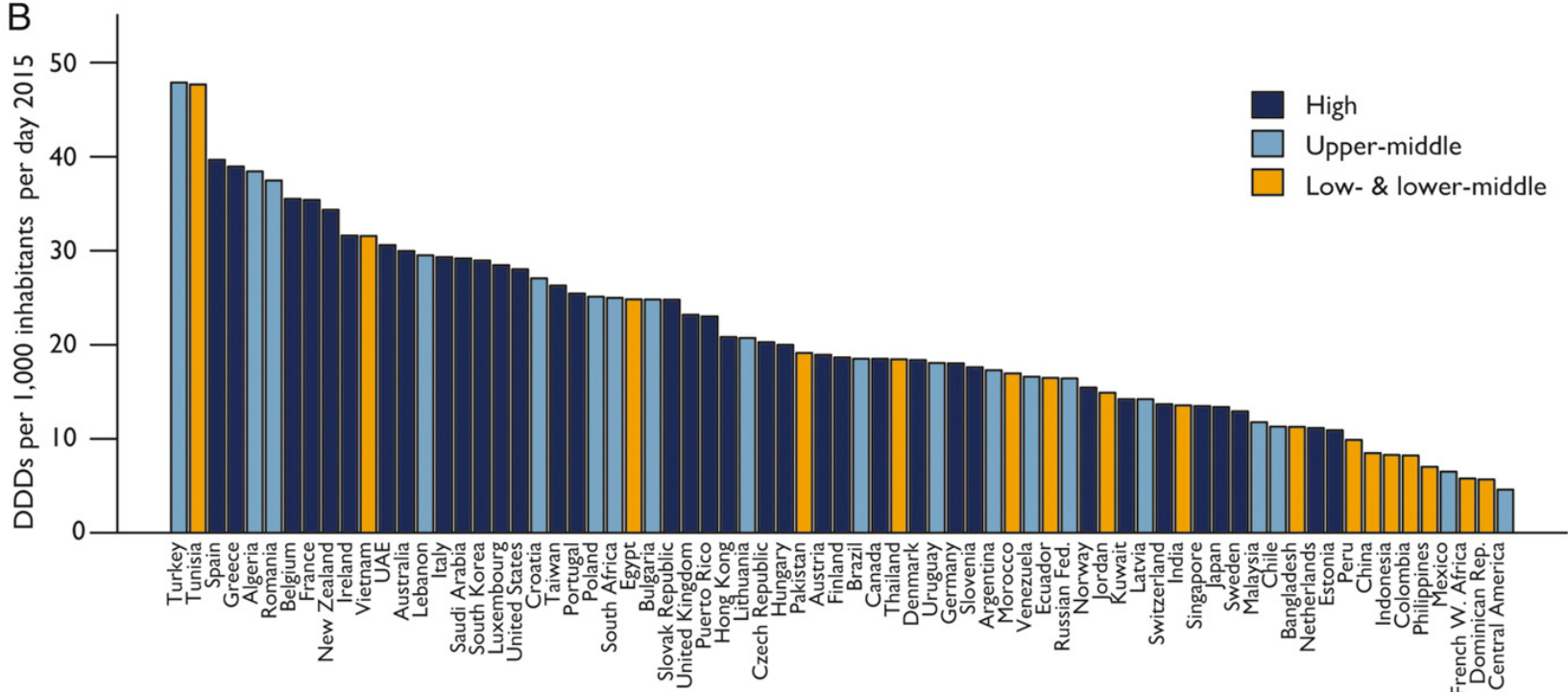
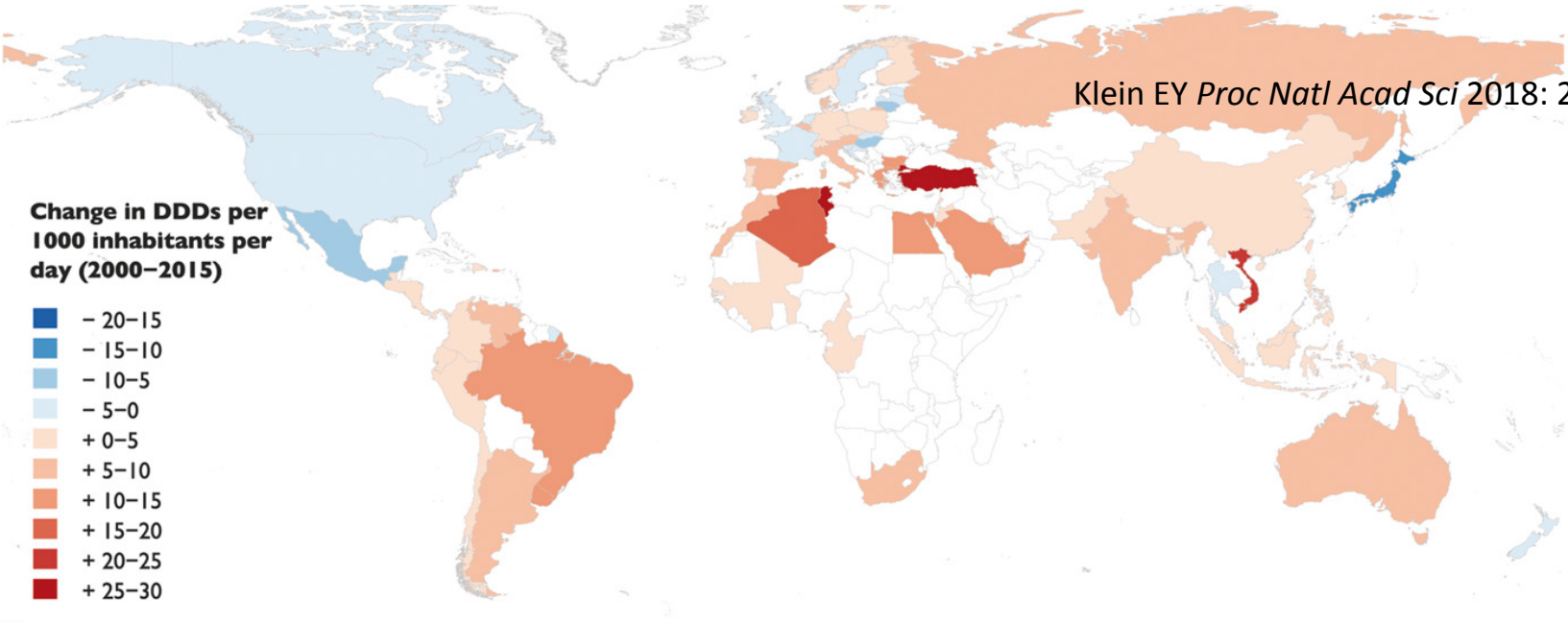
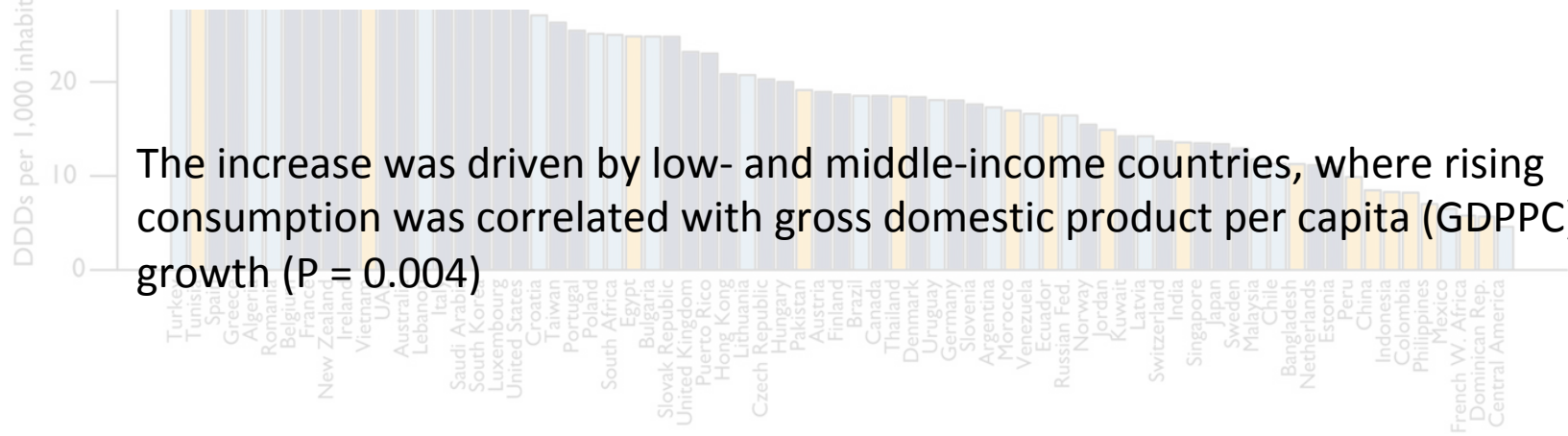
