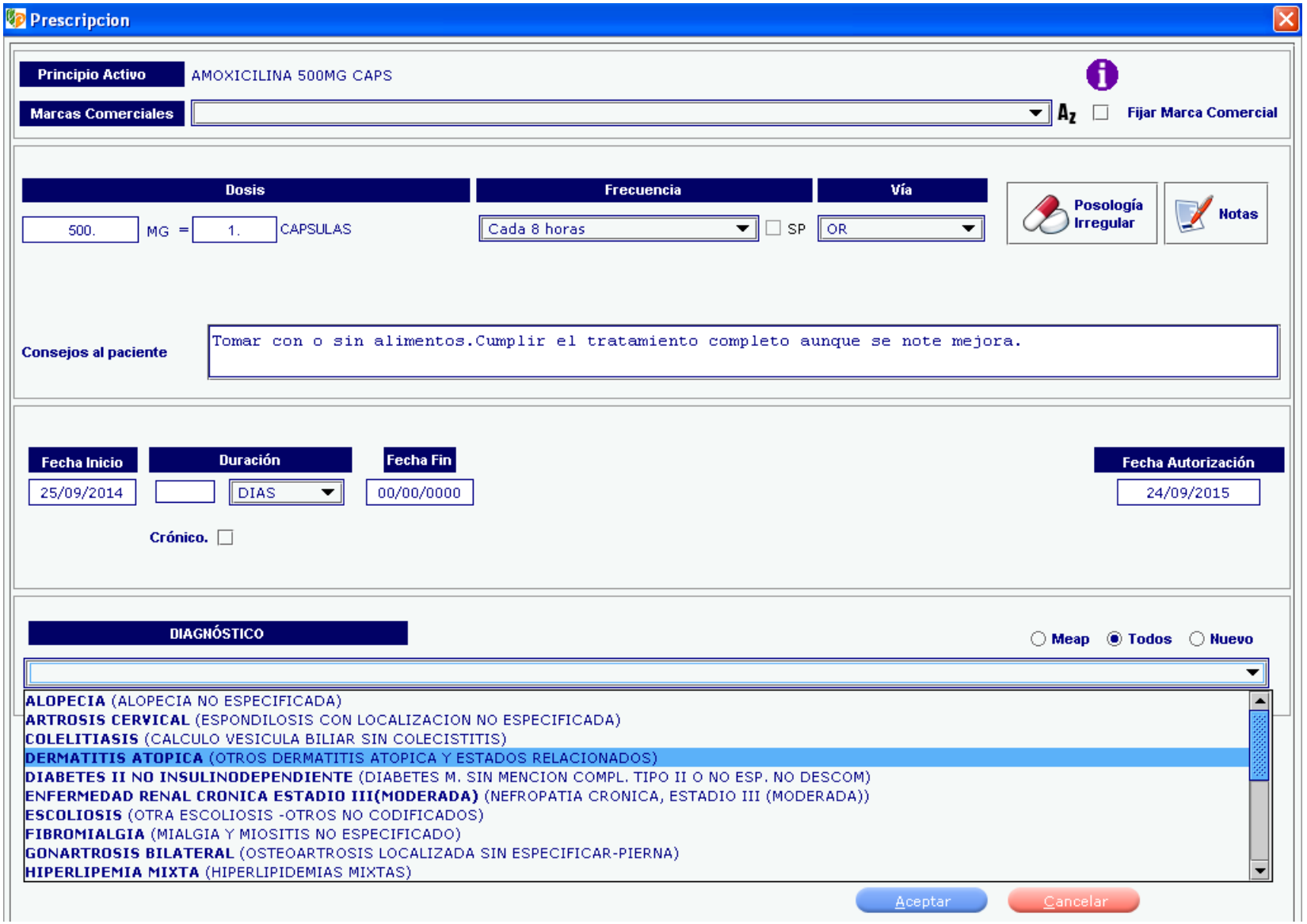
3. Valorar la relació entre la prescripció d'antibiòtics a l'Atenció Primària i les característiques dels professionals prescriptors.

4. Explorar la distribució temporal de la prescripció d'antibiòtics a l'Atenció Primària segons dia de la setmana, mes, estació i any.

5. Obtenir informació sobre la distribució geogràfica de la prescripció a nivell de sector sanitari, àrees sanitàries i Comunitat Autònoma.

Grup de Malalties Infeccioses

Font



Grup de Malalties Infeccioses

antibioticos fecha.sql: Bloc de notas

Archivo Edición Formato Ver Ayuda

```
select hr.COD_ART,      CODIGO_PA,      vade.grtp, hr.NOM_COM,  hr.FECHASTART,  hr.cod_perso, fp.cod_centro, fp
 from hrecetas hr, fusuario usu, tvademec vade, fpersona fp
                where hr.nhc=usu.nhc and  hr.cod_art=vade.cod_art and hr.cod_perso=fp.cod_perso and
                (fechastart between '01/01/2007' and '31/12/2007') and
                vade.grtp like 'J01%'



--(Objetivo 13) Diagnósticos de amigdalitis, no alergicos a penicilina y tratados con amoxi o penicilina
-- CAMBIADA PARA RELE
insert into obj13(codcen, cias, cuantos)
select centro, cias, count(distinct nhc)
from
(select SUBSTR(usu.cod_centro,3,6)centro , fp.cias, usu.nhc
from   fusuario usu, hdiagnos dia, fpersona fp, hrecetas hr, tvademec tv
where  usu.fecha_nac < '01/01/1995' and
       ((usu.activo IN ('0','2','3') and usu.fecha_exitus is null) OR
            (usu.activo='1' AND usu.fecha_exitus>='01/01/2009')) and
       (usu.desplazado = 0 or usu.desplazado is null) and
       usu.cod_cabecera = fp.cod_perso and
       usu.nhc = dia.nhc and
       dia.FECHA >= '01/01/2009' and
       dia.FECHA in (select min(dia2.fecha)
                     from   hdiagnos dia2
                            where  dia2.NHC = dia.NHC and
                           ((dia2.cod_1_icd9='463' and dia2.cod_2_icd9='.' and dia2.cod_3_icd9='.') OR
                            (dia2.cod_1_icd9='R76' and dia2.cod_2_icd9='CIAP' and dia2.cod_3_icd9='CIAP'))) ar
```

