

# SELECTIVE DIGESTIVE DECONTAMINATION IN CRITICALLY ILL PATIENTS

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## Background and Importance

Pharmacy-Department



**Selective digestive decontamination (SDD) aims to reduce hospital acquired infections in critically ill patients (CIP)**

- Topical administration of non absorbable antimicrobials in oropharynx and stomach
- 4 days course of intravenous antibiotic

A multidisciplinary meeting is conducted weekly to decide the appropriate SDD for each CIP

## Aim and Objectives

To analyze the frequency of multidrug resistant bacteria (MDRB) colonization/infection in CIP with SDD and the SDD effectiveness of MDRB decolonization

## Materials and Methods

- Prospective, observational and descriptive study
- All adult patients admitted to ICU who received SDD were included
- December-23 to July-24

*Qualitative-variables were analyzed by  $\chi^2$ -test.*

**MDRB studied:**

- Methicillin-resistant Staphylococcus aureus (MRSA)
- Vancomycin-resistant Enterococci (VRE)
- Extended-spectrum beta-lactamases Enterobacteriaceae (ESBLE)
- Carbapenemase-producing Enterobacteriaceae (CPE)
- Multidrug-resistant Pseudomonas aeruginosa (MDRPA) (resistant  $\geq$  three antibiotic families)

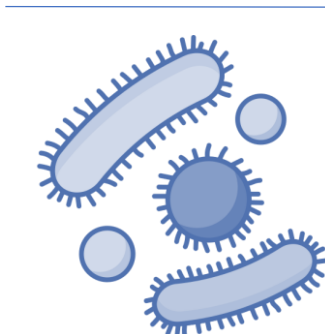
**Risk factors of colonization (RFC):**

- Previous MDRB colonization/infection
- Transfer from social-health center
- Previous hospital admission in last year
- $\geq$  48hours in hospital ward prior to ICU admission
- Beta-lactams and/or quinolones in last 90 days
- Chronic dialysis
- Chronic skin ulcers
- Permanent vesical catheterization

## Results



219 CIP. Median age was 71 [IQR:59-78] years  
RFC: 47.95%. Median ICU-days was 9 [IQR:4-21]

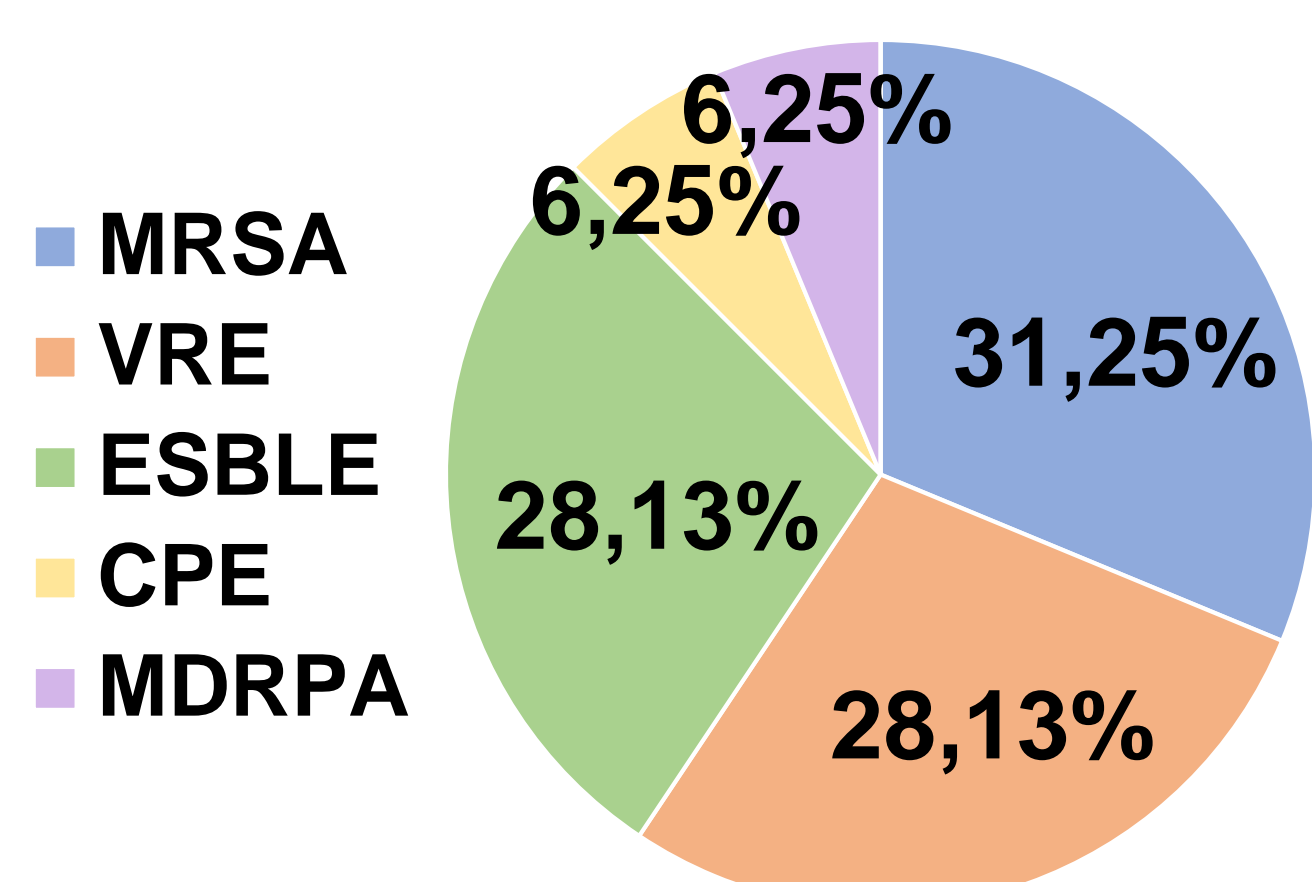


MDRB:13.70% patients  
6.14% of non-RFC group // 21.90% of RFC group.