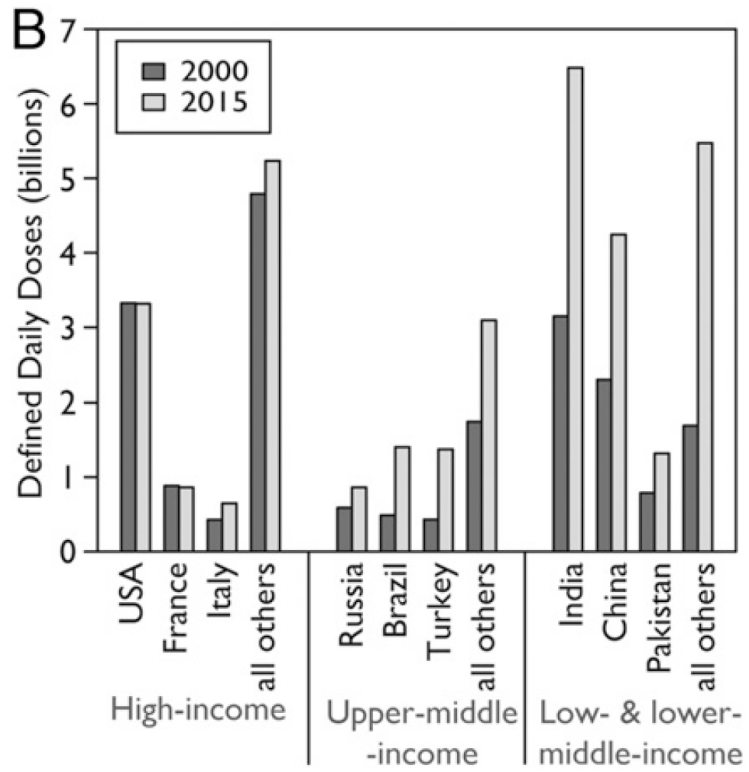
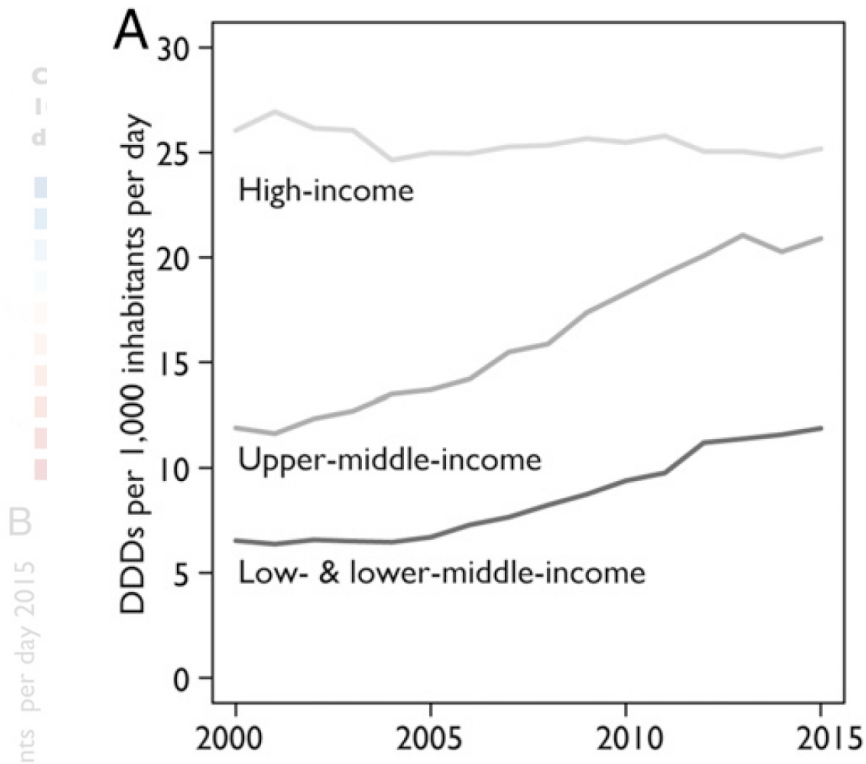