Dream Team

Javier Arranz
Antònia Roca
Eugènia Carandell
Antoni Ballester

María Zaforteza
Asunción Boronat

Bartolomé Sastre

Mateu Mesquida

Joana Ripoll
Sebastià March

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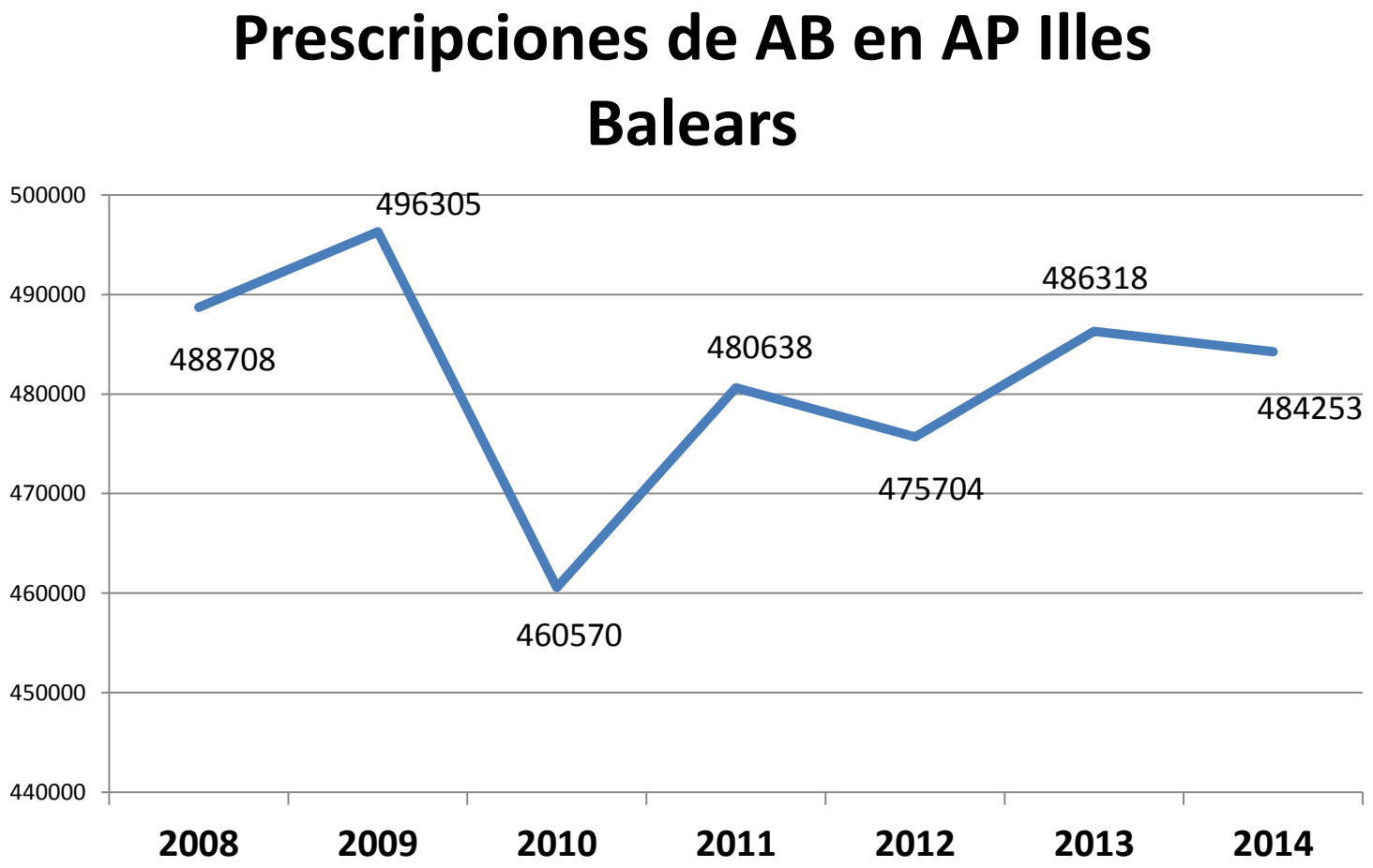
Resultados preliminares

- 7 años de prescripciones
- 3.372.496 prescripciones
- 3.417.768 diagnósticos

ABPresclin: Resultados preliminares



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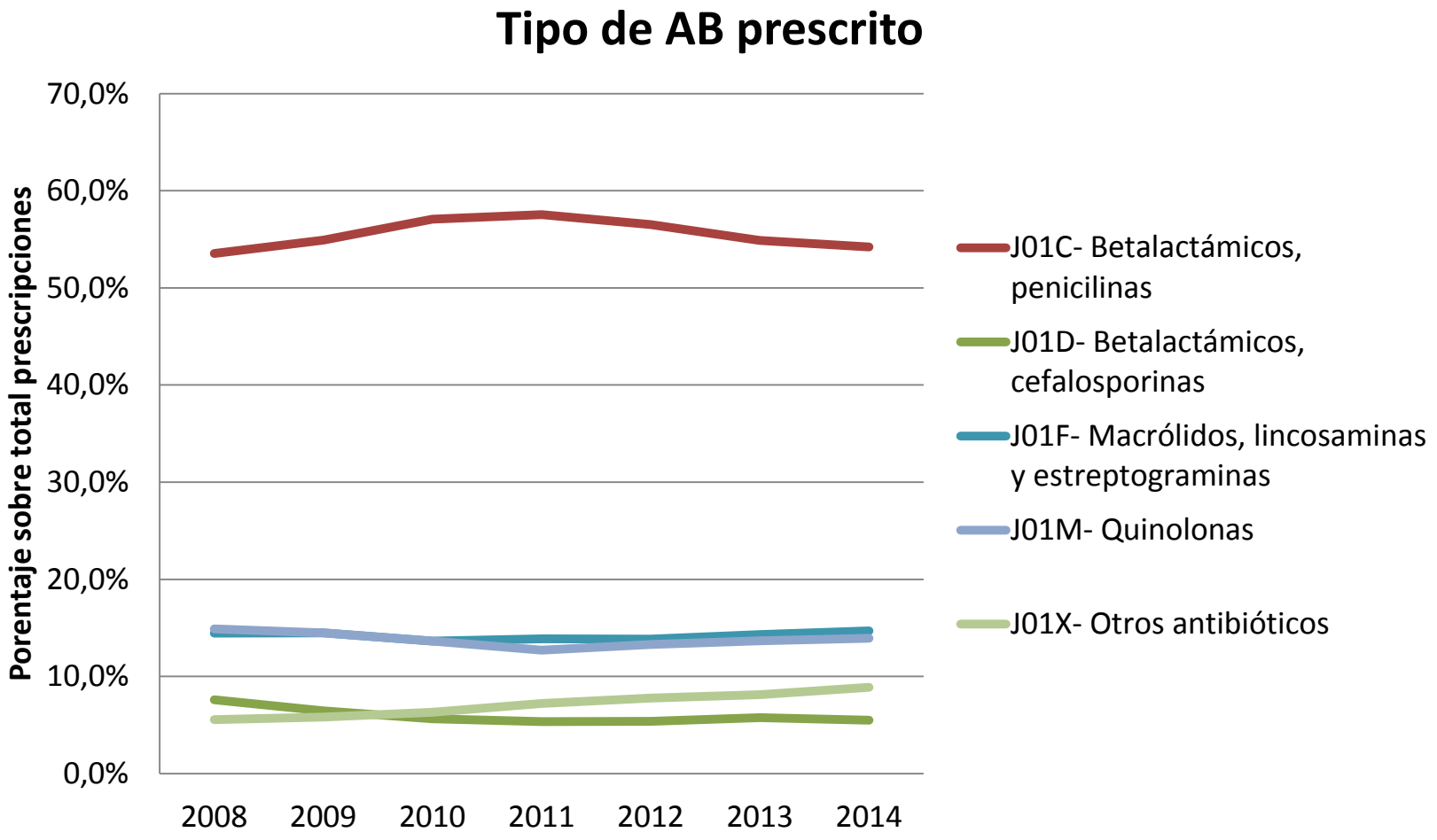

