



V. Mondaini, G. Secondo, R. Guttmani, G. Ferrea, A. Dusì, M. Giacomini, C. Pradiers

1 Infectious Disease Department, Nice University Hospital, France; 2 Infectious Disease Department, San Remo hospital, Italy; 3 Microbiology department, San Remo, Italy; 4 Department of Informatics, Bioengineering, Robotics and System Engineering (DIBRIS) University of Genoa, Italy; 5 Public Health department, Nice University Hospital, France



Background

Within Europe, the prevalence rate of ESBL-producing *enterobacteriaceae* (ESBL-E) in the Mediterranean region, estimated at 25% of *E. coli* strains in Italy, is raising particular concern. The ESBL toolkit, which was developed and implemented in Southeastern France to manage patients with ESBL-E, both in primary care and in the hospital setting, was shown to improve antimicrobial stewardship. In view of its effectiveness, the ESBL-E Toolkit was introduced in a region of Italy.

Method

The ASL1 health district in Liguria comprises 214,000 inhabitants, 3 hospitals - San Remo, Imperia, Bordighera - 4 retirement homes (RH), 31 nursing homes (NH) and 180 general practitioners (GP).

Training included recruitment of an infectious diseases (ID) specialist in San Remo hospital, followed by two plenary presentation sessions, a meeting in each hospital, distribution of the translated and adapted **ESBL Kit** on a memory stick to each physician. A weekly meeting between the ID referee and the RH and NH physicians was organized. These meetings were held over the entire project period.

ASL1 IMPERIESE

PRECAUZIONI RACCOMANDATE

Nelle case di cura

Un logo appeso sulla porta della camera e sulla cartella del paziente, permette di segnalare a tutti le precauzioni da prendere.

QUALI SONO LE MODALITÀ DI TRASMISSIONE?

Atterraggio le mani

Atterraggio il materiale e l'ambiente (contornio o presenza di portatori di batteri MDR)

Atterraggio le goccioline di saliva (es. tosse)

Certi pazienti possono essere portatori di geni MDR senza presentare segni di infezione (portatori sani)

MISURE ESSENZIALI PER IL PAZIENTE E PER I VISITATORI

Misure complementari

PER IL PAZIENTE

Procedere alla pulizia e al cambio dei vestiti quotidiani; utilizzare il WC avendo prima lavato le mani e fatto il bagno; non usare il bagno di notte; non usare il WC. Limitare il numero di visite dentro la camera.

A seconda delle situazioni, altre precauzioni possono essere richieste (indossare abiti, mascherine...)

PER IL VISITATORE

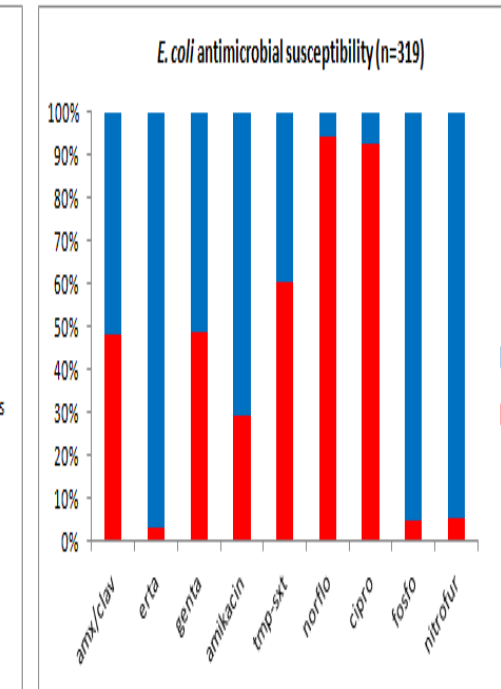
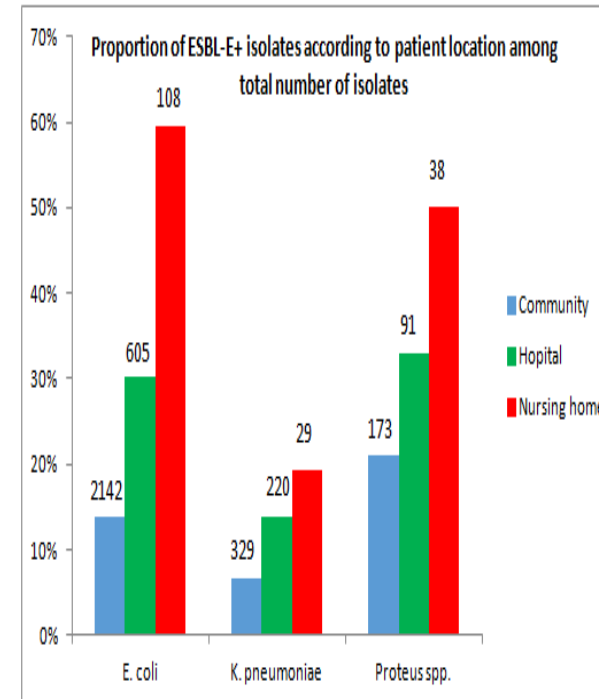
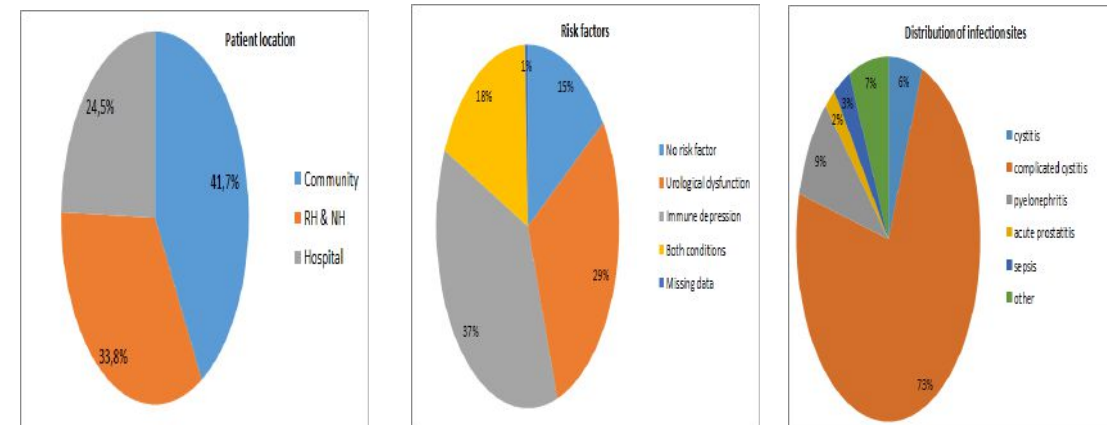
Non sedersi sul suo letto; non usare il suo WC. Limitare il numero di visite dentro la camera.

