

## CONCISE REPORT

# Development of healthcare quality indicators for rheumatoid arthritis in Europe: the eumusc.net project

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### ABSTRACT

**Background** Eumusc.net (<http://www.eumusc.net>) is a European project supported by the EU and European League Against Rheumatism to improve musculoskeletal care in Europe.

**Objective** To develop patient-centred healthcare quality indicators (HCQIs) for healthcare provision for rheumatoid arthritis (RA) patients.

**Methods** Based on a systematic literature search, existing HCQIs for RA were identified and their contents analysed and categorised referring to a list of 16 standards of care developed within the eumusc.net. An international expert panel comprising 14 healthcare providers and two patient representatives added topics and during repeated Delphi processes by email ranked the topics and rephrased suggested HCQIs with the preliminary set being established during a second expert group meeting. After an audit process by rheumatology units (including academic centres) in six countries (The Netherlands, Norway, Romania, Italy, Austria and Sweden), a final version of the HCQIs was established.

**Results** 56 possible topics for HCQIs were processed resulting in a final set of HCQIs for RA (n=14) including two for *structure* (patient information and calculation of composite scores), 11 for *process* (eg, access to care, assessments, and pharmacological and non-pharmacological treatments) and one for *outcome* (effect of treatment on disease activity). They included definitions to be used in clinical practice and also by patients. Further, the numerators and the denominators for each HCQI were defined.

**Conclusions** A set of 14 patient-centred HCQIs for RA was developed to be used in quality improvement and bench marking in countries across Europe.

### INTRODUCTION

Over the last decades, people with many rheumatic diseases have seen a dramatic change of the modes of diagnosis and treatment.<sup>1–2</sup> This includes earlier diagnosis, more effective pharmacological and surgical treatment as well as tailored rehabilitation for patients with rheumatoid arthritis (RA).<sup>3–4</sup> However, significant differences exist in the availability and quality of healthcare.<sup>5–7</sup> It is important for both healthcare providers and people with RA to have tools for delivering and demanding optimal care.<sup>8–9</sup> One way to quantify healthcare quality is by the use of validated healthcare quality indicators

(HCQIs). These are intended to measure the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. HCQIs can be related to *structures* (concerning characteristics of the healthcare system and providers), *processes* (concerning what providers do in delivering care) or *outcomes* (concerning the results) of healthcare.

In preparation and as a basis for the development of HCQIs within the eumusc.net project a systematic literature review was undertaken to make an inventory of the quality and content of currently available sets of HCQIs for RA and OA<sup>10</sup> but only few published indicator sets were identified. The aim of the present study was to develop HCQIs for healthcare provision for RA to be used in different countries primarily in Europe. This process ran in parallel with the eumusc.net project (<http://www.eumusc.net>) where patient-centred standards of care (SOCs) for RA have been developed.<sup>11</sup>

### METHODS

The development of HCQIs was done by an expert panel (long term experience from clinical and/or scientific work within the area of rheumatology) based on existing HCQIs and on expert opinion.

The expert panel (see online supplementary appendix A) comprised 16 individuals from 11 European countries with particular knowledge on RA, specifically: rheumatologists (11), physical therapists (two), occupational therapist (one) and two persons representing patients with RA. The development included the following steps:

- A systematic literature search for publications on HCQIs in the literature was performed as described elsewhere.<sup>10</sup> Topics from the HCQI sets on RA were extracted and categorised by two of the authors (BS, IFP), using a distinction between HCQIs on structure, process and outcome of care.<sup>12</sup> The same procedure was used to derive topics from eumusc.net SOCs for RA, which were developed in parallel. A list of suggested topics was then circulated in the expert panel. Via email, additional topics were suggested and comments on tentative withdrawals collected.
- Via email the expert panel ranked the topics on a scale from 1 to 9, lowest to highest priority. During a first meeting of the expert panel



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- (London, June 2011), the highest ranked topics (median value 7.5–9) were discussed, amalgamated and regrouped and suggestions for modifications and additions were made in consensus.
- C. Suggestions for phrasing of the HCQIs were performed by a smaller group (BS, IFP) before a further email round to the entire expert panel. The comments were collected and taken into account and a set of prefinal HCQIs was created.
- D. Subsequently, an audit process for the preliminary set of outcome measures was performed in six countries (Sweden, Norway, The Netherlands, Romania, Italy, Austria). In each of the countries, members of the expert panel recruited one rheumatologist from a rheumatology practice who was asked to complete a questionnaire, including all 14 preliminary HCQIs. With each HCQI they were asked 11 questions concerning the applicability and feasibility of the HCQIs in clinical practice (see online supplementary appendix B). They were also asked, if possible, to apply HCQIs for proper measurements of key indicators using available data on their own unit.
- E. A second expert panel meeting was held (Lund, January 2012), with the aim to reach a consensus on the final selection of HCQIs. The feedback from the audit was discussed and a consensus was obtained with respect to modifications of the prefinal set of HCQIs, resulting in a final set of HCQIs for RA.