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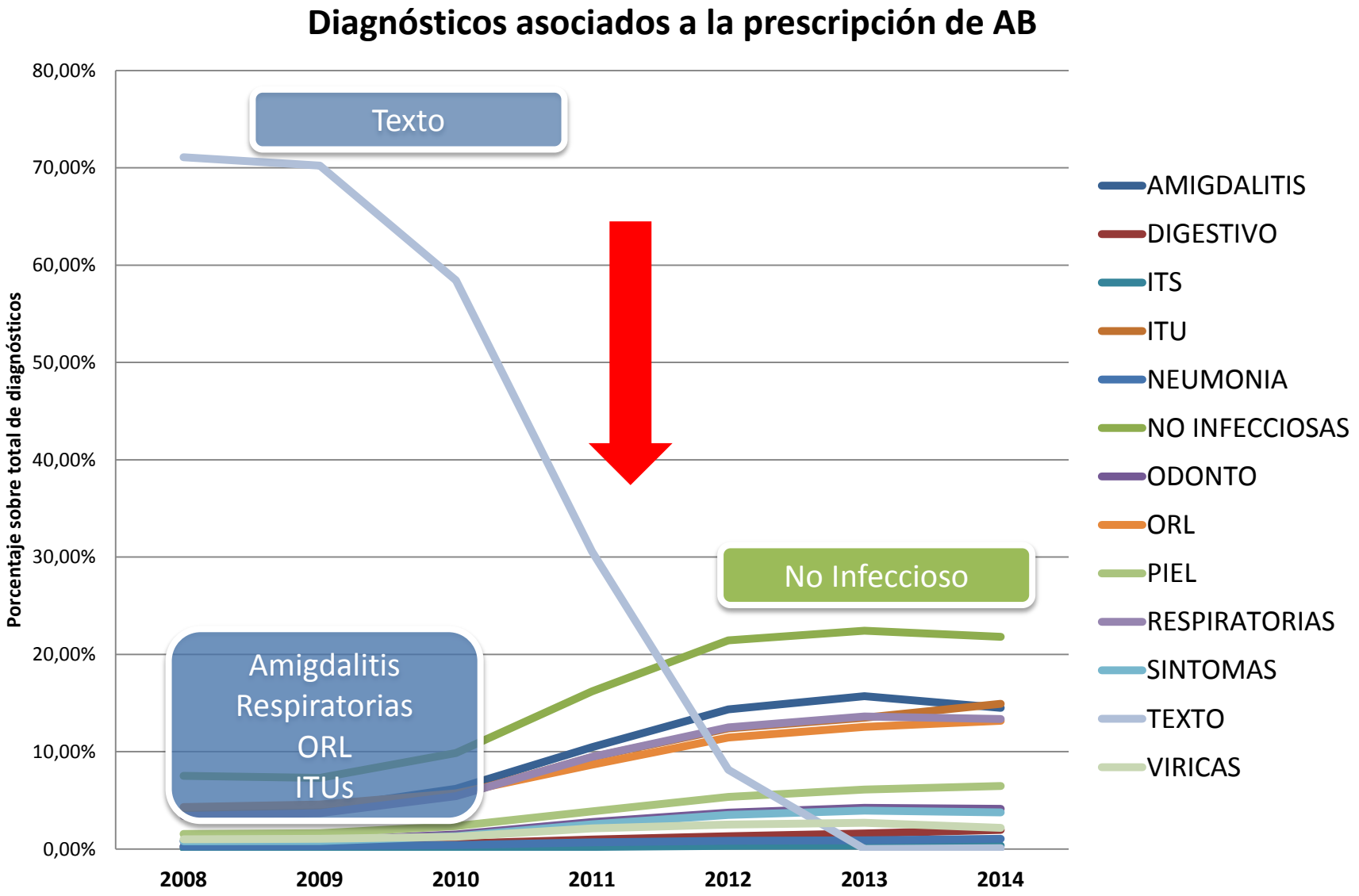

