



Antimicrobial Resistance and causes of (Non-prudent) use of Antibiotics in human medicine in the EU

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Partners, Project duration and Funding

- **Partners: NIVEL**
 - WHO Collaborating Centre for Primary Care
- **TNS NIPO (part of the TNS Group)**
 - Worldwide largest multi-country (market) research company
- **University of Antwerp:**
 - World reputation in studying antibiotic use and resistance
- **Funding: DG-Santé:**
 - Responsible for the implementation of European Union laws and the protection of people's health



Background

- Antimicrobial resistance is a major public health issue
- Important driver is the volume of antibiotic use

Non-prudent use can be driven by:

- Several aspects from the perspective of the healthcare professional, including;
 - Insufficient dosages
 - Incorrect/unnecessary drugs
- Self-Medication;
 - Over-the-counter antibiotics
 - Left-over antibiotics
 - Internet



Aims of the ARNA project

- Identify key factors that explain the (non-prudent) use of antimicrobial agents and its variations across the EU, with a specific focus on self-medication
- Assess the level of enforcement of legal prescriptions of antimicrobial agents in the EU
- Document good practices aimed at strengthening a more prudent use of antibiotics
- Develop policy options for a more prudent use of antibiotics in seven selected countries

‘Translating Research into Policy Actions’

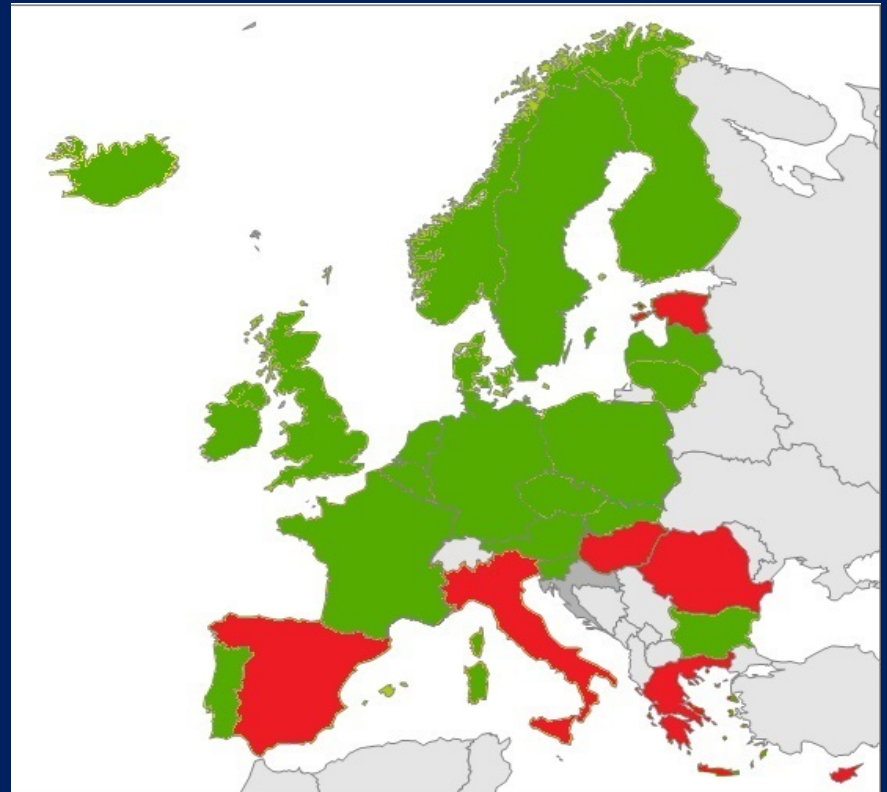


The use of antibiotics is an important driver of antimicrobial resistance (AMR)

- We focus on 7 countries in the EU where the use of antibiotics without a prescription* was:

– Romania	20%
– Greece	16%
– Cyprus	10%
– Hungary	8%
– Spain	8%
– Estonia	7%
– Italy	5%
– EU (27 countries)	5%

* Eurobarometer 2013



How do we do it?

