

## Urinary tract infections on the Portuguese general practitioner sentinel network – preliminary data of 2016

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### Introduction

Urinary tract infections (UTIs) are inflammatory processes of infectious cause, which can reach the upper and/or lower urinary tract. UTIs, after respiratory infections, are the most frequent in the community, with a higher incidence in females. They can be classified according to anatomical location: in cystitis (low UTI) where the presence of bacteria is limited to the bladder; and pyelonephritis (high UTI) defined as that affecting the pelvis and renal parenchyma. *Escherichia coli* is responsible for 75 to 90% of the cases. The high rates of resistance of *E. coli* to quinolones and co-trimoxazol described in Portugal are likely to be a consequence of the prescription abuse of these antibiotics over the last few decades and may increase the risk of antibiotic failure. When the antibiotic prescribing decision is based on the knowledge of the main microbial agents involved and its sensitivity profile is known, allowing guidelines to be adjusted to the current reality, empirical antibiotic therapy is associated with eradication rates equal to or greater than 90%.

### Goals

To know the orientation and prescription profile of cases of UTIs reported by the Portuguese General Practitioner Sentinel Network members.

### Methods

A descriptive study was carried out in the population under observation by the Portuguese General Practitioner Sentinel Network during the year 2016 (between January 1 and September 30). The members of this network were asked to notify all cases of UTI diagnosed in their list of patients by 2016. For each case a set of demographic, clinical and microbiological variables was collected through a structured questionnaire sent in paper form or through an online platform. The proportions of cases by sex, age group, type of infection, prescribed antibiotic and identified microorganism were calculated.

### Results

360 UTIs were identified. 87% of the cases were female. The median age was 62 years, and 27.8% of the cases occurred in the age group with 75 or more years of age.

Age group (years)	Men	Women	Total (%)
0-4	1	7	8 (2,2%)
5-9	1	2	3 (0,8 %)
10-14	-	1	1 (0,3 %)
15-19	1	10	11 (3,1 %)
20-24	-	12	12 (3,3 %)
25-34	-	32	32 (8,9 %)
35-44	2	40	42 (11,7 %)
45-54	3	31	34 (9,4 %)
55-64	6	41	47 (13,1 %)
65-74	13	57	70 (19,4 %)
75+	20	80	100 (27,8 %)
<b>Total</b>	<b>47</b>	<b>313</b>	<b>360</b>