# **Views on efficient and cost-effective IPC measures to address AMR in healthcare facilities**

Walter Zingg, PD, MD





The increase was driven by low- and middle-income countries, where rising consumption was correlated with gross domestic product per capita (GDPPC) growth ( $P = 0.004$ )

Only treat bacterial infections

Do not treat colonization/contamination

Re-evaluate prescription after 48 h

Stop treatment when not necessary

Choose initial treatment well

Change for oral treatment when possible

**Say no to  
antibiotics**

**Use antibiotics  
wisely**

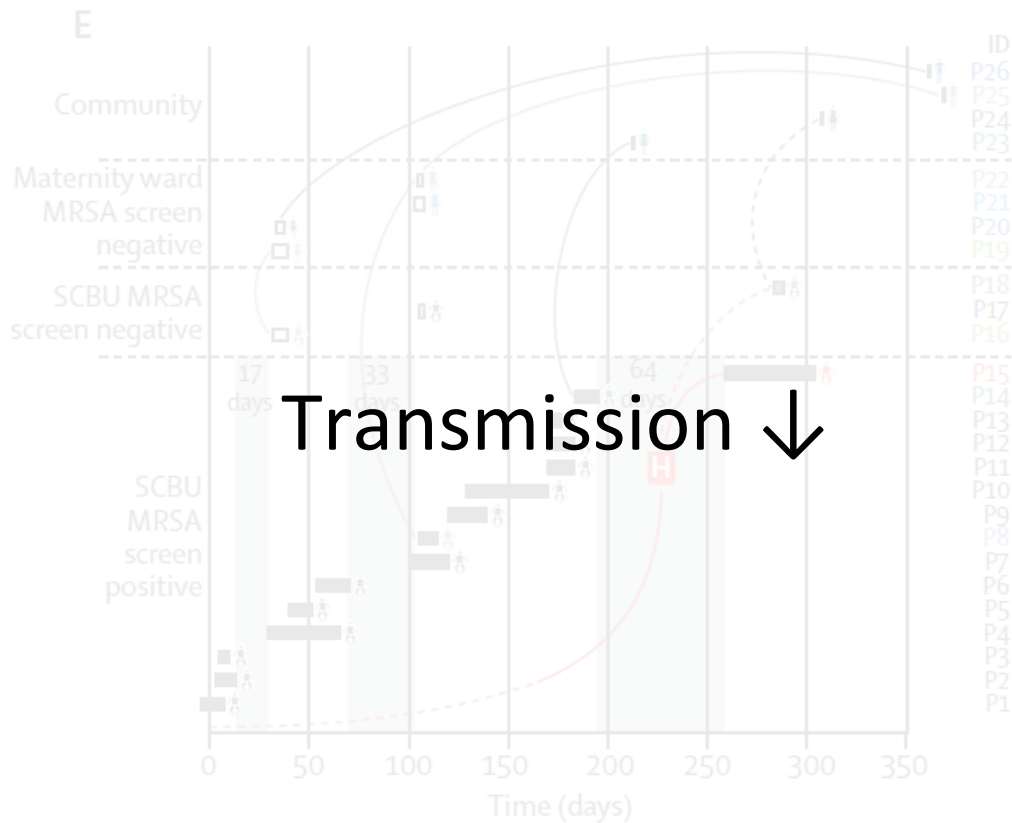
Limit invasive devices

Respect infection control measures

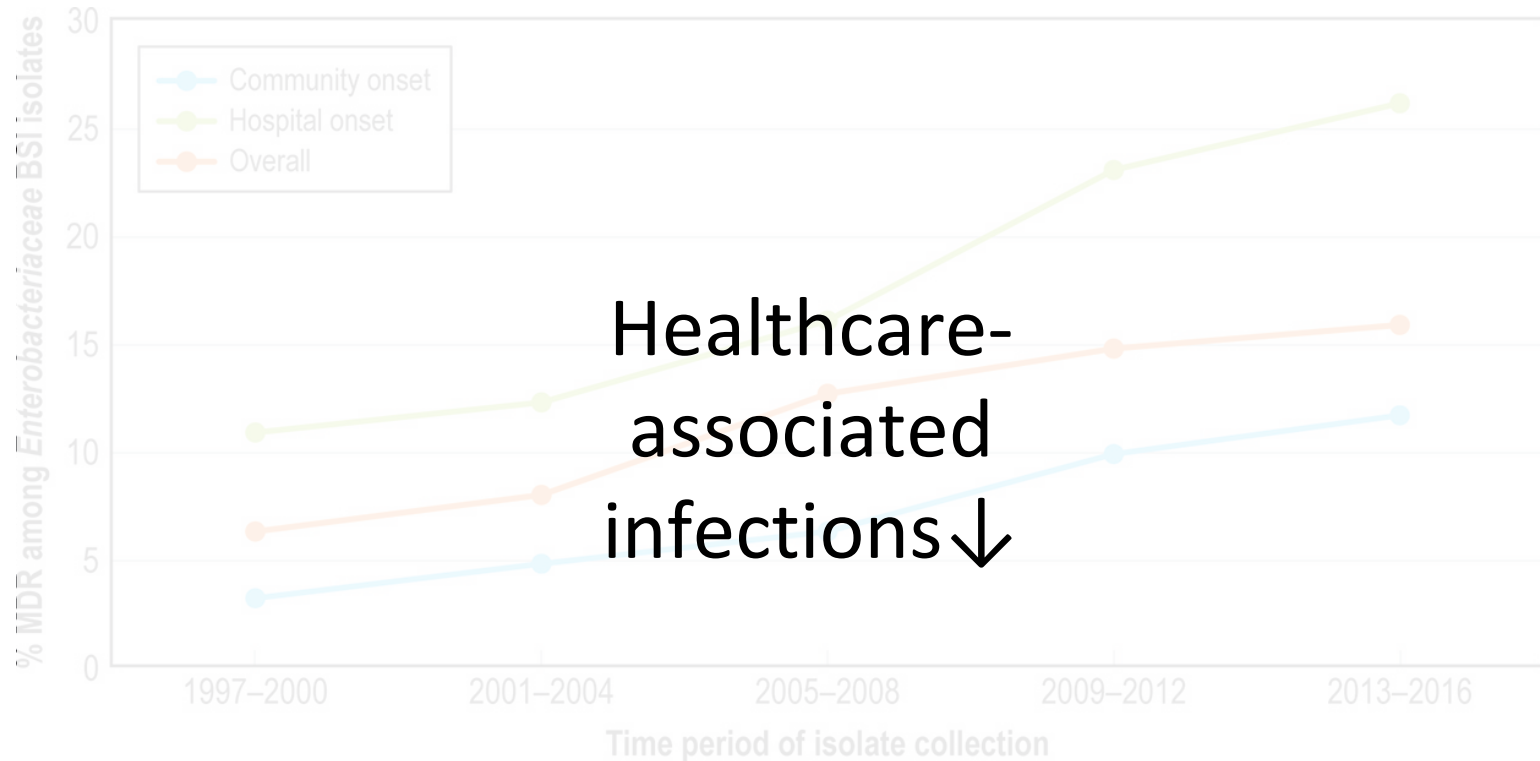
Vaccination

**Prevent healthcare  
associated infections**

# How do infection control measures prevent AMR?



# How do infection control measures prevent AMR?



# Transmission

...hand hygiene

...glove use

...work load

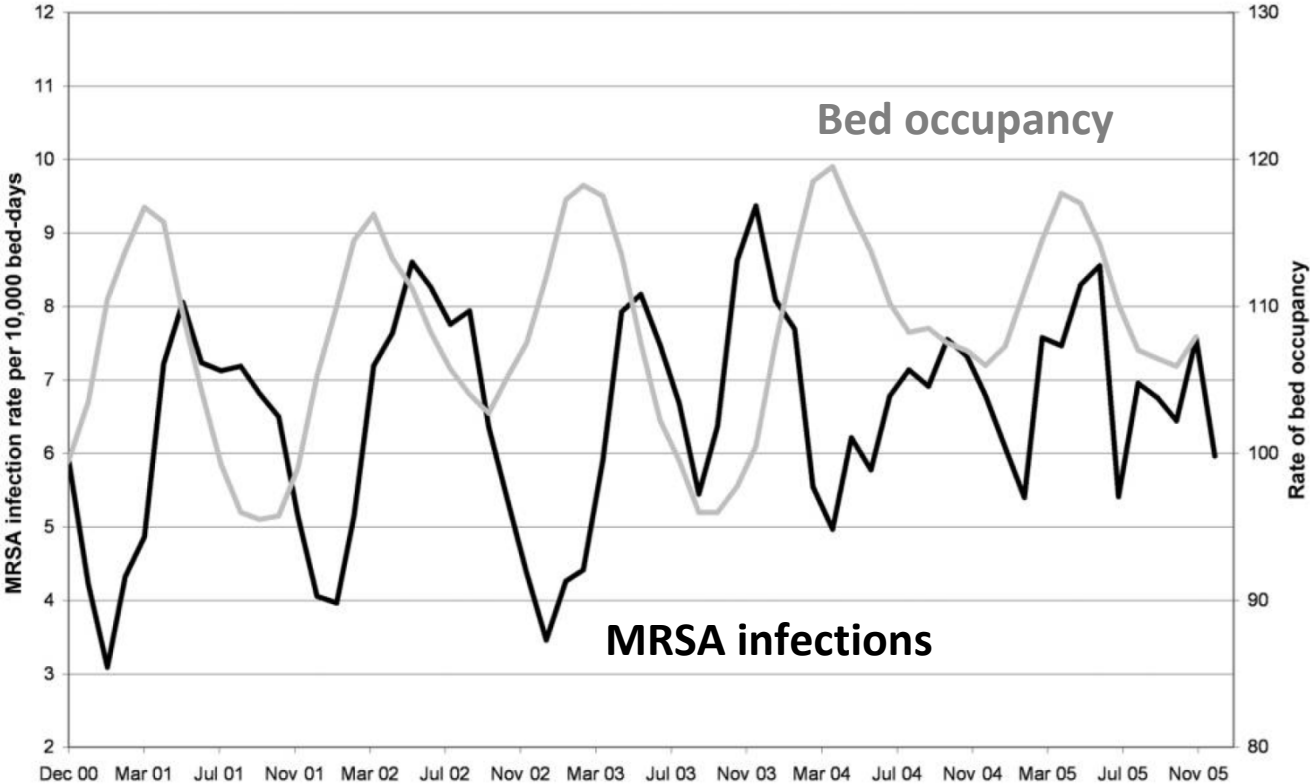
Infections with MRSA occurred during periods when nurses were, on average, overloaded by more than 25% in a surgical ICU in Slovenia