Identification of an ESBL-E by the hospital lab → ID referee informed by phone or text message → The referee contacts the physician in charge of the patient and offers advice.

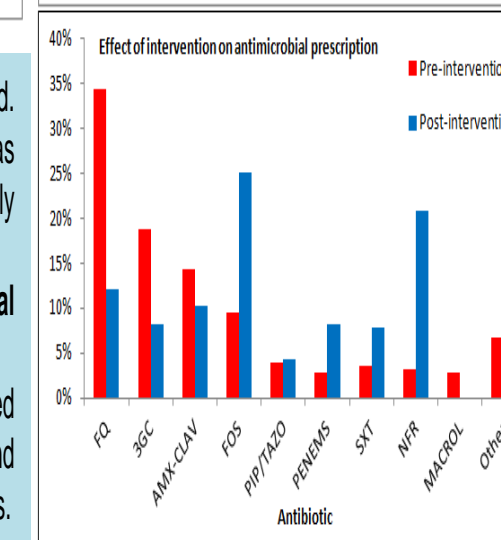
The project was organised with the Nice hospital physicians during 52 video conferences. Patient data were collected by the medical information team at Genoa hospital from November 2013 to November 2014.

Results

We included 496 patients over 12 months. Real-time advice was provided in 364 cases. Median age was 80 years (range 1-101; IQR: 72 – 85), 62% were female. The proportion of infected patients was 61%, **the remaining 39% were considered to be colonized.**



Prior to the project, all cases of urinary colonization were treated. Indication for antibiotic treatment during the past 3 months was unknown, but fluoroquinolones and 3GC were frequently prescribed, with very little use of nitrofurantoin. **The intervention resulted in avoiding 142 antimicrobial prescriptions** for those patients who were colonized. Treatment of infected patients was systematically adapted according to microbiology results. Aminoglycosides and nitrofurantoin were introduced, with minimal use of carbapenems.



Discussion - Conclusion

Positive aspects:
Good cooperation among staff: hospital physicians, GPs, nurses
Antibiotics spared in case of colonisation, i.e. 39% of patients.
Organisation of a care pathway with consultation and/or hospital admission for complex or severe cases.

Barriers:
Communication to be improved: microbiology lab to warn the ID specialist followed by direct contact with the GP.
Substantial inappropriate antibiotic use persists, feedback and sustainability of the project are difficult to organise. No accurate assessment of hygiene measures and patient information.

Conclusion:
Training and constant availability of advice on prudent antibiotic use is necessary both in community and institutional settings. The **ESBL KIT** was very well received and resulted in quantitative and qualitative improvement in prescription. It can prove very useful in a social and medical environment where few recommendations are available.