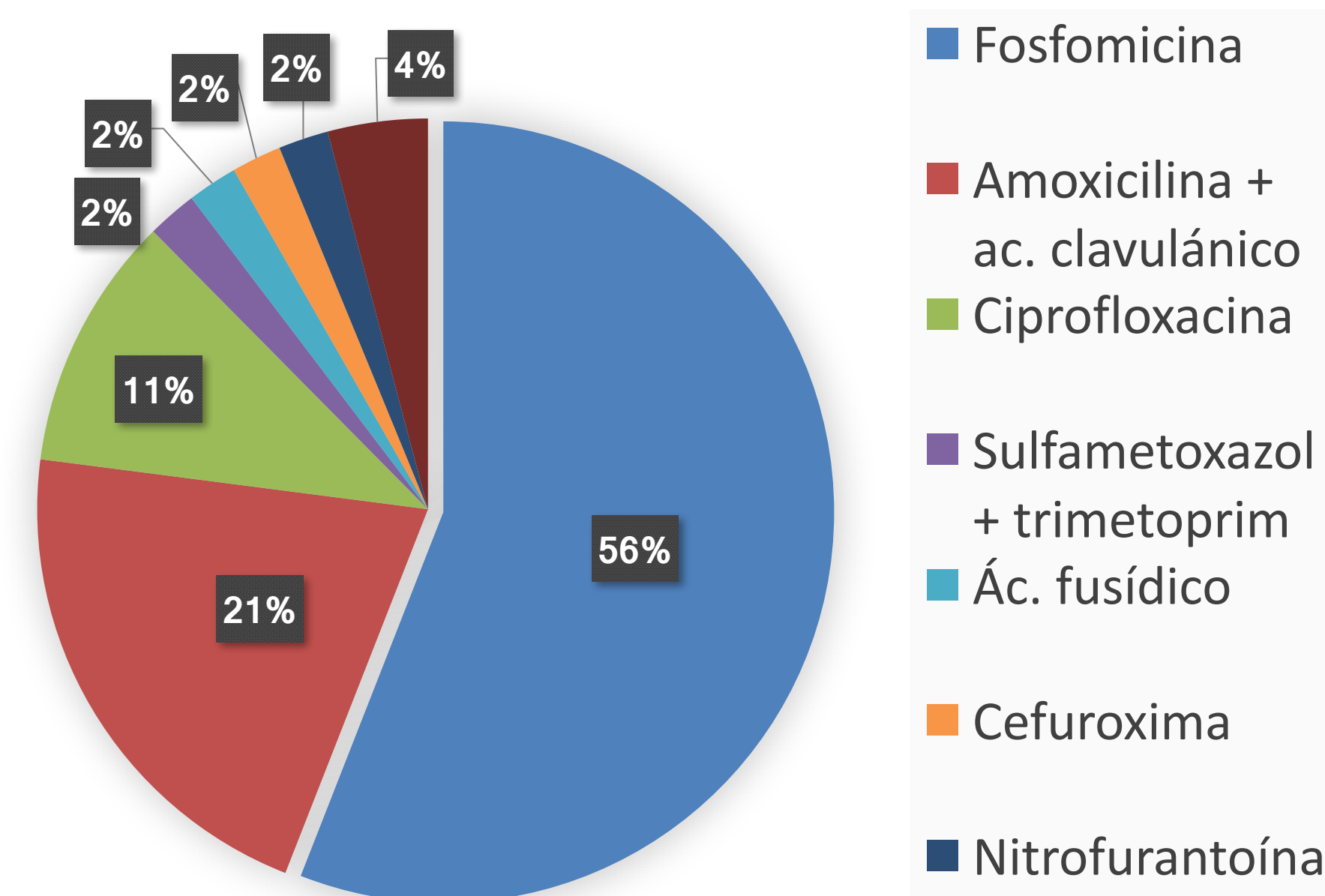
Distribution of UTI cases reported in 2016 by sex and age group.

Antibiotic	n	%	Average treatment time
Fosfomicina	169	47,6	2 days
Amoxicilina + clavulanic acid	56	15,8	8 days
Nitrofurantoin	38	10,7	8 days
Ciprofloxacina	24	6,8	-
Norfloxacin	20	5,6	-
Cefuroxime	19	5,4	-
Co-trimoxazol	13	3,7	-
Amoxicilina	7	2,0	-
Others	9	2,5	-
<b>Total</b>	<b>360</b>		