1. Surveys regarding the (non-prudent) use of antibiotics (patients, GPs and pharmacists)
2. Questionnaire(s) to Ministries of Health / national experts
3. Literature reviews (e.g. good practices)
4. Analysis of policy options (Expert Meeting)
5. Country Dialogue Meetings
6. Final consensus conference



Self-medication : results from a literature review

59 studies on the frequency and nature of self-medication and its determinants

Frequency and nature
Self-medication mainly occurs in the East and South of Europe
Most used sources for self-medication are over the counter selling and the use of left-overs
Most used antibiotics for self-medication are penicillines
Most frequent reason to self-medicate with antibiotics are respiratory tract infections

Determinants self-medication: selection from the literature

Patient / Public health

- Age
- Women
- Immigrants
- Previous success
- **Leftovers at home**
- Lack of knowledge on resistance

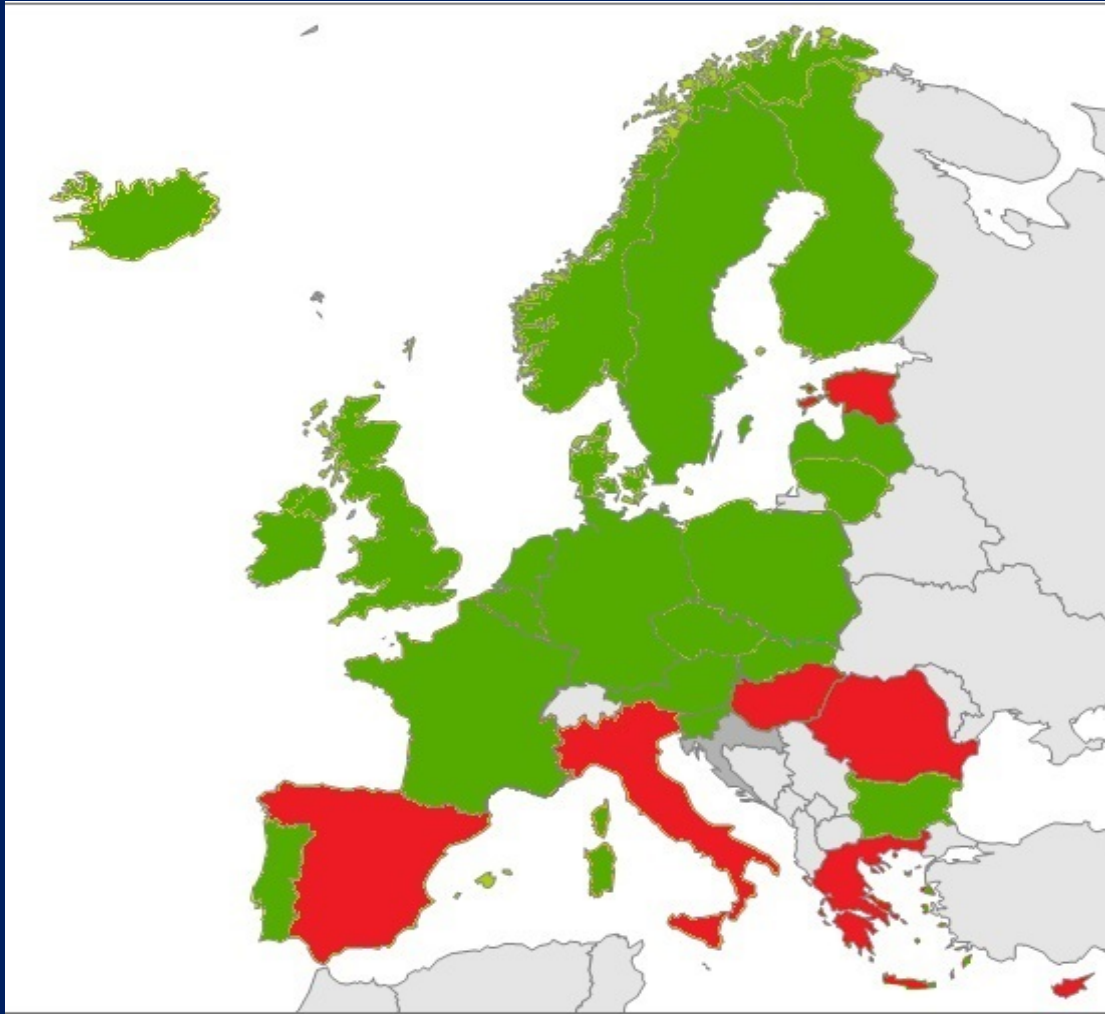
Health care professionals

- Knowledge
- Pharmacy size
- Knows patients

National / health care system level

- Reimbursement system
- Distribution system
- Rural areas
- Access to health care

