

## **Abstract**

**Background:** Even though awareness for the topic is increasing and the amount prescribed is decreasing in Germany, evidence suggests that there is still considerable potential for improvement concerning antibiotic prescribing. As previous research showed, outreach visits can significantly affect prescription rates. Since there is a variation in reported effectiveness in literature, it appears the way they are performed plays a crucial role in how effectively behaviour change is induced.

**Objectives:** This study is one part of a comprehensive process evaluation within the CHANGE-3-trial and focused primarily on examining intervention reach and fidelity of the intervention component outreach visit and secondly on identifying barriers and enablers of successful implementation. Thirdly, the working mechanisms of the outreach visits were analysed and discussed.

**Methods:** A mixed methods approach was pursued using problem-centred semi-structured interviews for data collection and quantitative data from questionnaires. Participants were recruited following a purposive sampling strategy. Data were coded and analysed referring to the theoretical domains framework (TDF) and the consolidated framework for implementation research (CFIR), utilizing the software MAXQDA.

**Results:** A total of eight interviews was conducted, including one with an expert, three with general practitioners and four with visitors. Concerning intervention reach and fidelity, different estimations were given by the study participants, suggesting a variance in the way the intervention was delivered. Several barriers and enablers to implementation were identified. Possible working mechanisms of how the intervention may have affected the participants' attitudes towards changing their prescribing behaviour were elaborated.

**Discussion:** Several factors accounting for the differing degree of implementation were found. The findings of this study are in line with preceding studies with a similar research focus. Nevertheless, there are considerable limitations to this study which restrict its external validity, some of which are inherent to the chosen methodological approach. Due to a lack of resources the results could not be validated extensively.

**Conclusion:** More research on the topic making use of qualitative and quantitative data as well as better systematisation and documentation of tailoring mechanisms to explain varying extents of implementation and their impact on working mechanisms is needed.

**Keywords:** Outreach visits, practice visits, educational outreach, academic detailing, antibiotic prescribing, process evaluation, framework analysis, qualitative methods, mixed methods, Cluster-randomized controlled trial, implementation, complex multifaceted interventions, fidelity and reach, barriers and enablers, working mechanisms, behaviour change