	Daily TISS score				Total
	≤ 150	151-200	201-250	>250	
Patient days, N	317	332	248	199	1096
MRSA transmissions, N	0	4	13	30	47
Nursing care days, N	1311	1980	1804	1783	6876
MRSA transmission per 100 nursing care days	0.000	0.202	0.721	1.682	0.683

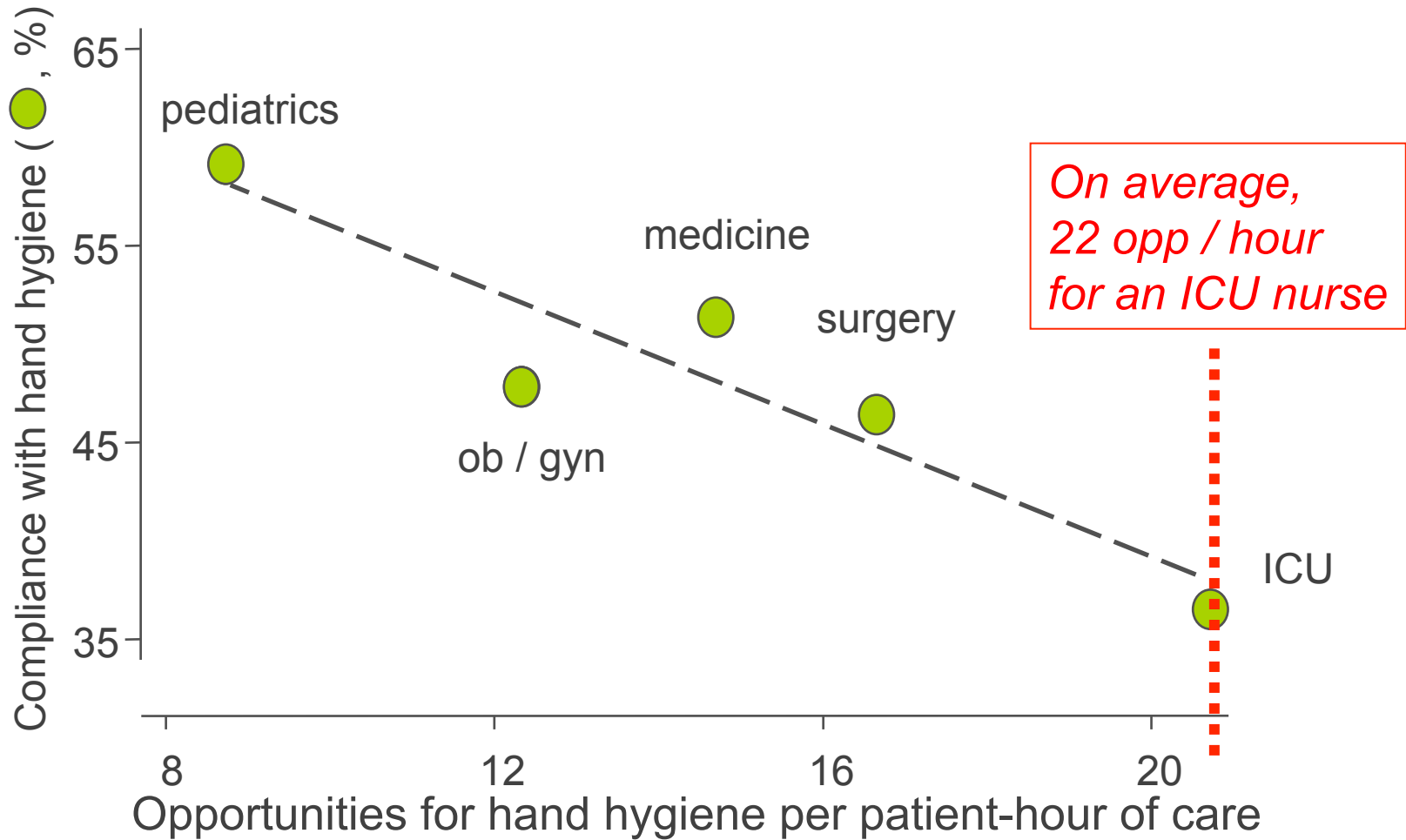
TISS: Therapeutic Intervention Scoring System