Surveys in 7 EU Member States: the ARNA countries



Surveys among

Users of self-medication: 400 per country

GPs: 100 per country

Pharmacists: 100 per country

* Estonia: half of the other countries

Geographical distribution in Spain

	Phar- macist	General Practitioner	Patient
	%	%	%
Basque Country	5	2	4.7
Castille la Mancha	3	11	4.3
Valencia			2.7
Andalusia	13	1	17.3
Castile-Leon	6	6	5.7
Extremadura		1	2.6
Balearic Islands	1	4	2
Catalonia	23	14	15
Galicia	4	7	5.2
Aragon	3	7	2.4
La Rioja	1	4	0.6
Madrid	25	15	15
Murcia	3	2	3
Navarre	1	1	1
Asturias	1	5	3
Canary Islands	1	7	5
Cantabria		1	2
Valencia	10	12	7

Different mix in countries for sources of self-medication (OTC and leftovers)

	Estonia (n=6312)	Greece (n=1487)	Spain (n=6303)	Cyprus (n=1882)	Hungary (n=6676)	Italy (n=4805)	Romania (n=2300)
Left-overs	2%	10%	4%	15%	2%	7%	4%
Without prescription from a pharmacy	0.3%	15%	2%	9%	3%	0.6%	13%
Internet	0%	0.1%	0.1%	0.1%	0%		0.1%
Other	1.1%	6.4%	2.0%	0.7%	0.7%	0.4%	1.8%
No self-medication	96.6%	65.8%	91.9%	75.2%	94.4%	92%	81.1%

Users perceive pharmacies and social network as sources where antibiotics without prescription can (easily) be obtained

Source (without prescription)	Estonia	Greece	Spain	Cyprus	Hun-gary	Italy	Ro-mani-a
Pharmacy	11%	66%	35%	43%	31%	19%	49%
Internet	4%	20%	10%	16%	8%	4%	13%
Family, friends, neighbours	28%	45%	30%	48%	16%	24%	30%

Multiple answers

Motivations for use

(top 3 per country)

