

# Improving antimicrobial stewardship through prescriber participation

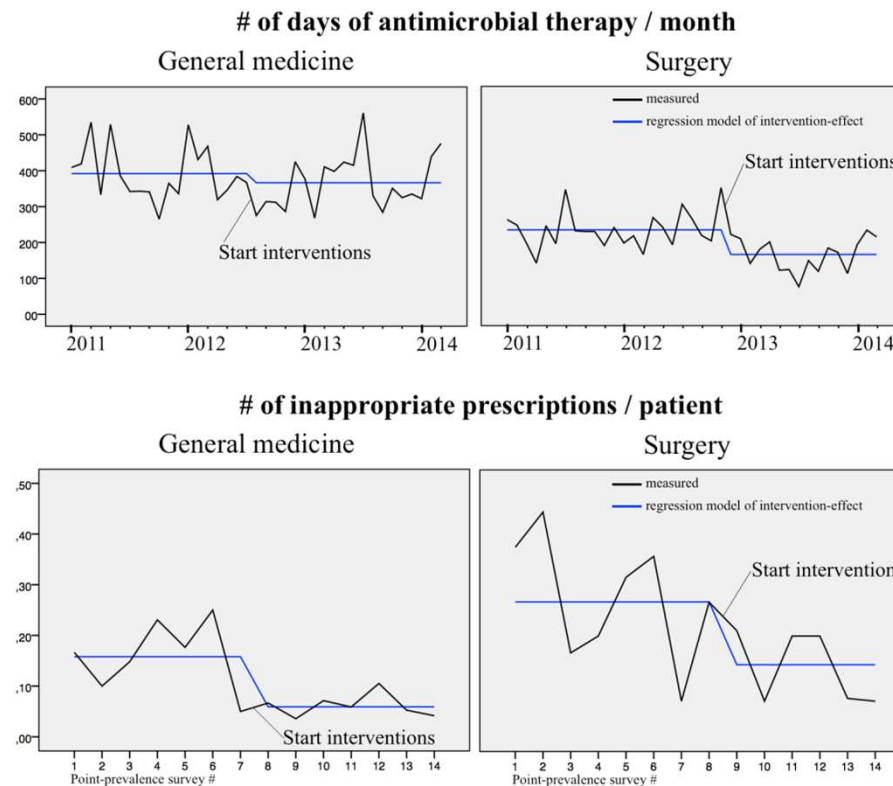
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## Background

- Many antimicrobial stewardship programs fail to consider behavioral, cultural and organizational factors in their approach. This may lead to suboptimal interventions, especially on the long term.
- The Dutch Unique Method for Antimicrobial Stewardship (DUMAS) project represents a new approach by using participatory action research (PAR).

## Methods

- Interrupted time series intervention study evaluating the effect of tailor made intervention bundles on antimicrobial prescribing
- Multi-center mixed methods participatory design:
  1. Root cause analysis of inappropriate prescribing (incl. interviews with prescribers)
  2. Development of ward-specific intervention bundle in collaboration with local antibiotic team (consisting of ward physicians & nurses)
- Multilevel GEE Poisson – analysis of antibiotic consumption derived from electronic prescribing records & antimicrobial appropriateness measured by point prevalence surveys



## Results

*Root causes:* guidelines unknown & not user-friendly, experts set bad example, lack of negative experiences with resistance, fear for surgical site infections.

*Interventions:* user-made guidelines, activating experts, participatory resident education, local antibiotic teams, guideline PR campaigns

*Intervention effect:*

Inappropriate prescribing: 35% ► 20% (OR 0.57, p=0.02)

Days of antimicrobial therapy / month: 305 ► 277 (OR 0.86, p=0.03)

## What is already known about this subject?

- Stewardship programs effectiveness may be suboptimal due to lack of systematic consideration of behavioral, cultural and organizational factors

## What this study adds

- A participatory approach entailing the above factors reveals important root causes & significantly reduces both antimicrobial prescribing and inappropriateness on two Dutch academic wards for at least 18 months

## Conclusion

The participatory approach leads to better understanding of antimicrobial prescribing, better collaboration with the work floor and significant long-term effects