# Correlation of MRSA and bed occupancy in the medical wards of a University-affiliated hospital in Malta

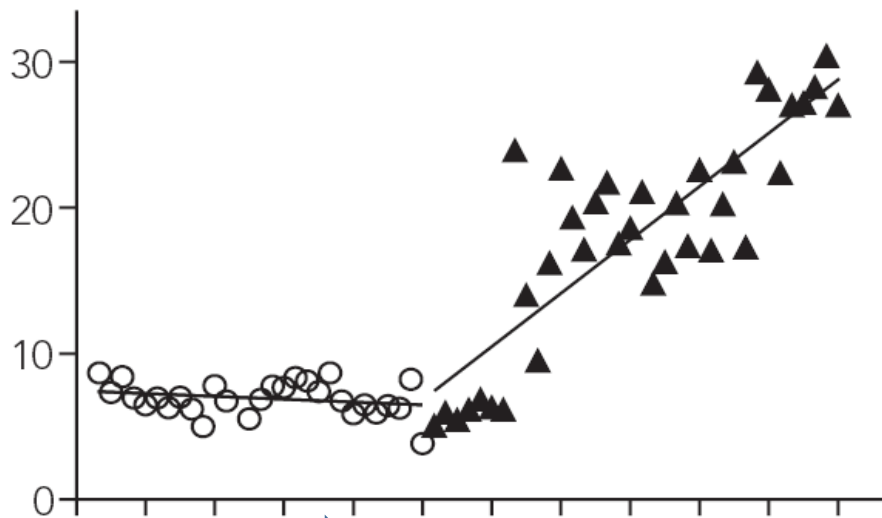


# Hand hygiene opportunities and compliance

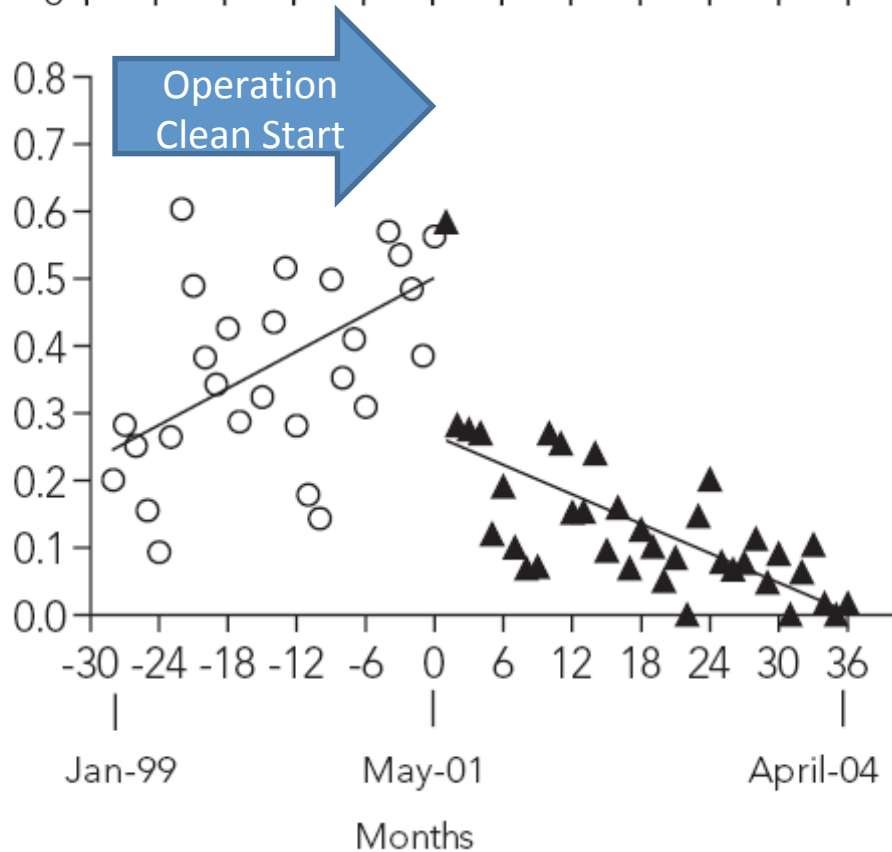


# Contamination of gloves during patient care

<b>MDR pathogens</b>	<b>Hands contaminated before room entry</b>	<b>Contaminated gloves</b>	<b>Hands after glove removal</b>
Meticillin-resistant <i>Staphylococcus aureus</i>	3.2%	11.2%	3.3%
Vancomycin-resistant Enterococci	0.6%	10.0%	1.7%
MDR <i>Pseudomonas aeruginosa</i>	3.4%	17.4%	3.5%
MDR <i>Acinetobacter baumannii</i>	5.1%	29.3%	4.2%