Spain

Previously prescribed by doc: 68%

Quick relief: 36%

Saving time: 24%

Triviality of symptoms: 24%

Estonia

Previously prescribed by doc: 53%

Quick relief: 26%

Own motivation: 20%

Greece

Previously prescribed by doc: 66%

Quick relief: 30%

Saving time: 21%

Hungary

Previously prescribed by doc: 41%

Quick relief: 38%

Prev given by HCP without prescription: 31%

Italy

Previously prescribed by doc: 88%

Quick relief: 5%

Saving time: 5%

Own motivation: 5%

Romania

Previously prescribed by doc: 51%

Prev given by HCP without prescription: 16%

Saving time: 13%

Cyprus

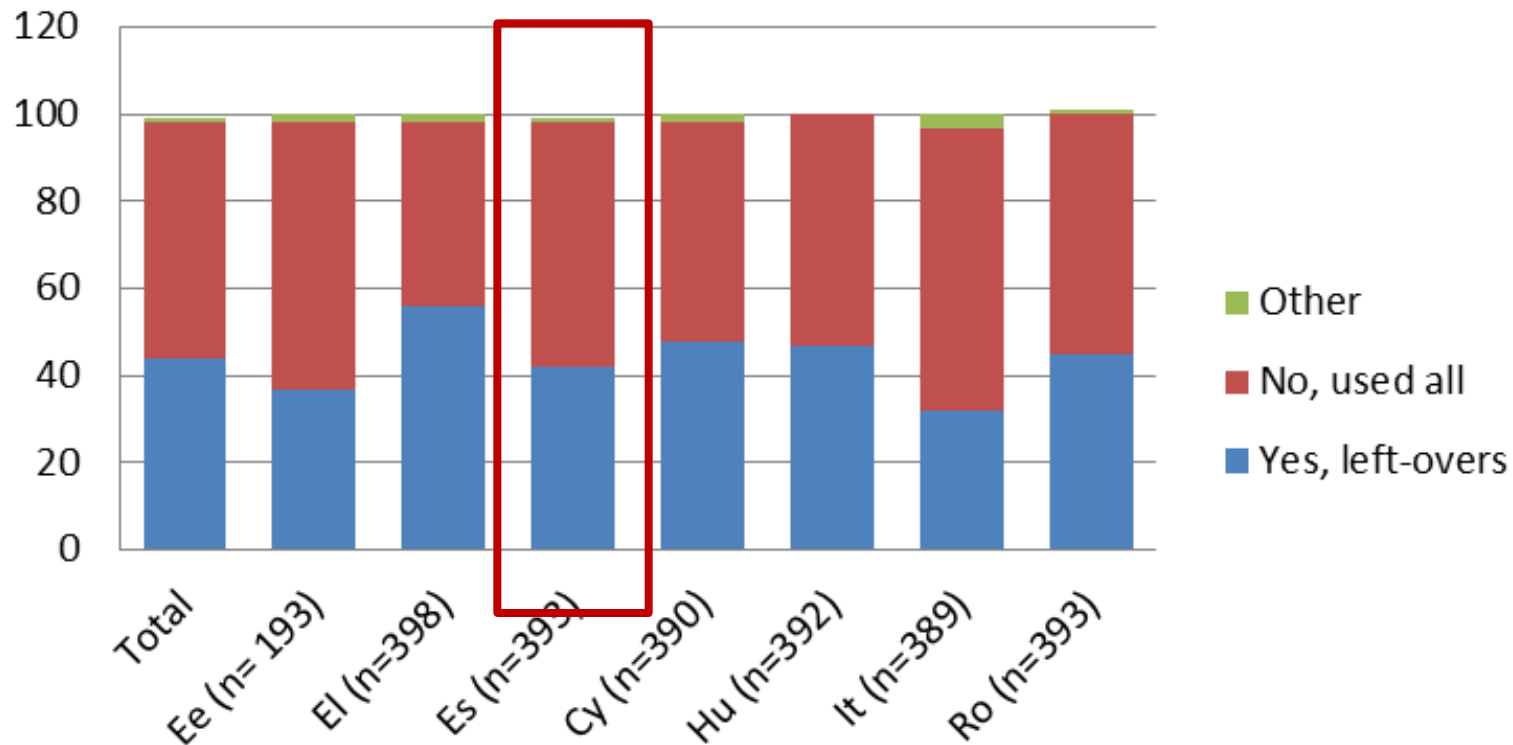
Previously prescribed by doc: 59%

Prev given by HCP without prescription: 15%

Quick relief: 9%

At least 1/3 has left overs of last course

Prevalence of left-over antibiotics



Wrap-up

Where do people get antibiotics without a prescription?

- Pharmacy or **left-overs**
- Pharmacy and social network: sources for easy access

What are reasons and motivations for use?

- **Left-overs**, quick relief and saving time major motivations for last course: mix differs between countries

How do they use them?

- In all countries at least 1/3 of the people has **left-overs**

Left-over important source of self-medication!





























MoH survey results

Actions taken to reduce non-prudent use of antibiotics in the EU

Summary:

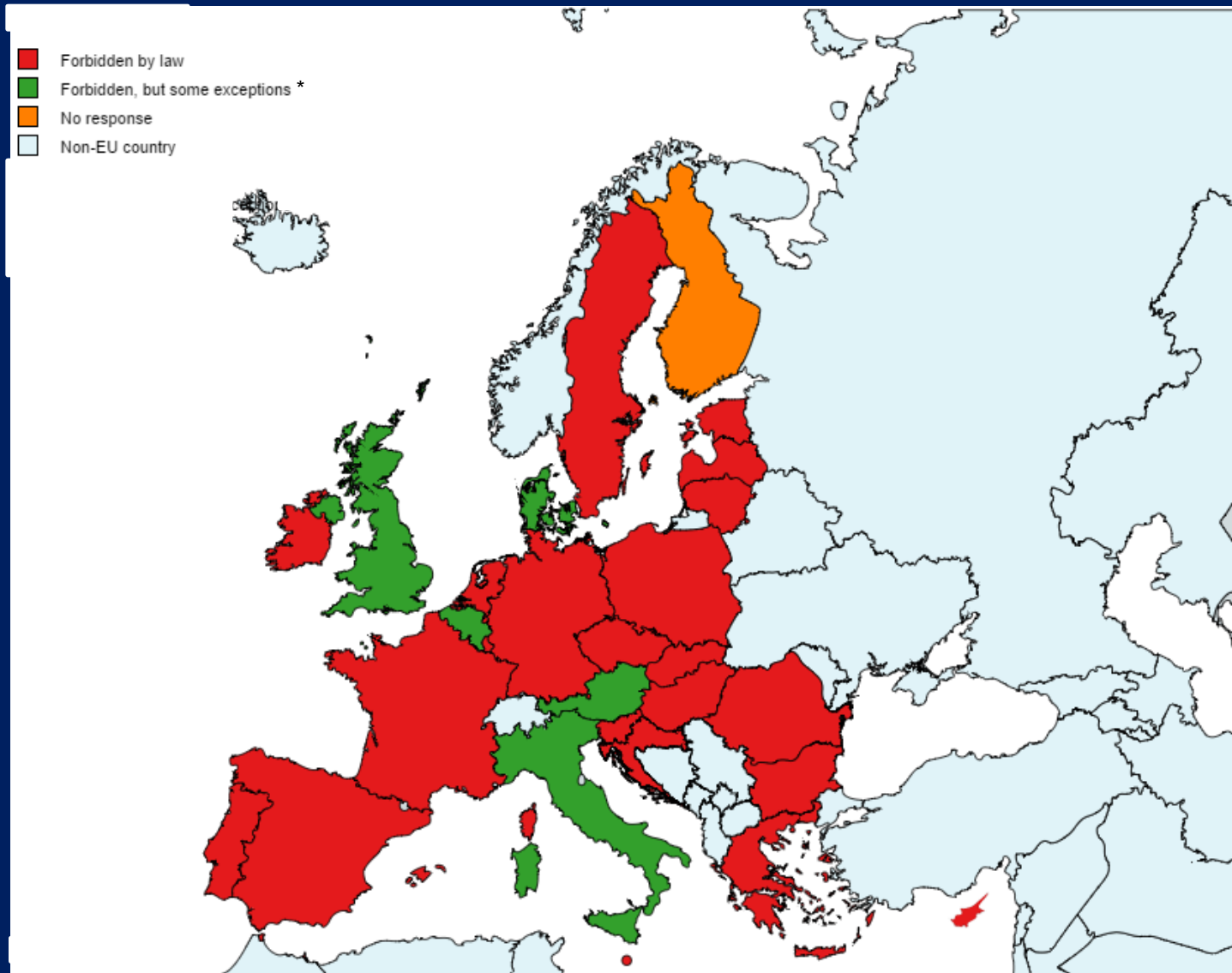
- Actions are being taken in all 28 Member States
- The type and intensity of actions differs