## RESULTS

Based on the literature search,<sup>10</sup> the topics on HCQIs for RA were together with topics derived from SOCs for RA developed in the eumusc.net project.<sup>11</sup> A list of suggested topics (n=51) was circulated via email to the expert panel (n=14, BS and IFP not included) with six experts responding/commenting/adding topics.

The list was revised accordingly and ended in 56 possible topics for HCQIs, which were sent out again to the expert panel for a ranking, with 13 of the panel members responding. The median level of ranking was 7.5 and all topics with this ranking level and higher resulting in 21 topics were included in the further process.

During a face to face meeting in London, June 2012, the topics were further discussed, collapsed and regrouped and a tentative list of HCQIs was formed in consensus reducing the list from 21 to 14 topics. As a part of the further Delphi process, the revised list of HCQIs (n=14) was emailed to 14 members (BS and IFP not included) of the expert panel with 12 experts giving feedback, which was used for detailed adjustments.

To test the preliminary set of HCQIs for face validity and reality check they were included in an audit process in six different countries (Sweden, Norway, The Netherlands, Romania, Italy, Austria). The different centres replied to a questionnaire with the same questions for all HCQIs (see online supplementary appendix B) with a full feedback from all. The feedback from the different centres was mainly positive and included comments on the feasibility in clinical practice of the different HCQIs.

Of the 14 HCQIs for RA included in the audit, HCQI indicator numbers 2, 4–6, 8–10 and 13–14 were found to be applicable in all six countries; HCQI numbers 1, 3, 7 and 11 was found to be applicable in five countries; whereas number 12 only in three countries.

This feedback was used in a final adjustment of the HCQIs during the second panel meeting and resulted in a final set of HCQIs for RA (see online supplementary appendix B).

## DISCUSSION

To further improve and develop the healthcare for patients with RA, new tools are needed. Guidelines for diagnosis and treatment have been agreed upon and are in use but to make them more equal and more adopted to the everyday clinical situation for the healthcare professional and the patients, SOCs have been developed for RA as a part of the EU and European League Against Rheumatism (EULAR) funded eumusc.net project (<http://www.eumusc.net>). To describe, compare, evaluate and follow the level and content of healthcare for patients with RA in a standardised way, measurement instruments are needed. For this purpose, a set of 14 HCQIs for RA was developed to be used in different countries primarily in Europe.

We started with a literature review<sup>10</sup> and then a Delphi process and finally an audit process in different clinical and academic units in six countries with different healthcare systems. During the Delphi process, no major problems were noted and the prefinal HCQIs were aligned in consensus. During the audit process, only minor changes were suggested indicating a good face validity and feasibility of the HCQIs.

The extensive list of HCQIs formerly proposed by Hulst *et al*<sup>13</sup> only covered disease monitoring and not management as a whole. Further, formerly suggested HCQIs for RA by Hulst *et al*<sup>13</sup> and Saag *et al*<sup>14</sup> did not include patient participation. Thus, one part of the eumusc.net project was to include the patients' perspective according to suggestions from the OMERACT.<sup>15 16</sup> This was thus done through the whole process for the now proposed user-focused HCQIs for RA.

In the HCQIs identified for RA we also follow the widely accepted and useful method for categorising indicators of HCQIs by Donabedian<sup>12</sup> describing indicators as structure, process or outcome measures.

Using the different aspects of the suggested HCQIs for RA thus allows different centres and different countries to perform proper bench marking processes with the goal to equalise and improve the care.

## CONCLUSIONS

A set of 14 HCQIs for RA was developed, which can be used in quality improvement and bench marking regarding the management of RA in and between individual countries across Europe. Using HCQIs for RA corresponding to SOCs for RA based on existing guidelines suggests a system for further implementation. These tools may be useful for clinicians, healthcare organisations and other authorities and also for patient's organisations and professional organisations when evaluating the quality of rheumatology healthcare. They will be disseminated through the EU, the professional organisation EULAR and the patient organisation in Europe PARE. Guides for the use of the proposed HCQIs are available on the eumusc.net web page.

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## Clinical and epidemiological research

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**Collaborators** See online supplementary appendix A for The eumusc.net working group including the WP 6 expert panel.

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**Revision** The healthcare quality indicators for RA are available on the website (<http://www.eumusc.net>) of the project with the possibility to provide comments. These comments will be considered for a potential update of the document that will be developed if the evidence base has changed substantially and modifications become necessary.

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