Colonization with Staphylococcus aureus in Community-Dwelling Spanish Children (COSACO): Preliminary Data on a Multicenter Nationwide Study.

Background
Prevalence of Staphylococcus aureus and MRSA colonization may be rising among European children. There is marked geographical variation in MRSA burden so nationwide paediatric data are warranted. Our aims are to assess current prevalence and epidemiology of nasal colonization by S. aureus and MRSA in children in Spain and risk factors associated in order to guide empirical treatment policies.

Methods
An observational, prospective, multicenter study in primary care centers all over Spain including patients <14 years with no other infectious diseases at time of enrollment was conducted. All provinces in Spain were included (rural and urban settings) and number of patients in each area were representative of total children population of each area. 70 primary care paediatricians from a preexisting research network (PAPenRed) accomplished the enrollment by a routine protocol, which included homogenous age distribution. Clinical-epidemiological data were collected and nasal aspirates collected (March to July 2017) for culture and characterization of antibiotic resistance of S. aureus in 27 hospital-based microbiology laboratories.

All isolated strains were sent to the National Microbiology Center where molecular characterization of MRSA strains is currently being performed.

Results
A total of 1876 patients were enrolled (mean age 6.59 –SD: 4.36; 50.4% female).

1. Prevalence of colonization and risk factors
Prevalence of colonization with S. aureus was 33% (95% CI, 30.8–35.1). Total MRSA prevalence was 1.44% (95% CI, 0.78–2.1) and 4.4% (95% CI, 2.72–6.08) among colonized children.

Factors associated with increased risk of S. aureus colonization were age ≥ 5 years (Figure 1), male sex, urban setting, day-care or school attendance, previous cutaneous infection and presence of chronic disease (Table 1).

2. Analysis of resistance to other antibiotics
Percentage of susceptible (green), intermediate (yellow) or resistant (red) strains to the most frequently tested antibiotics are shown on Figure 2. Some antibiotics were not tested in all strains.

Conclusions
1. Prevalence of colonization with S. aureus in Spanish children is higher than expected. MRSA colonization prevalence is low but higher than reported in adults.
2. Risk factors for S. aureus colonization were age ≥ 5 years, male sex, urban setting and chronic disease.
3. Clindamycin resistant strains are frequent.