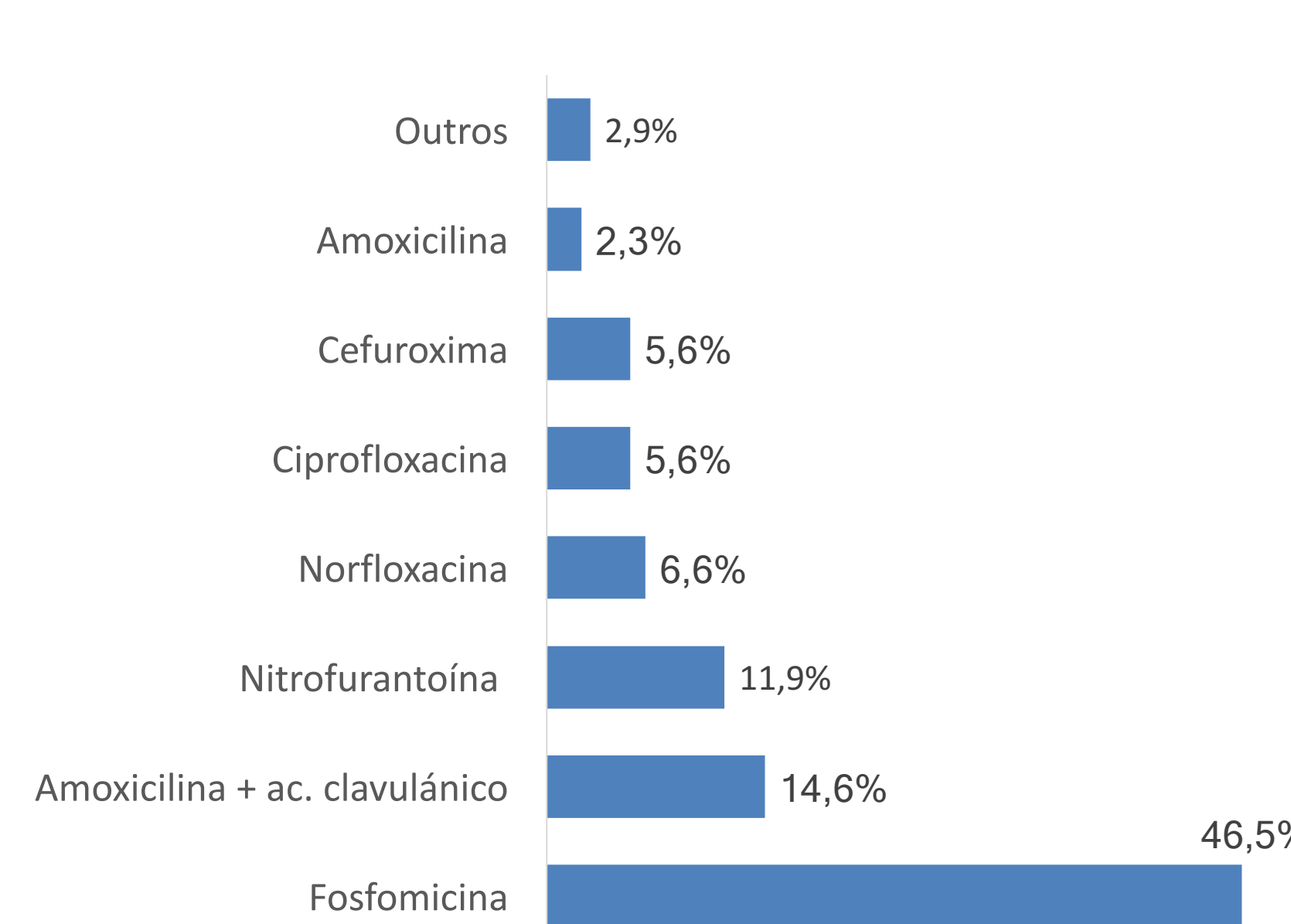
Distribution of total ITU cases reported in 2016 per prescribed antibiotic

Clinical presentation	Total (%)
Asymptomatic bacteriuria	49 (13,6 %)
Cystitis	301 (83,6 %)
Pyelonephritis	9 (2,5 %)
Pyelonephritis complicated	1 (0,3 %)
<b>Total cases</b>	<b>360</b>