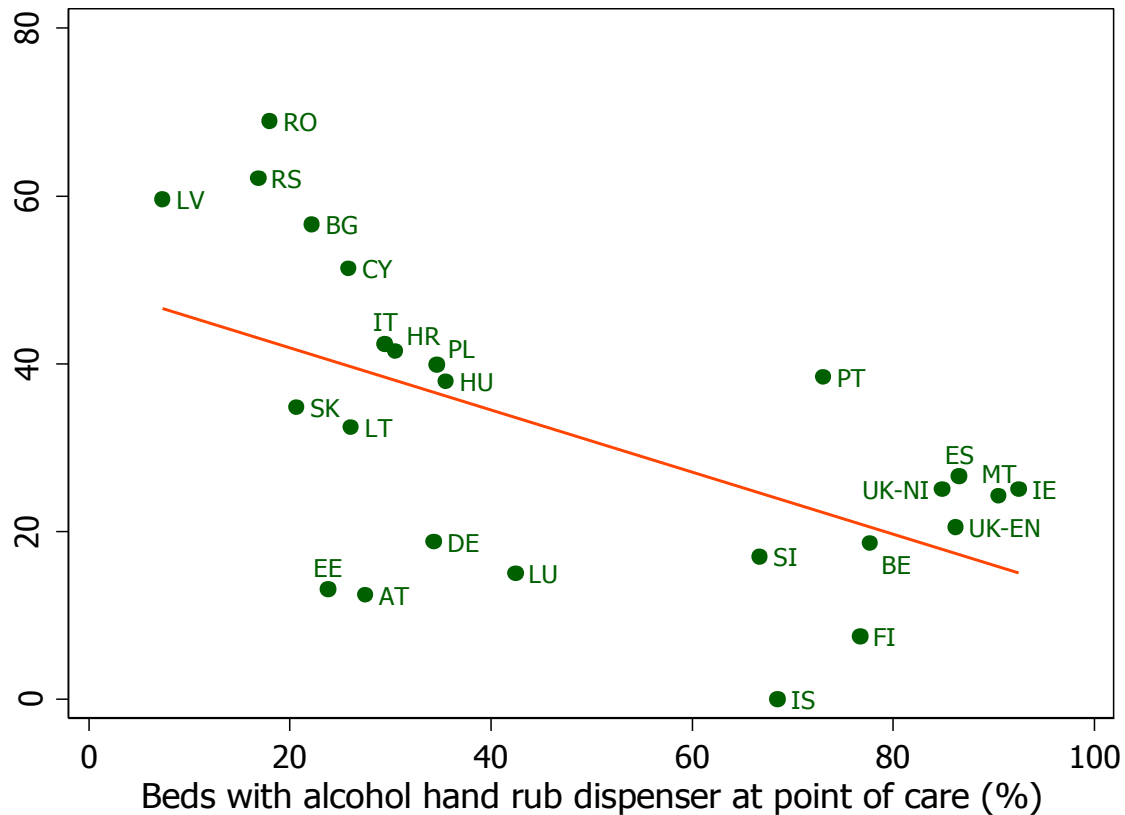


**ABHR consumption**  
(L/1000 bed-days)



**Clinical isolates of ESBL-producing *E. coli* and *Klebsiella* spp.**  
(N/100 discharges)

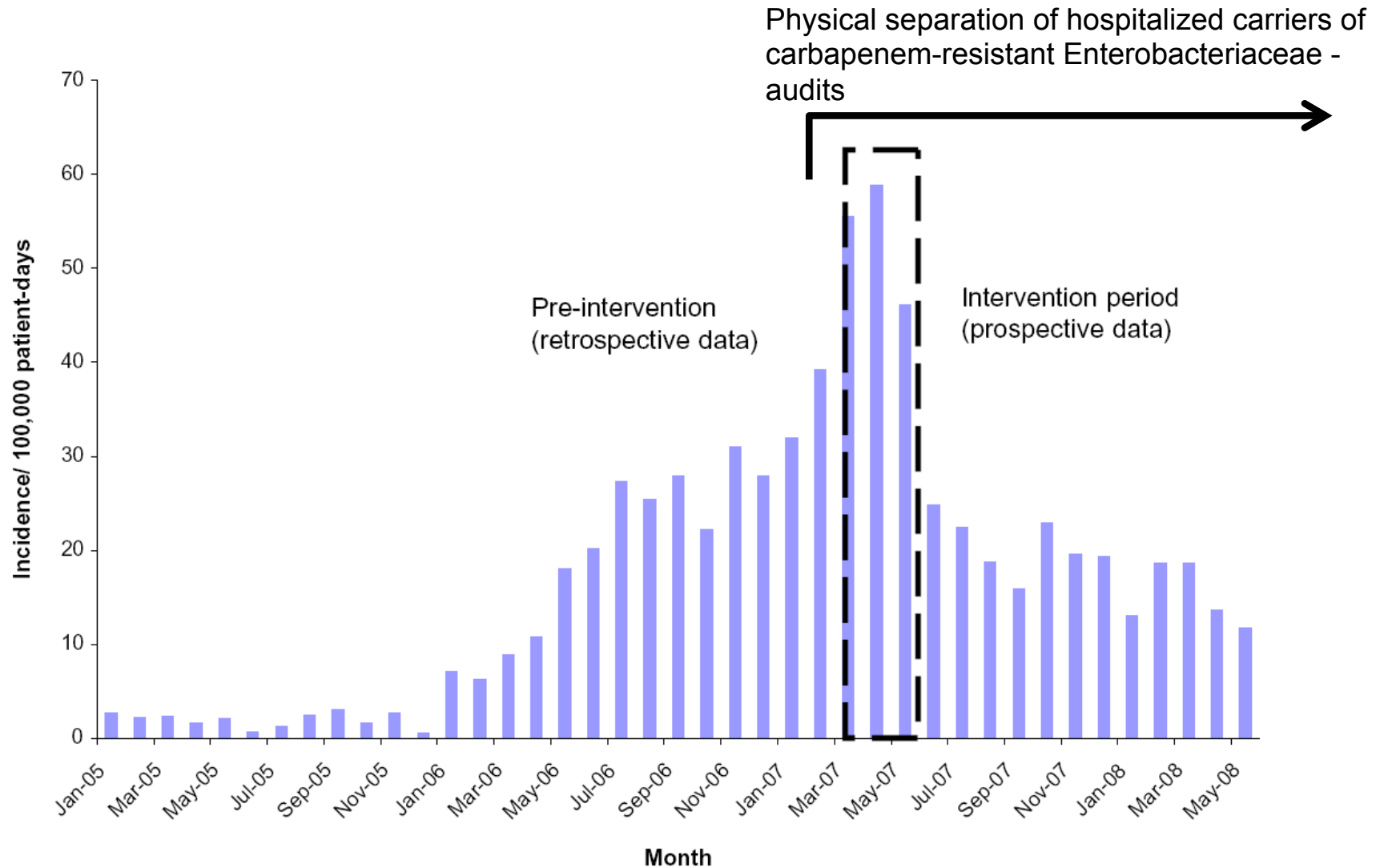
# Correlation between beds equipped with alcohol hand rub and the composite index of AMR, ECDC-PPS 2016-2017



