**Supplementary File 1 Phases and stakeholders involved in development of SpA-Net**

The development of SpA-Net was carried out according to an iterative process of 4 phases: (1) content and design, (2) technical development of database and EMR, (3) internal and external testing and (4) implementation. SpA experts, rheumatologists, nurses experienced with care for patients with SpA, technicians and trained patient research partners were involved during various phases of development.

A brief overview of the phases of development:

1. Content and design. Several stakeholders were consulted on the design and content of SpA-Net. Literature review, expert opinion and existing core sets for clinical record-keeping and observational studies were used to decide on a core set for SpA-Net. This core set had to be inclusive and efficient, with domains that were relevant for daily practice.
2. Technical development. Transparancy in Healthcare (TiH, [www.tihealthcare.nl](http://www.tihealthcare.nl)) was responsible for the technical development of SpA-Net. SpA-Net was incorporated within DREAM (Dutch Rheumatoid Arthritis Monitoring), a collaboration of Dutch rheumatology practices involved in quality of patient care, transparency of care and research. For SpA-Net, TiH developed a web-based data acquisition and storage system. This system can be linked to (and integrated with) the EMRs of patients in local hospital. Special care was taken to ensure that all aspects of SpA-net meet the legal requirements. Of note, TiH has an Information Security Officer, who is responsible for monitoring adherence to all regulations on the protection of personal data that apply (including the EU General Data Protection Regulation).
3. Internal and external testing. After the initial development phase, SpA-Net was evaluated in a test environment during multiple rounds of internal and external testing. Results from testing were reported monthly to the development team to ensure rapid cycles of improvement. During the period 2015-2018, 10 major versions of SpA-Net were released and thoroughly tested. In between releases of major updates, minor testing was done when bugs were encountered.
4. Implementation. Following a multifaceted implementation strategy, SpA-Net was initially implemented into clinical practice in two centers, followed by an extension to other centers. Those who had to record data (care providers, patients) were actively engaged. Staff meetings were organized every two months to evaluate the usability of SpA-Net in practice, discuss bugs encountered, demonstrate updated system features and provide feedback to care providers on the use of SpA-Net. After every meeting, feedback from staff was communicated to the development team. This process of frequent, structured evaluation stimulated dynamic refinement of SpA-Net and helped embed the system into clinical practice.

Patients were introduced to SpA-Net on an individual basis during outpatient visits. As part of the implementation, acceptability, usability and feasibility was assessed using focus group interviews with patients.

As can be seen in the overview above, the phases of development were not strictly separated. For example, testing (phase 3) also took place during and after implementation (phase 4), as new functions were rolled out and new bugs were encountered in daily practice. In this sense, development of SpA-Net is an ongoing process, and all phases can be considered dynamic.

An overview of the stakeholders and their tasks in the development and implementation of SpA-Net:

* SpA-Net project group: the project group for SpA-Net was formally formed in 2014 (phase 1). Members have had numerous informal and formal contact ever since, and were involved in all phases of development. Weekly short telephone meetings are still planned.
* SpA experts: SpA experts which are members of the Working group Spondyloarthritis from the Dutch Society for Rheumatology have discussed the content, design, implementation and governance of SpA-Net twice annually since early 2015 with members of the project group (phases 1 and 4).
* Patients: two patient research partners have been involved since the formation of the project group, have met 5 times and were involved in defining the content of SpA-Net, tested the system, reviewed the protocol and the grant applications (phases 1 and 3). Sixteen patients were interviewed to investigate the acceptability, usability and feasibility of SpA-Net in daily practice (part of phase 4).
* Care providers: local care providers (rheumatologists, nurses) have met every 2 months between early 2016 and mid 2018, and discussed the usability of SpA-Net in daily practice, as well as bugs encountered (phase 1 and 4).
* Technicians: several technicians from TiH have been involved since the formation of the project group in 2014, for development and incorporation of SpA-Net within the existing DREAM (Dutch Rheumatoid Arthritis Monitoring) database (phase 1 and 2). Because a similar system had already been developed for rheumatoid arthritis (DREAM-RA), the ‘look and feel’ of SpA-Net is based on this, but with a different content decided by the SpA stakeholders. Technicians updated the system regularly after testing (phase 3).