### Presence of RFC:

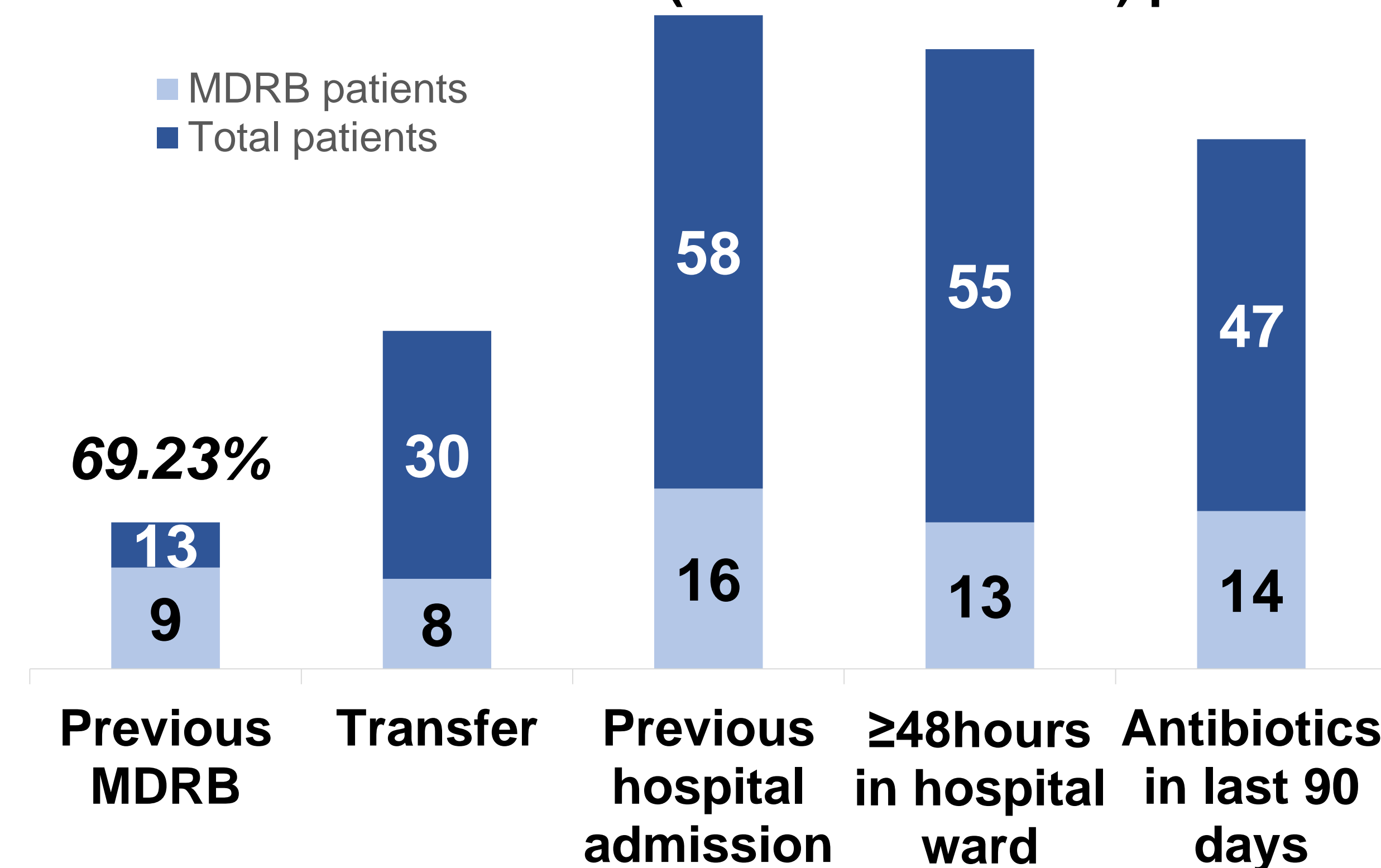
- Any RFC increased colonization risk by 3.57 times RR 3.57 (95%CI 1.63-7.8) p=0.001
- Previous MDRB: RR 6.79 (95%CI 3.47-13.29) p<0.001

### MDRB colonizations:



### Decolonization success (53.33%)

MRSA	40%	CPE	100%
VRE	33.33%	MDRPA	50%
ESBLE	66.67%		



### Time to decolonize:

VRE >> CPE > ESBLE > MRSA

Median days [IQR]  $\rightarrow$  [10.5-15.5] [6.7-10.2] [5.2-8.2] [5-9.5]

### Acquired infections:

50% MRSA, 25% VRE and 25% MDRPA

## Conclusion and Relevance

- ✓ Recognition the RFC  $\rightarrow$  identify patients who benefit from the implementation of SDD targeted at MDRB
- ✓ Some MDRB are not successfully decolonized  $\rightarrow$  Need for more days of SDD exposure  $\rightarrow$  Inadequate antimicrobial combination.