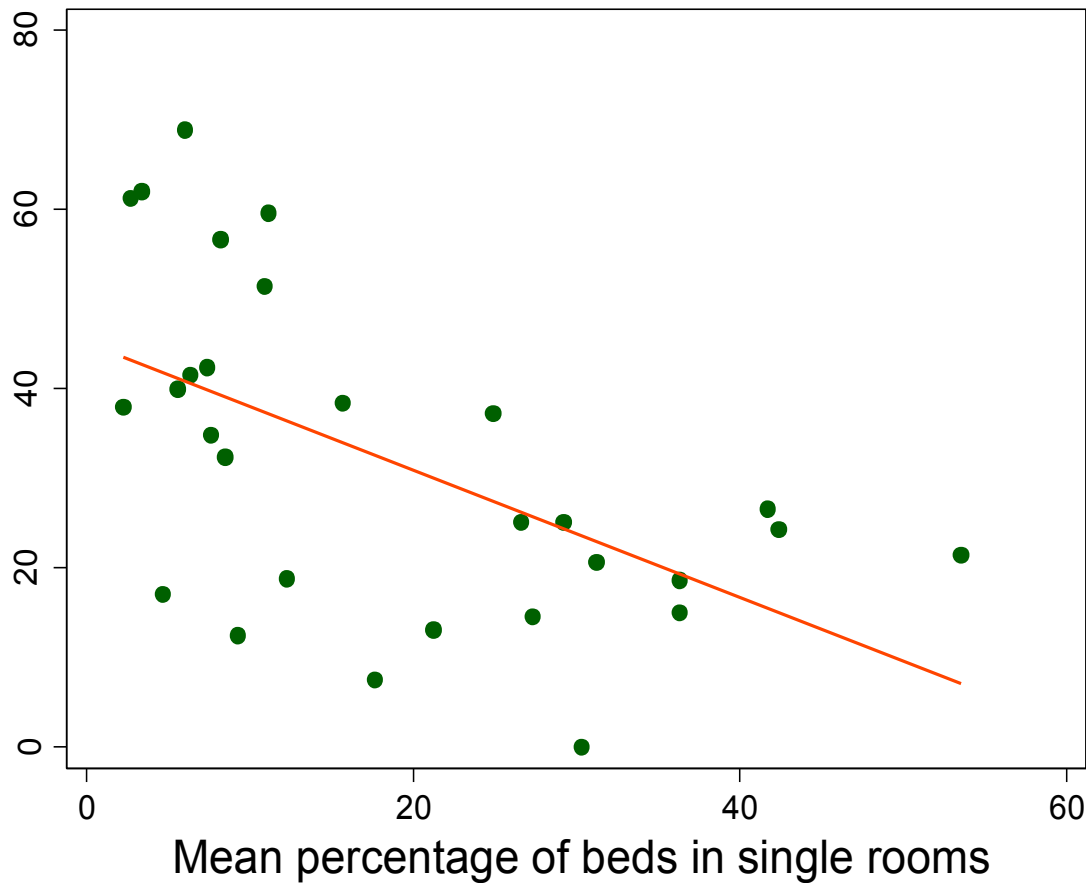
# Transmission

...isolation precaution measures

# Containment of a country-wide outbreak of carbapenem-resistant *Klebsiella pneumoniae* in Israel



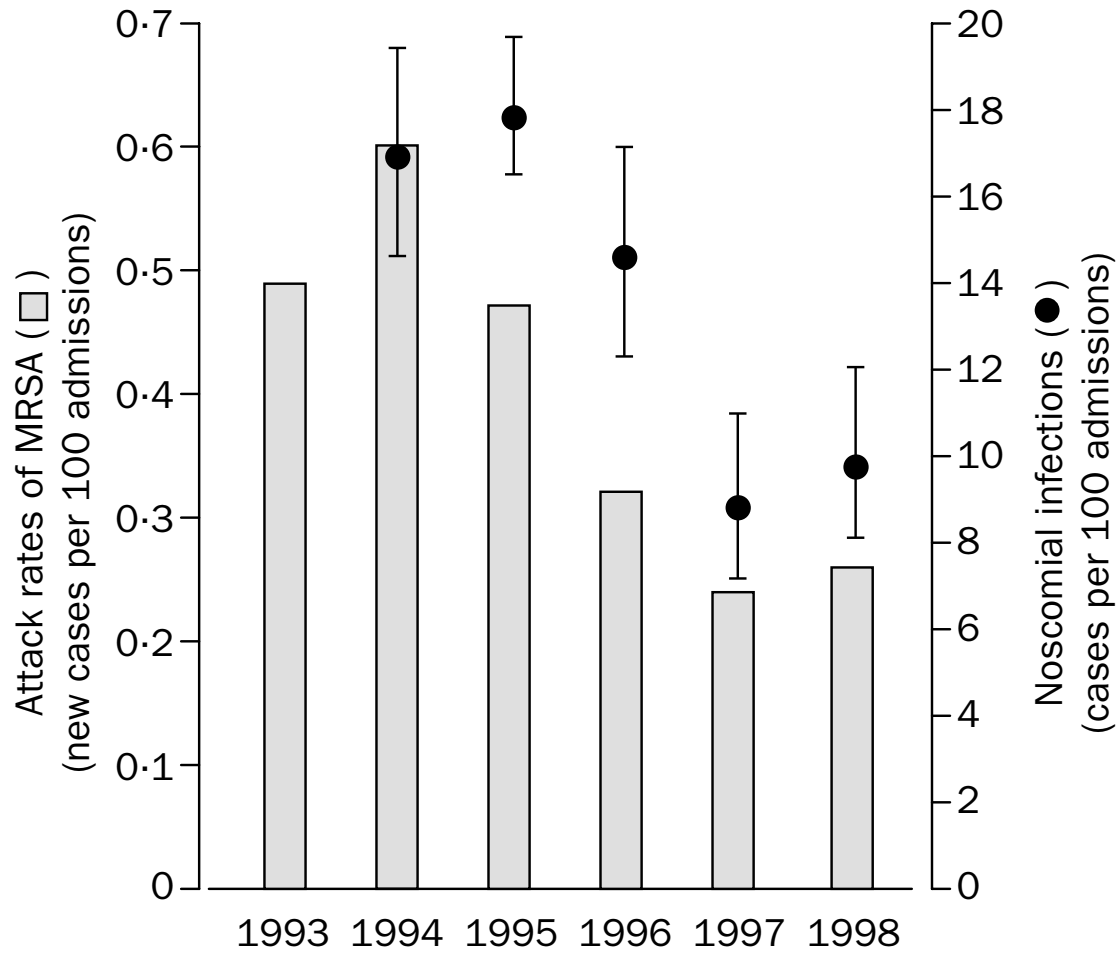
# Correlation between single room beds and the composite index of AMR, ECDC-PPS 2016-2017