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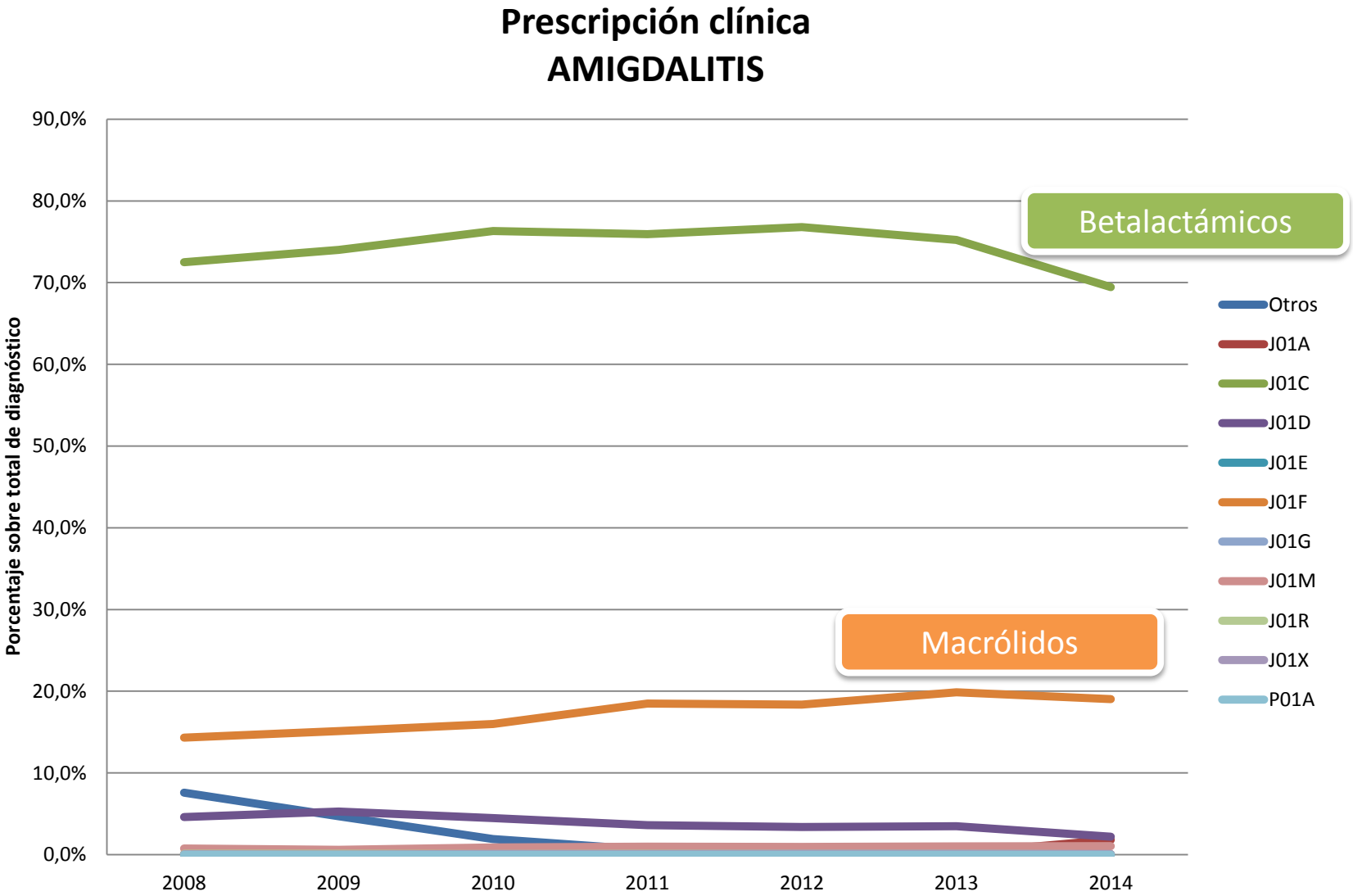

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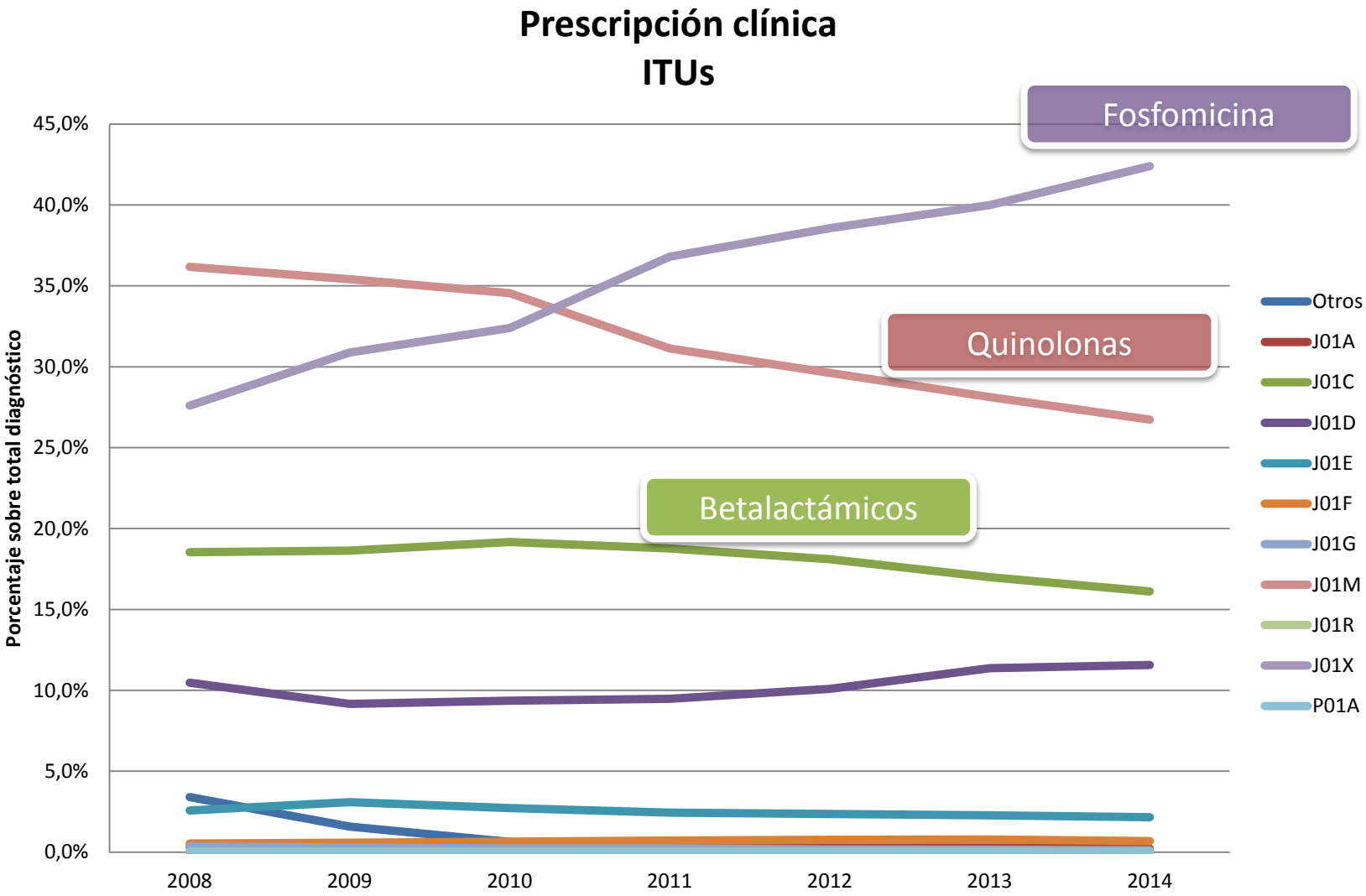

