

**Background** The Dutch College of General Practitioners (NHG) has produced almost 100 guidelines. Guideline adherence is on average 70–75%, but varies between general practitioners and between guideline recommendations. A computerised decision support system (CDSS) could improve guideline adherence.

**Objectives** To describe the development and implementation of a CDSS (NHGDoc) for general practice in the Netherlands.

**Methods** NHGDoc is a collaborative effort between the NHG and ExpertDoc, the company that developed the CDSS. Relevant recommendations of eight NHG guidelines were translated into algorithms, generating specific alerts. All alerts were reviewed and authorised by guideline developers of the NHG. NHGDoc was integrated in two out of seven electronic health record systems used in Dutch general practice. Since 2008, users were regularly interviewed regarding their experiences with NHGDoc.

**Results** Integration of eight guidelines in NHGDoc generated alerts in approximately 30% of all patient records. Alert frequency varied in accordance with disease prevalence. Currently, 1100 general practices (appr. 25% of Dutch general practices) are using NHGDoc. Users highly appreciated the content and lay out of the alerts, but preferred more control regarding the timing and frequency of the alerts.

**Discussion** NHGDoc is well received and appreciated in general practice. To enhance the success of NHGDoc the user-friendliness of the system could be further improved. Future research should provide evidence on the effectiveness of NHGDoc in terms of improving quality of care.

**Implications for Guideline Developers** To improve guideline adherence, CDSSs should have user-friendly designs, including options to personalise the decision support to meet the needs of individual users.

#### 084 PLUGGED-IN (PROVIDING LIKEABLE AND UNDERSTANDABLE GUIDELINES USING GRADE IN THE EMR WITH DIRECT LINKS TO INDIVIDUAL PATIENT DATA) PHASE 2

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**Background** Traditional clinical decision support systems in Electronic Medical Records (EMR) use algorithms with inclusion/exclusion criteria to provide direction to clinicians. Improved systems for developing trustworthy guidelines (e.g. GRADE,) typically include many weak recommendations unsuited for clear inclusion/exclusion criteria, and in which the right decision varies from patient to patient. Through PLUGGED-IN phase 1 we developed a conceptual framework and a guideline authoring/publication platform to allow use of trustworthy guidelines directly as decision support in EMRs, not dependent on traditional algorithms or reproduction of the content. Our framework is based on a multilayered guideline presentation format developed in DECIDE.

**Objectives** To implement and test our novel approach to decision support where relevant patient specific information is shown alongside evidence based recommendations in EMRs.

**Methods** We used a web guideline published through the MAGIC (Making Grade the Irresistible Choice) application, which allowed our EMR partner to make use of its structured content, ontology-coded clinical questions and recommendation-specific EMR elements.

**Results** The EMR system was able to interact with the guideline, suggest relevant recommendations displayed along with relevant patient specific information (lab tests, measurements, medications), and offer these to facilitate direct ordering. We will show real examples and live products.

**Discussion** Results suggest we can offer a complementary approach to traditional algorithm-based systems that is compatible with a large number of EMRs.

**Implications for Guideline Developers/Users** PLUGGED-IN provides a model for direct use of guidelines as decision support in EMRs.

#### 085 IMPLEMENTING A KNOWLEDGE APPLICATION PROGRAM FOR ANXIETY AND DEPRESSION IN COMMUNITY-BASED PRIMARY MENTAL HEALTH CARE: THE CLINICAL DECISION SUPPORT COMPONENT

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**Background** We developed a knowledge application programme to support the improvement of the organisation and delivery of care for anxiety and depressive disorders in community-based primary mental health care teams (CMHTs) in Quebec (Canada). The programme is based on the Chronic Care Model, including a Decision Support component, and the PARiHS framework.

**Objectives** 1- To implement and evaluate a knowledge application programme, 2- to explore barriers and facilitators associated with the implementation of Decision Support strategies, particularly the uptake of clinical practice guidelines.

**Methods** The design is a mixed-methods prospective multiple case study, with data drawn from the two phases of the project (2008-2010; 2011-2014). Multidisciplinary local working committees in the six CMHTs were required to develop and implement local quality improvement plans with the support of a knowledge broker.

**Results** While we observed barriers and facilitators at the clinician level in terms of knowledge (e.g familiarity) and attitudes (e.g. applicability, agreement), contextual factors (e.g resources, access) also played an important role in the uptake of clinical practice guidelines into the six local CHMTs.

**Discussion** Decision Support is a central component of the Chronic Care Model that aims to promote clinical care that is consistent with scientific evidence.

**Implications** The uptake of evidence in primary care is a complex process that requires careful consideration of the context in which innovations are introduced, and our assessment of barriers and facilitators can be relevant to other primary health care organisations seeking to increase the uptake of anxiety and depression clinical guidelines.