28 European Union Member Countries

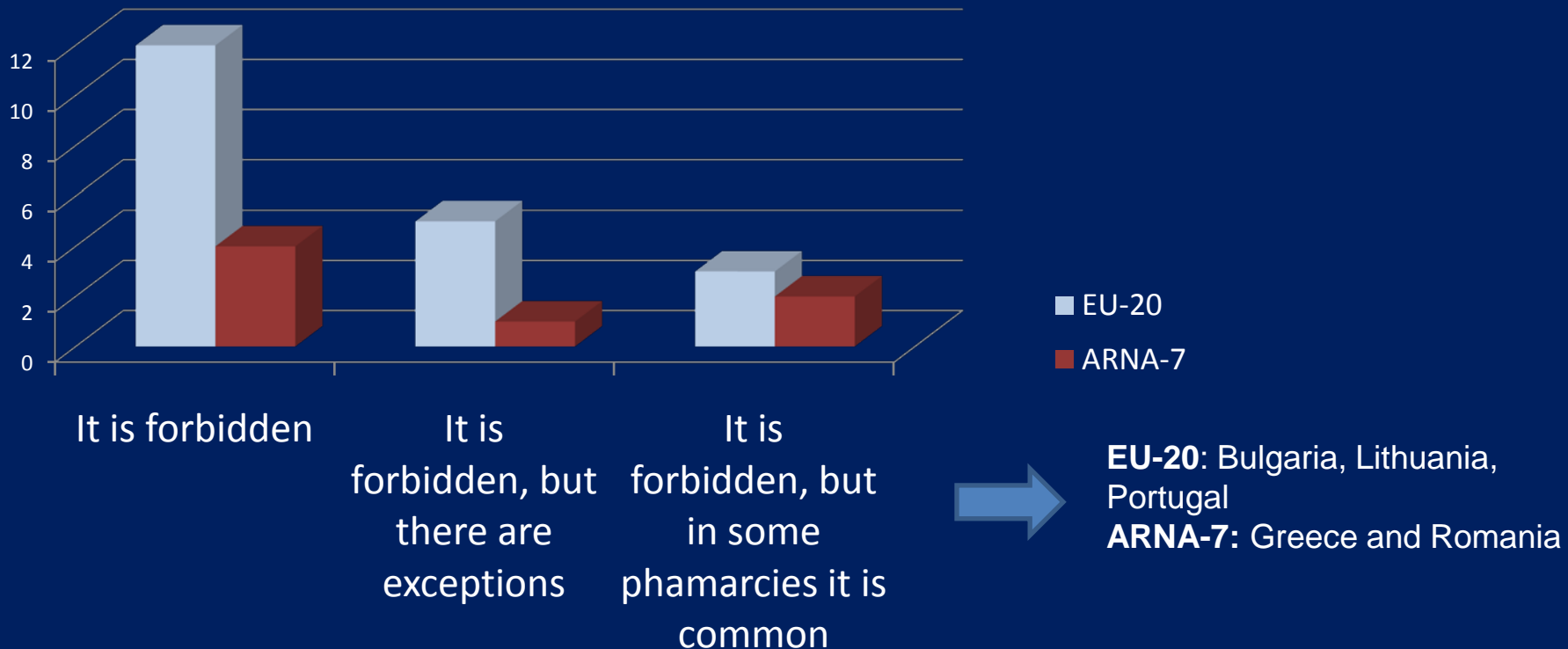
 Austria	 Belgium	 Bulgaria
 Croatia	 Cyprus	 Czech Republic
 Denmark	 Estonia	 Finland
 France	 Germany	 Greece
 Hungary	 Ireland	 Italy
 Latvia	 Lithuania	 Luxembourg
 Malta	 Netherlands	 Poland
 Portugal	 Romania	 Slovakia
 Slovenia	 Spain	 Sweden
 United Kingdom		