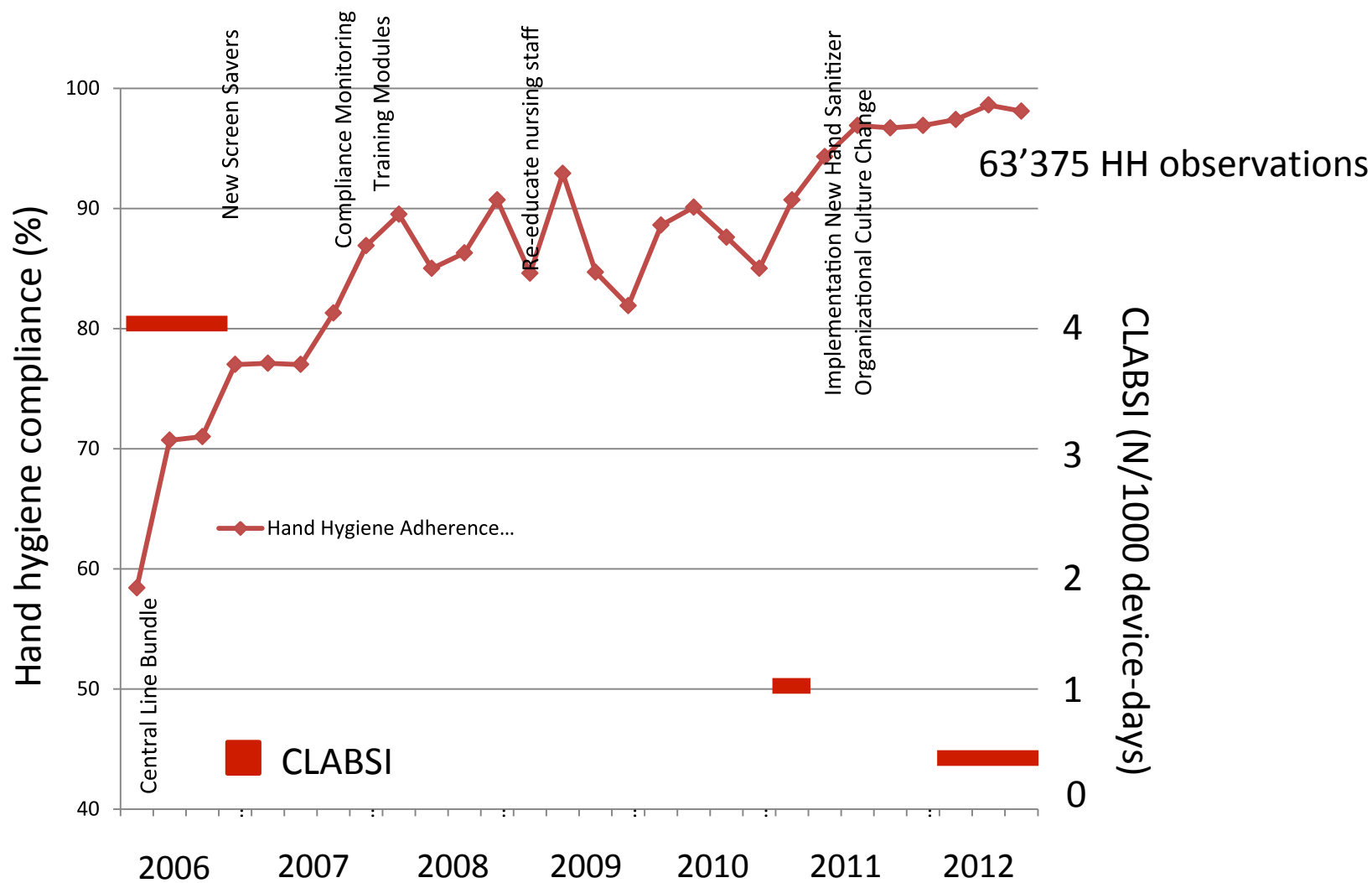


# Healthcare-associated infections

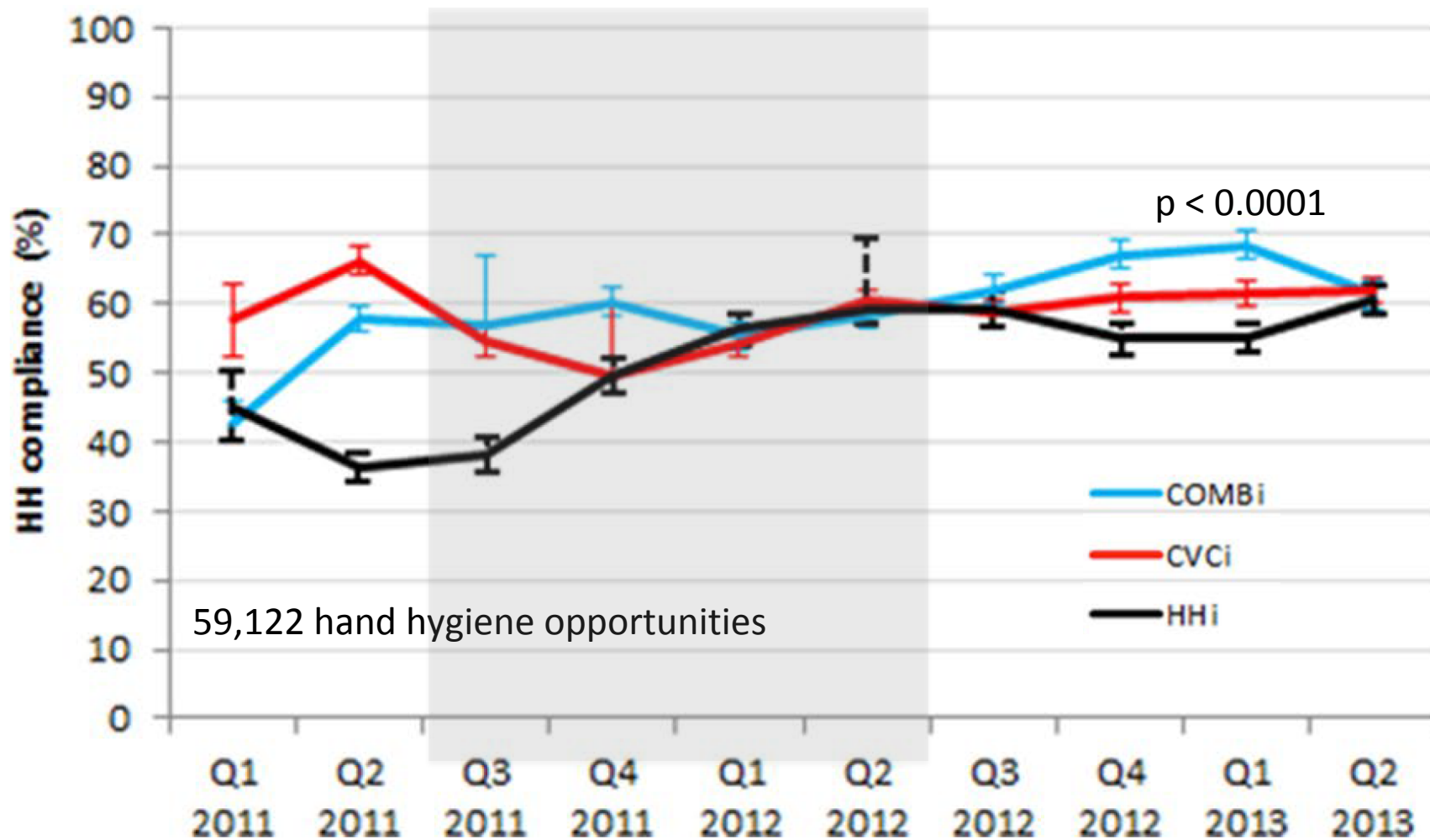
# Is hand hygiene effective?



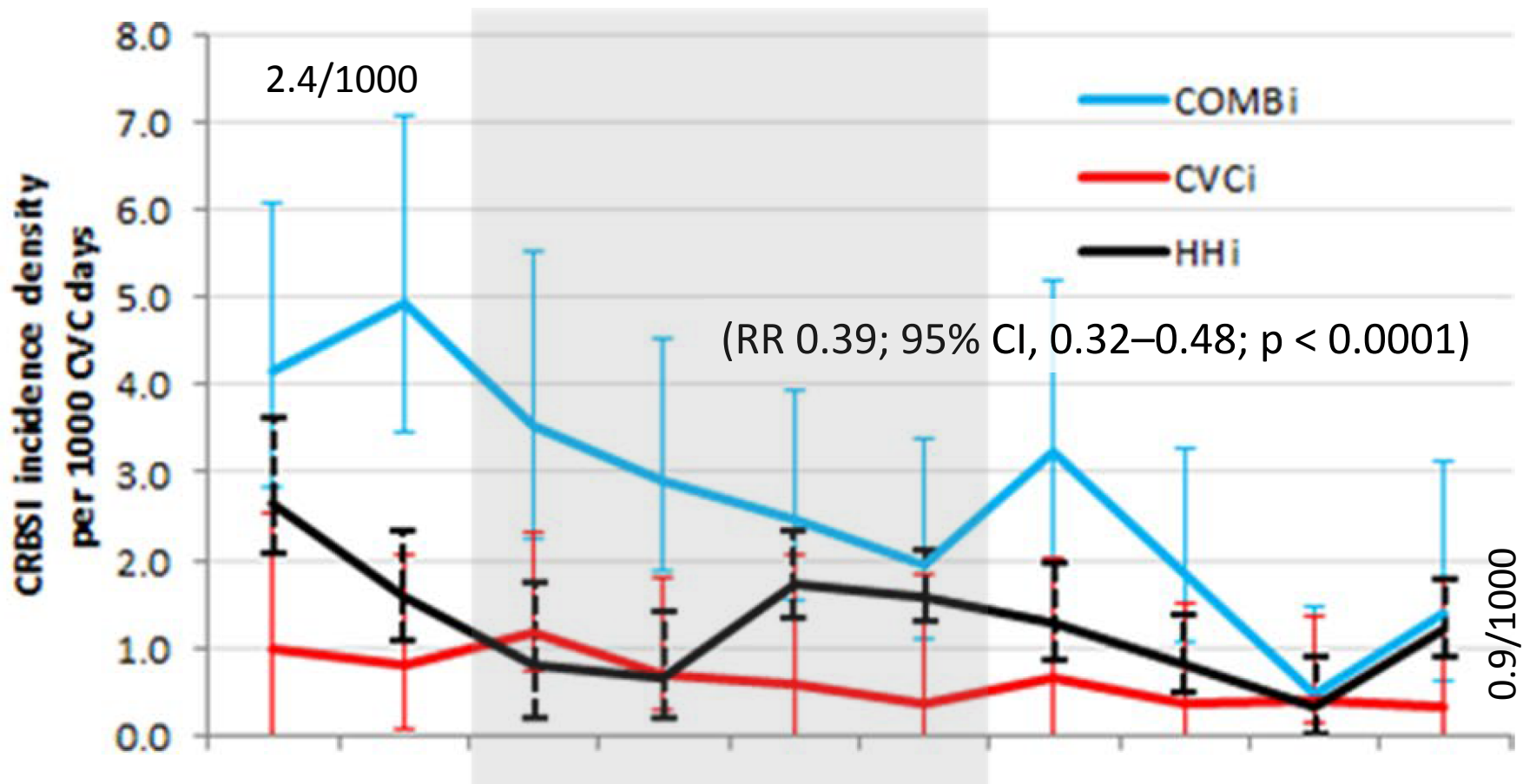
# A multifactorial action plan improves hand hygiene adherence



# PROHIBIT CLABSI prevention study



# PROHIBIT CLABSI prevention study



Trend already during baseline [HRsub 0.93; (0.84–1.02) per quarter]

Cost

# Hand hygiene Australia



*“The budget was about AUD\$3.20 per hospital admission - ie about two-thirds the price of a Big Mac”*

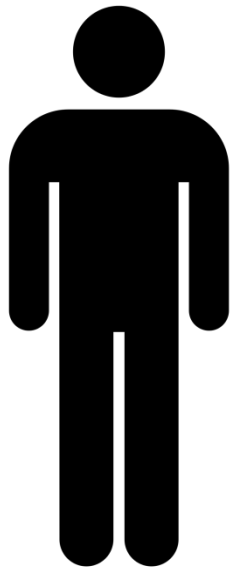
The most effective for AMR prevention are  
“standard precaution measures”

...which are the minimum of  
best practice procedures

...and are not to be challenged  
in cost-effectiveness  
discussions



Behaviour change interventions do not need much technology...



...but social investment  
(and an IPC team!)

Views on efficient and cost-effective IPC measures to address AMR in healthcare facilities

**Thank you for your attention**

Walter Zingg, PD, MD