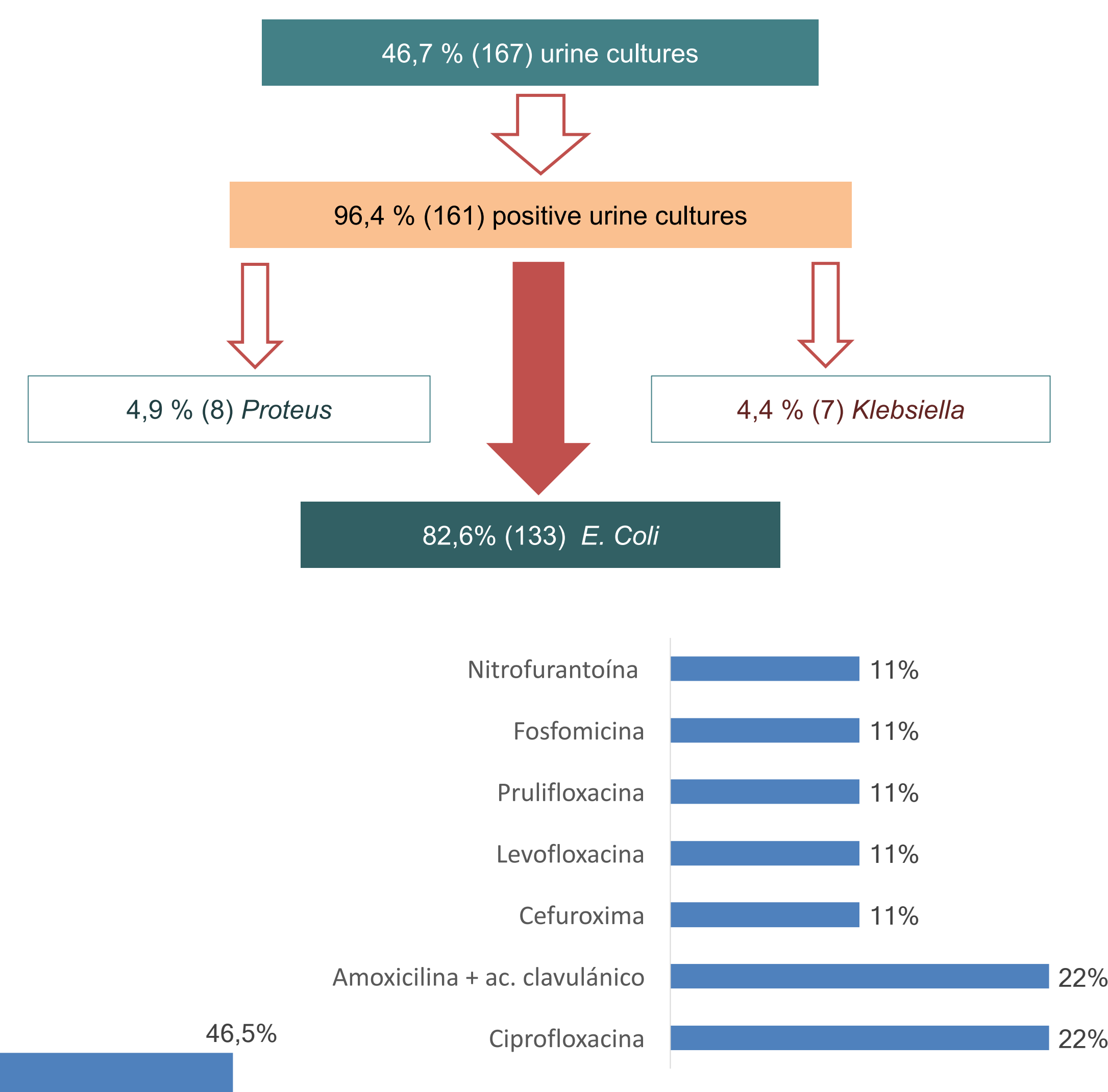
8 (16%) are pregnant women



Distribution of total ITU cases per prescribed antibiotic



Prescription antibiotic therapy by clinical picture - Cystitis



Prescription of antibiotic therapy by clinical picture - Light to moderate pyelonephritis

Most cases were classified as cystitis, the most frequently identified microorganism was *E. coli* (81%), and the most commonly prescribed antibiotic is fosfomicin (47.6%), which is in accordance with the guidelines of the Portuguese public health authority, although with two doses of the antibiotic, which is unnecessary according to guidelines. Of the cases of asymptomatic bacteriuria only 16% are pregnant, which may indicate that these cases are medicated without indication

**Bibliography:** Norma de orientação clínica da DGS 15/2012 "Terapêutica de infeções do aparelho urinário (comunidade); Correia C, Costa E, Peres A, Alves M, Pombo G, Estevinho L. Etiologia das infeções do trato urinário e sua suscetibilidade aos antimicrobianos. *Ata Med Port* 2007; 20: 543-549; Martins F, Vitorino J, Abreu A. Avaliação do perfil de suscetibilidade aos antimicrobianos de microrganismos isolados em urinas na Região do Vale do Sousa e Tâmega. *Ata Med Port* 2010; 23: 641-646; Gupta K, Hooton TM, Naber KG et al. International Clinical Guidelines for the Treatment of Acute Uncomplicated Cystitis and Pyelonephritis in Women: A 2010 Update by the Infectious Disease Society of America and the European Society for Microbiology and Infectious Diseases. *Clin Infect Dis* 2011; 52: 561-4; Avaliação do perfil de sensibilidade aos antibióticos na infeção urinária *Acta Med Port* 2014 Nov-Dec;27(6):737-742; EARS. Antimicrobial resistance surveillance in Europe. Annual report of the European Antimicrobial Resistance Surveillance Network (EARS-Net). 2009