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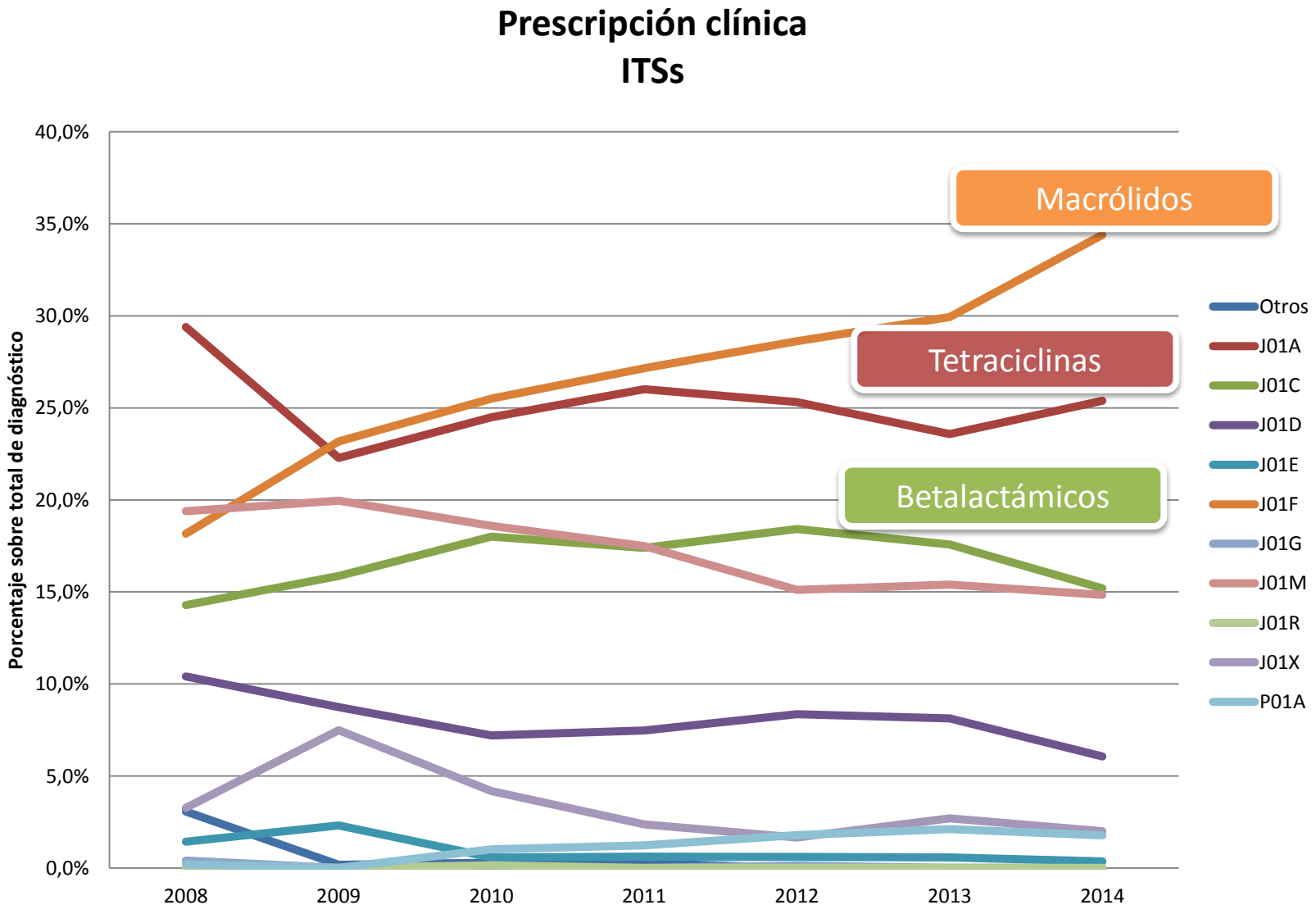

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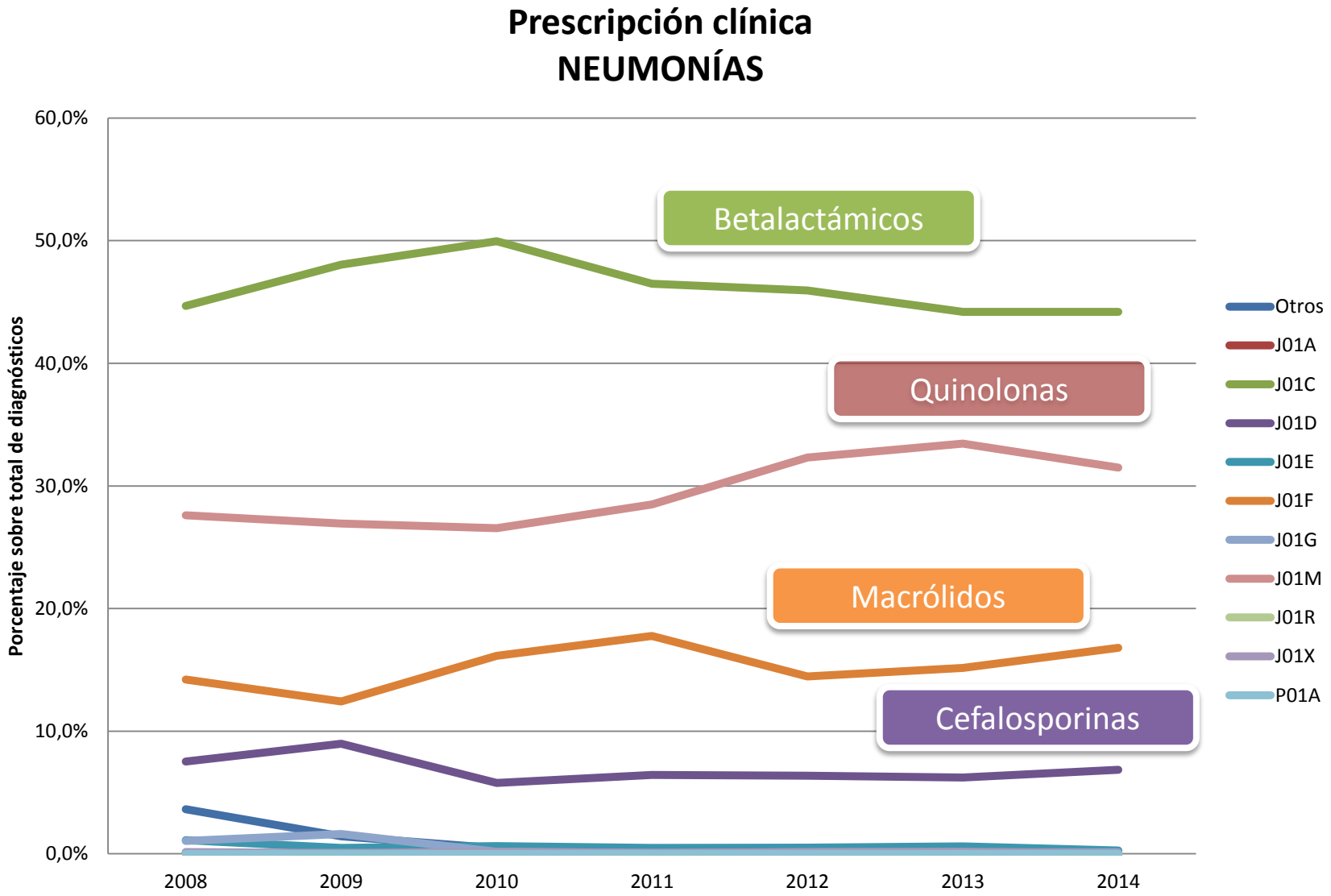
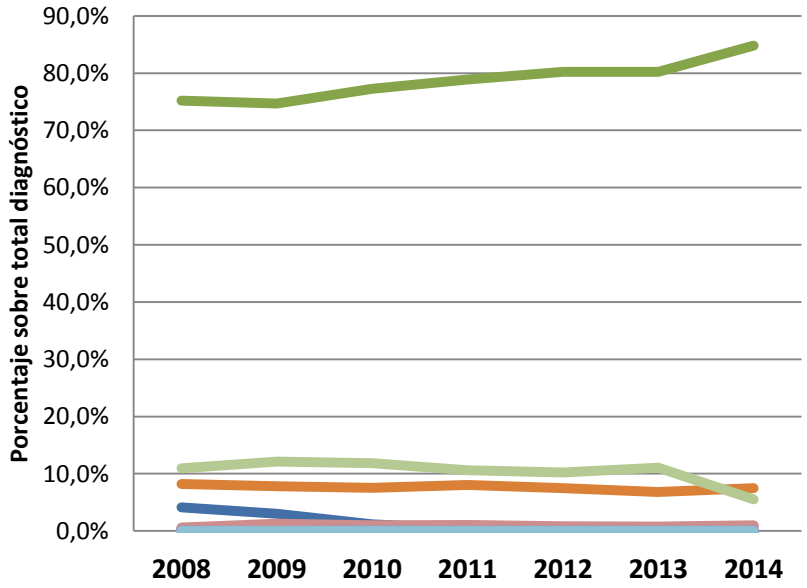


