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 (app. 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.

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.