

# Development and evaluation of an algorithm in Medication Management for best practice. Effectiveness of the intervention and translation into standard care for nursing home residents-AMBER-Study, phase I

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**Background** Residents of nursing home facilities are vulnerable to drug-related problems and inappropriate medication. Although Medication Review is a proven tool to optimise medicine use and to reduce drug-related problems it rarely is implemented into standard care.

**Purpose** The aim of phase I of the AMBER-study is to determine frequent and relevant aspects in the medication process in nursing homes. To consider the special conditions of the setting and to ensure a high feasibility, interviews with physicians, nurses, pharmacists and patients were performed. Results serve to develop an algorithm in phase II and III of the study, which aims to guide pharmacists in performing a Medication Review.

**Method** Based on a mixed-method approach, problem-centred, written interviews with health-care practitioners and patients were conducted. Open questions and 51 specific aspects on therapy and DRP were assessed, covering general challenges, patient goals, communication barriers, medical goals and pharmaceutical aspects. Parameters rated by more than 50 % of the participants with an average score of 3 or higher on a scale from 1-5 (with 1 as being infrequent or irrelevant to 5 being frequent and relevant) were chosen as meaningful. In a second step, top five scores per profession were utilised and will be regarded for the algorithm.

**Findings** Qualitative research revealed communication problems as the major barrier in the medication process. Lack of information, missing knowledge about side effects and handling of drugs were further aspects, frequently mentioned by all health-care providers. Preliminary results of quantitative research show a high variability between the professions. Pain management, communication with the hospital, blood pressure control, blood sugar control and lack of feedback on the effects of the medication were rated as the most frequent and relevant aspects by pharmacists. Cognitive impairment, missing monitoring, polymedication, hampered communication with patients, blood sugar control and lack of knowledge on pill crushing and splitting were the most meaningful aspects rated by nurses. Physicians rated cognitive impairment, polymedication, risk of falls, pain management and blood pressure control as most meaningful.

**Conclusion** Preliminary results indicate that treatment goals in a nursing home setting clearly differ from ambulatory care. Communication barriers and missing information play an important role. Furthermore, blood pressure and blood sugar control, pain management, cognitive impairment and polymedication were rated as meaningful by more than one health-care profession. An algorithm for Medication Review in nursing homes needs to take these specific parameters into account.