ABPresclin: Resultados preliminares

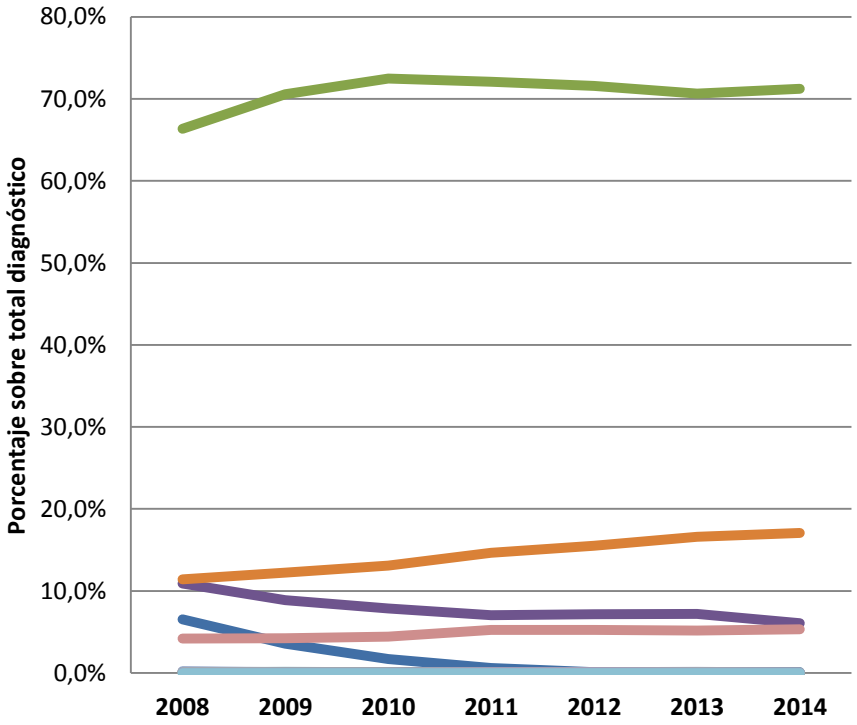
Prescripción clínica ODONTO



Betalactámicos

Espiramicina

Prescripción clínica ORL



Betalactámicos

Macrólidos

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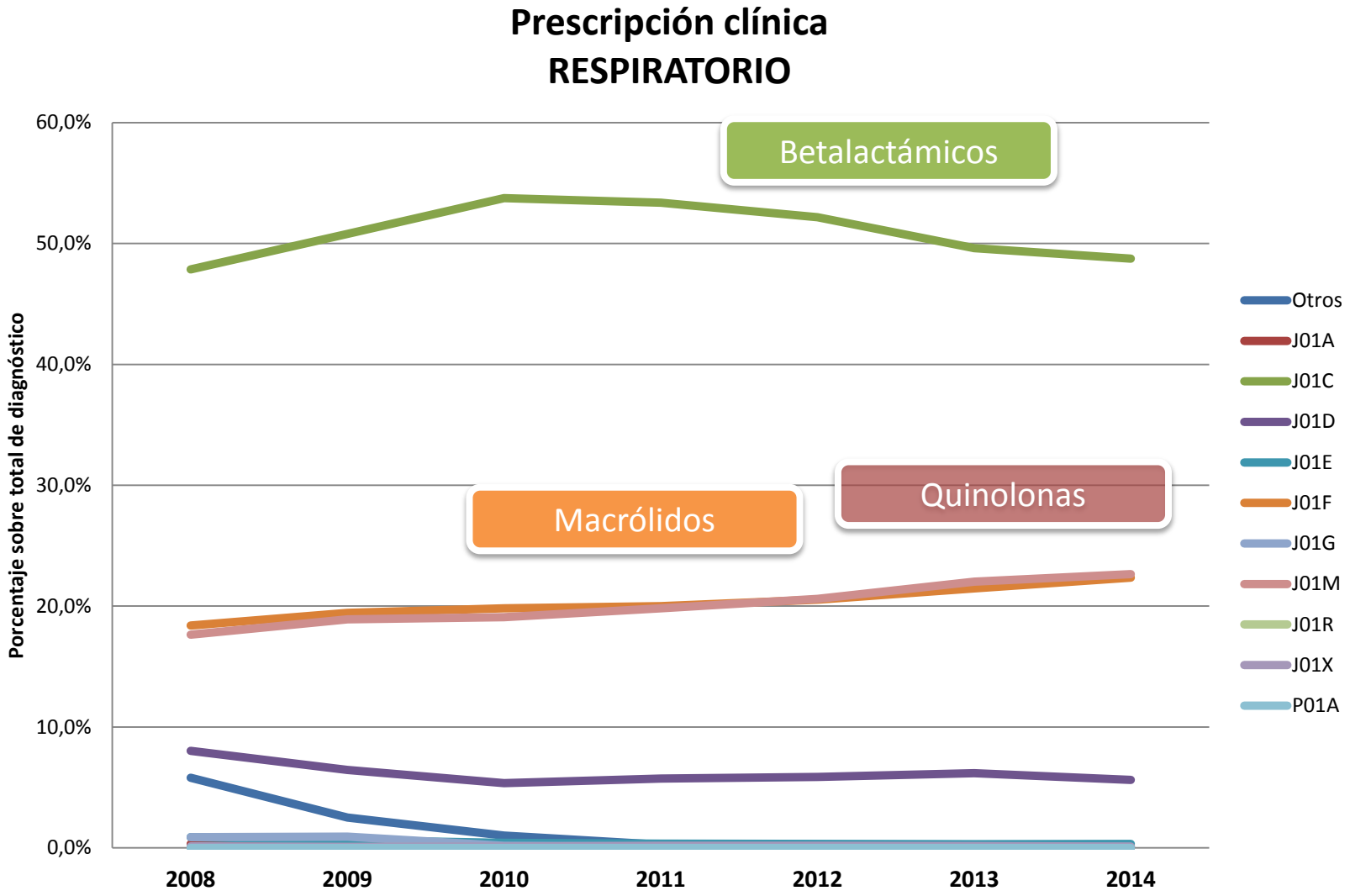

