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### **Antibiotic prescription in Danish general practice: determinants of variation in the use of microbiological diagnostics and prescribing patterns**

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**Background & Aim:** The overall aim of the project is to describe antibiotic consumption in Danish general practice with emphasis on specific types of antibiotics. The project will shed light on the impact of microbiological diagnostic methods (MDM) on the choice of antibiotic and the project will explore how the GPs prescription behaviour is influenced by selected factors. Antibiotics are essential when treating potentially lethal infections. An increasing development of resistant bacteria is considered one of the primary threats to public health. The majority of antibiotics (90%) are prescribed from general practice. The prescription of broad-spectrum antibiotics can cause unnecessary side effects for the individual and increases the risk of development of bacteria resistant to antibiotic treatment. Both the prescription of broad-spectrum antibiotics and the level of resistant bacteria are increasing.

**Method:** The study consists of a registry study and a questionnaire study. The registry study is based on data from the Register of Medicinal Product Statistics (prescribed antibiotics), Statistics Denmark (socio-demographic data) and the Danish Microbiology Database (performed MDM). The project will assess and quantify the usage of MDM prior to antibiotic prescription. Furthermore we will investigate associations between GP characteristics, use of MDM and description patterns. A questionnaire comprising a discrete choice experiment will allow us to investigate the relative importance of selected factors (microbiological diagnostics, point-of-care tests, patients' expectations) in the management of infectious diseases.

**Results:** This PhD project is scheduled to be carried out in 2016-2019. The hypotheses and anticipated perspectives will be discussed at the conference.

**Conclusions:** The project will contribute to existing knowledge with information on the diagnostic approaches to infections in general practice. The results will create a base for targeted interventions aiming to optimize diagnostic approaches to infectious diseases benefitting the individual patient and society as a whole.