Legal framework

Purchasing antibiotics over-the-counter in the EU



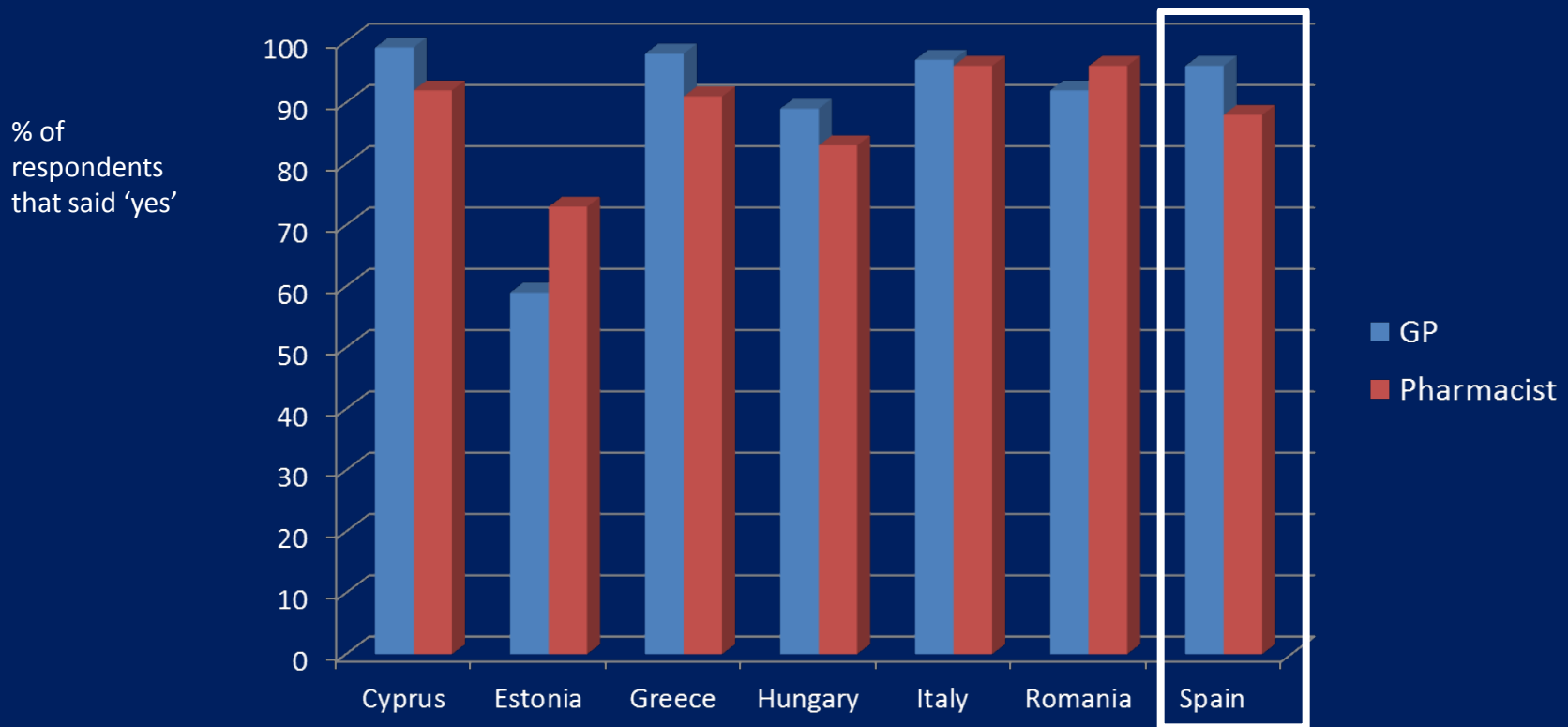
Sale of OTC antibiotics at pharmacies only occurs in a minority of countries in the EU



GPs and pharmacists survey

Belief that the amount of antibiotics customers are using should be reduced

Q Do you think that the amount of antibiotics that customers are using should be reduced?