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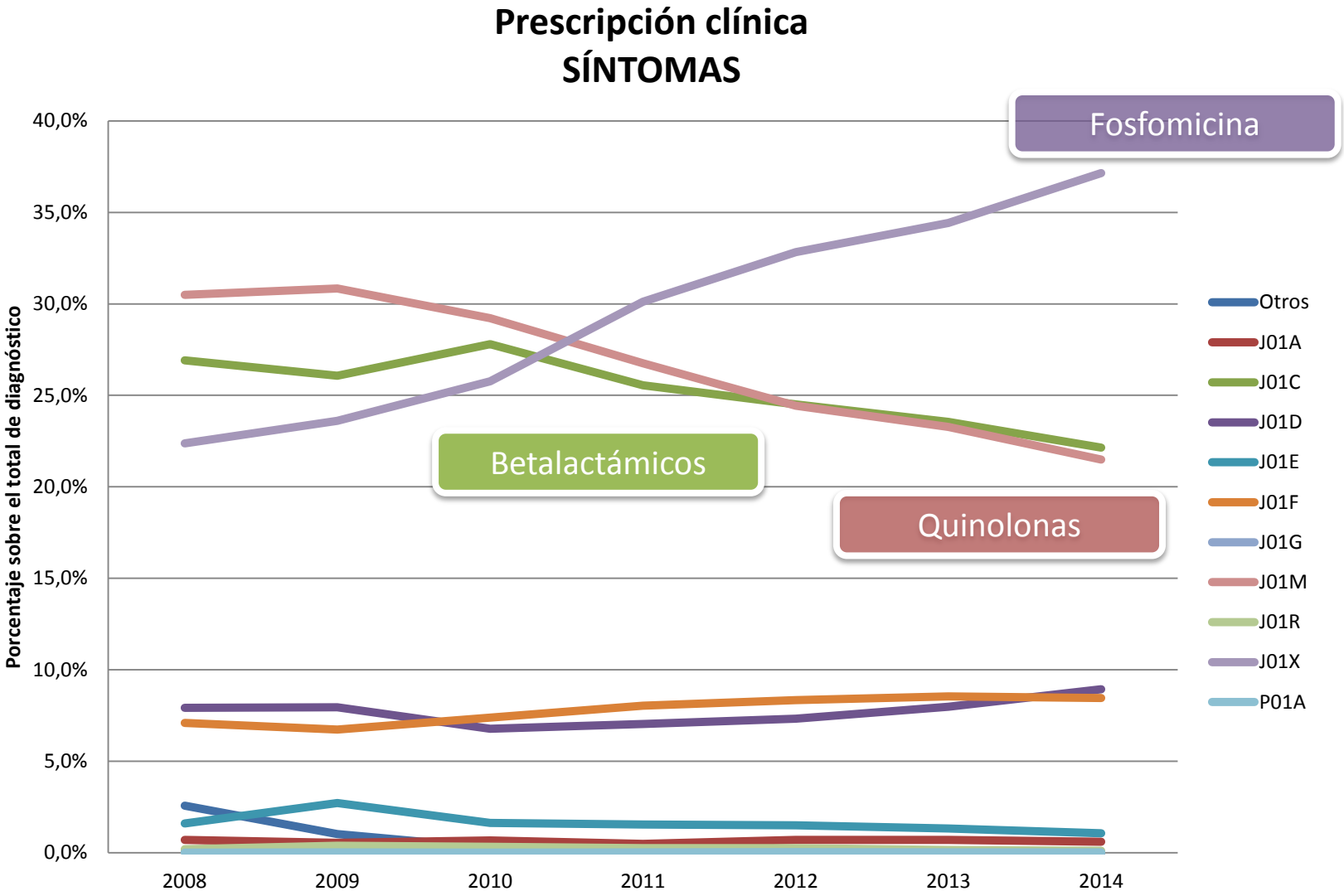

