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## Implementation of evidence-based knowledge in general practice.

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### Author information

#### Abstract

**Background** Keeping up with the evidence and implementing it into the daily care for patients are fundamental prerequisites for delivering a high quality of care in general practice. However, despite many years of research into dissemination and implementation of evidence-based recommendations, significant challenges remain. In recent years, organisational factors have become widely acknowledged as vitally important for ensuring successful implementation. Further knowledge is needed to understand more about which factors affect the seeking and implementation of evidence-based knowledge in general practice. **Aim** The overall aim was to investigate how evidence-based knowledge is sought and implemented in general practice and to analyse associations with GP characteristics and quality of care. Three separate studies, each covering a specific part of the overall aim, were undertaken: I. To examine how GPs implement clinical practice guidelines in everyday clinical practice, and how implementation approaches differ between practices. II. To assess GPs' information seeking behaviour with regard to the use and perceived importance of scientific medical information sources and to investigate associations with GP characteristics. III. To investigate if there are associations between specific formalised implementation activities within general practice and quality of care – exemplified by the use of spirometry testing among first-time users of medication against obstructive lung diseases. **Methods** The study was designed as a mixed methods study combining qualitative interviews, questionnaire and register data. Study I was a qualitative interview study that involved purposefully selected GPs representing seven different practices. The interviews were analysed using systematic text condensation, and results were used to qualify the development of a national survey of general practitioners regarding their seeking and implementation of evidence-based knowledge. This survey was distributed on December 4th to all GPs in Denmark who at the time had an email address registered at the Danish Organisation of GPs (N = 3,440). Study II was a cross-sectional study based on the survey data. In study III, while also applying a cross-sectional design, data on quality of care from national registers were linked to data from the survey. Spirometry testing among patients redeeming a first-time prescription for medication targeted obstructive lung diseases (R03 medication) was used as an example of an evidence-based recommendation, and thereby as a proxy for quality of care. **Results** Study I: The analysis of the semi-structured individual interviews revealed that approaches to implementation of clinical guidelines differed substantially between practices. Overall, three different approaches were identified, depending on the degree to which implementation was collectively and formally organised. In some practices, the GPs prioritised time and resources for collective implementation activities and organized their everyday practice to support these activities. In other practices, GPs discussed guidelines collectively, but left the application up to the individual GP whilst others saw

no need for discussion or collective activities depending entirely on the individual GP's decision on whether and how to manage implementation. The GPs' attitudes to consistency in patient care appeared to be closely related to their approach to implementation. Study II: A total of 1,580 (46.4%) GPs responded to the questionnaire. Results showed that GPs' information-seeking behaviour is associated with gender, age and practice form. Single-handed GPs use their colleagues as an information source significantly less than GPs working in partnership practices, and they do not use other sources more frequently. Compared with their younger colleagues, GPs aged over 44 years are less likely to seek information from colleagues, guidelines and websites, but more likely to seek information from medical journals. Male and female GPs seek information equally frequently. However, whereas male GPs are more likely than female GPs to find that pharmaceutical sales representative and non-refundable CME meetings are important sources in keeping medically updated, they are less likely to find that colleagues, refundable CME meetings, guidelines and drug information websites are important. Study III: GPs from 1,114 practices (58%) responded to the questionnaire, and 33,788 patients were linked to a responding practice. In partnership practices, compared with less frequent or no meetings, weekly interdisciplinary and weekly GP meetings were significantly associated with higher quality of care measured by patients' OR of having spirometry performed. Furthermore, the development of practice protocols and standard recordings in the EMR in a range of disease areas, compared with only a few areas or none at all, were significantly associated with quality of care. The effect of formalised implementation activities was not as evident in single-handed practices as in partnerships.

**Conclusion** The results show how GP characteristics could be taken into consideration when disseminating scientific medical information to better ensure that patients are provided with medically updated, high-quality care. Further, the study demonstrates the variation in approaches to implementation of evidence-based knowledge in general practices. This variation should be taken into consideration when developing quality improvement initiatives or interventions. Thus, knowledge of which approaches are used in specific practice settings could prove essential when deciding where to put the focus and support. Finally, the study indicates that important factors to be considered in that respect are the presence of formalised implementation activities in the practices as some degree of formalisation appears to contribute to sustaining a high quality of care by supporting implementation of evidence-based recommendations.

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