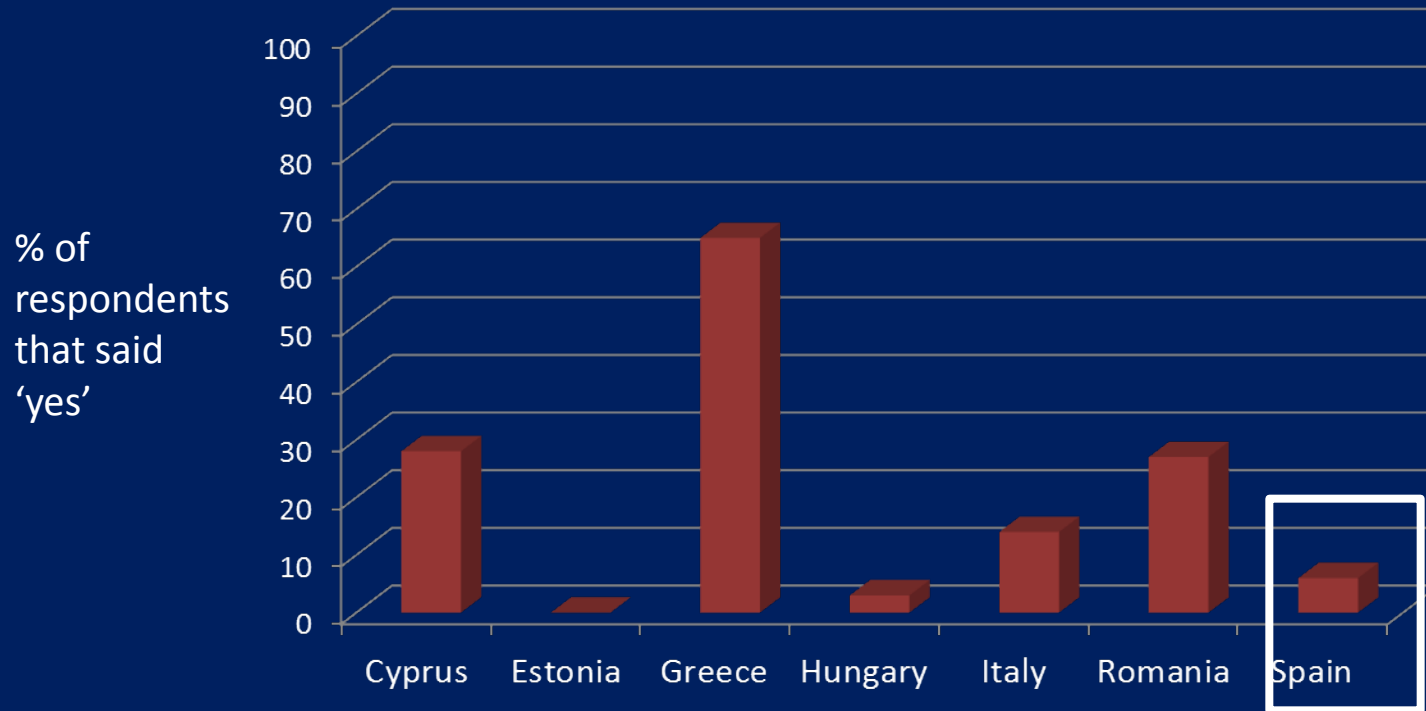


*For Estonia, more than 30 percent of respondents answered "Not applicable"