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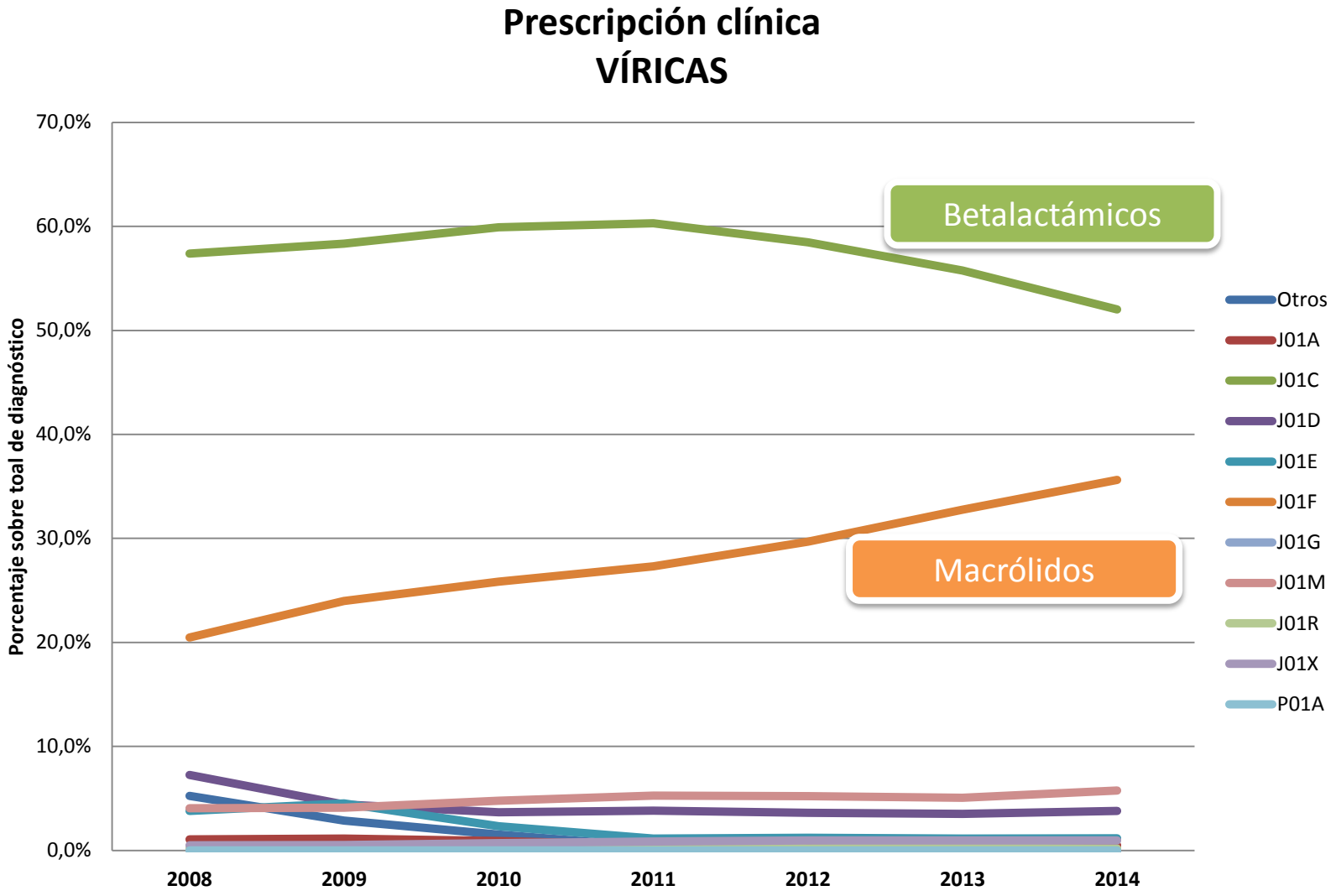

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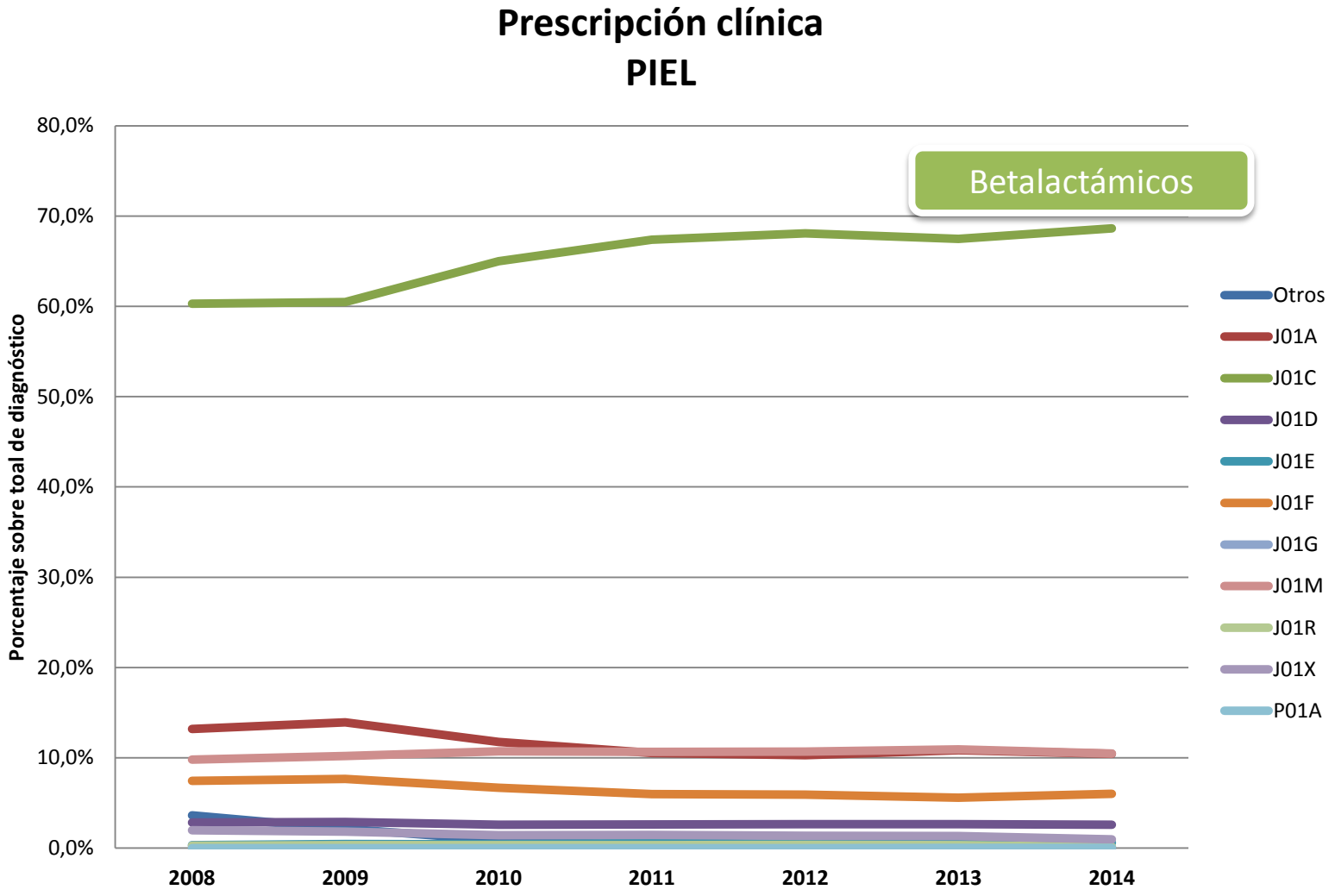

Futur

- “AB users”, “AB prescriptors”
- AB users i resistències

Futur

- Geolocalització de resistències i us d'AB
- Feedback de prescripció/indicació
- ...

Gràcies

- Dream Team
- Francisca Navarro
- Joan Llobera
- GAP Mallorca
- Unidad de infecciosas HUSE