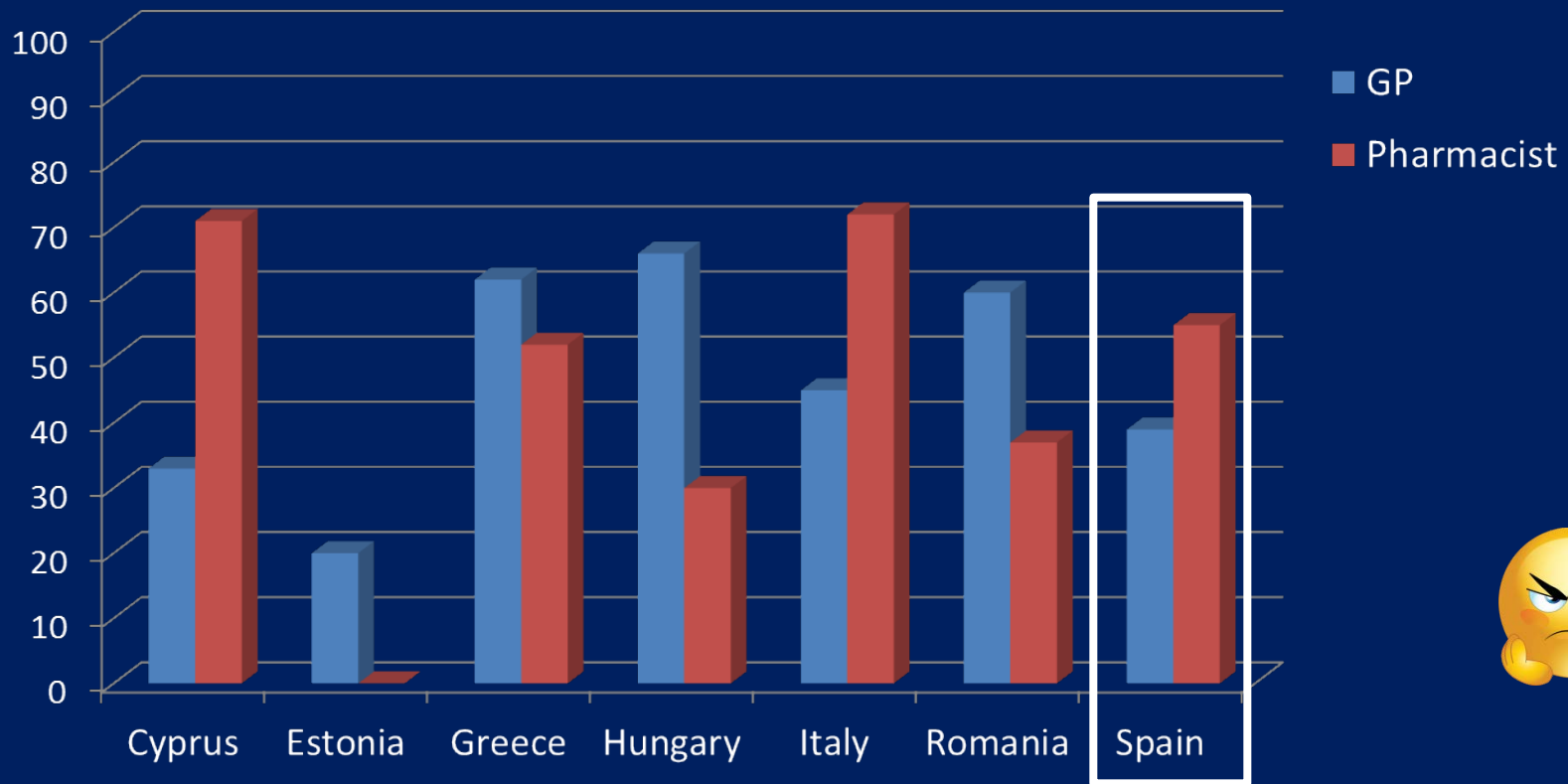
Source: ARNA Professionals Survey (712 GPs and 702 Pharmacists)

Dispensation of antibiotics without a medical prescription happens in all countries except for Estonia

Q: Can customers buy certain oral antibiotics at your pharmacy without a medical prescription?



Customer pressure for antibiotics seems to play an important role



General conclusions

- Based on these different results, we will identify different interventions that are applicable to the ARNA countries
- The interventions will be collated into an 'ARNA interventions toolbox'
- We will also try to identify interventions that can be applied on an EU level
- The issue of *governance* appears to be important: How does one get all EU countries to apply existing laws?

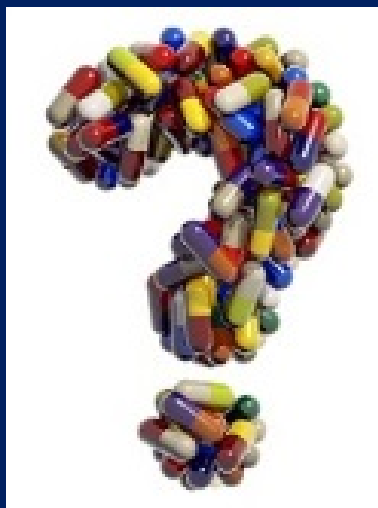


Next steps

1. Surveys regarding the (non-prudent) use of antibiotics
2. Questionnaire(s) to Ministries of Health / national experts
3. Literature reviews (e.g. good practices)
4. Analysis of policy options (consensus statement)
5. Country Dialogue Meetings in the seven EU countries (Feb-Mar 2016)
6. Final consensus conference planned in the Netherlands in June 2016



Questions?



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