Multidisciplinary collaboration among young specialists: results of an international survey by the emerging EULAR network and other young organisations

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INTRODUCTION

A multidisciplinary approach is defined as a collective work involving multiple disciplines. Unlike similar concepts, such as interdisciplinary and transdisciplinary collaborations, a multidisciplinary approach refers to the combination of different expertise towards a common purpose, usually in complex situations, while keeping the existing boundaries between each unique discipline.1 Over the last two decades, the importance of multidisciplinary teams (MDTs), which usually involves several healthcare professionals to provide a holistic patient care, has become widely accepted.2 Importantly, the value of such teams in improving patient care has been demonstrated, especially in specialities like oncology.3 MDT working is critical in achieving best practice in the management of multisystem autoimmune rheumatic and musculoskeletal diseases (RMDs).4 5 Although the creation of multidisciplinary clinics has widely expanded, the development of collaborative research...
networks is more limited. Moreover, while scarce data regarding multidisciplinary collaboration among senior doctors exist, the characteristics and features of multidisciplinary interaction between young specialists remain unknown, and consequently so are the possible areas for improvement.\textsuperscript{6,7} Given that trainees and young specialists are as much exposed to patient care as senior physicians, it is important to evaluate their practice in terms of multidisciplinary collaboration more in depth. In addition, based on their unique knowledge on new technologies, such as social media, early career clinicians and researchers could play a prominent role in establishing and enhancing new channels of communication among specialties, with the ultimate aim of positively impacting upon patient care.\textsuperscript{8} Therefore, we aimed to describe the state of the art of collaboration across young specialists and researchers, working in the field of RMDs, and to identify unmet needs in order to inform future collaborative initiatives.

**RESULTS**

**Demographic data**

In total, 303 respondents from 36 countries completed at least the first section of the survey (table 1). Top four answering countries were as follows: UK (n=75, 24.8\%), Italy (n=54, 17.8\%), Spain (n=31, 10.2\%) and France (n=28, 9.2\%). The detailed distribution of respondents across countries is described in online supplemental table 1.

Half of the respondents were members of a national organisation (50\%, n=151/303) and almost two-thirds of an international organisation (63\%, n=190/303).

**Interaction across specialities in the clinical and research setting**

Training in other specialities during specialist training as part of the speciality curriculum was reported by 75\% of the respondents (n=219/291).

The steps to this collaborative approach in the clinical setting and in research are outlined in table 2. Most of the exchanges between clinicians were reported to occur via telephone (95\%, 229/240), email or informal personal contact on a daily (31\%, n=74/240) or 2–3 weekly basis (30\%, n=73/240). Multidisciplinary clinics (48\%, n=144/240) or combined multidisciplinary meetings (72\%, n=172/240) were reported to take place once a week (20\%, n=29/144; and 24\%, n=41/172, respectively) or once a month (23\%, n=33/144; and 27\%, n=46/172, respectively) in 25 countries. Most of the collaboration in both clinical practice and research started by knowing each other (74\%).

Most interactions were reported to occur with other specialists from the same institution working in same (39\%, n=94/240) or different building (34\%, n=82/240), and less often from different hospitals within (23\%, n=55/240) or outside of the region (4\%, n=10/240). Of note, 71\% (n=171/240) of respondents regarded the collaboration with young colleagues easier than with senior specialists.
Unmet needs, new strategies and educational offers

Ninety-seven per cent of the respondents (n=225/233) considered important to develop multidisciplinary clinics in order to either improve patient care in daily practice (51%, n=118/233) or discuss difficult-to-treat diseases and clinical challenges (46%, n=107/223). A large majority of the respondents (96%, n=224/233) reported that they would like to develop clinical research collaborations, with 69% (n=151/218) interested in basic research collaborations, and 89% (n=208/233) would be keen to apply for collaborative grants with multiple specialities.

The majority of young specialists would be interested in online educational initiatives (84%, n=184/233) and/or 1–2-day courses (85%, n=197/233) across specialities. There was also some interest shown towards the development collaboration opportunities through social media (common group on Facebook (59%, n=137/233), common journal club on twitter (54%, n=126/233), common apps on smartphone (67%, n=157/233), podcasts (60%, n=139/233)).

Respondents reported preference for these educational initiatives to be composed of either common case discussions (81%, n=188/233), training workshops (85%, n=197/233) or lectures (55%, n=118/233), as well as webinars recorded with several specialists on a specific disease (96%, n=230/233). Clinical immunology (45%, n=106/233), dermatology (43%, n=100/233), infectious diseases (36%, n=83/233), rheumatology (33%, n=78/233), pneumology (32%, n=75/233) were the specialties gathering the most interest for such common initiatives.

DISCUSSION

To the best of our knowledge, this is the first study describing the current practice and unmet needs of multidisciplinary clinical and research collaborations among young specialists working in the field of RMDs. The reader is referred to the literature for the teamwork among different healthcare providers.2 We found that multidisciplinary collaboration is already common practice and deemed important by young specialists for their clinical training and research. There is however room for improvement.

Clinical collaborations are taking place mostly through telephone or email among all specialities. Multidisciplinary meetings were also frequent while common clinics were only reported by less than half of the respondents. Remarkably, a high number of respondents stated that their clinical/research collaboration, started by knowing each other personally and by attending common conferences, or by working in the same hospital. This suggests an unmet need and an opportunity for improvement in promoting interactions across different disciplines to learn from each other, meet, network and foster further collaborations.10

In order to address this unmet need, in addition to face-to-face congresses and workshops, initiatives aiming at promoting interactions across geographical and speciality borders are highly encouraged. This would represent an unprecedented opportunity to facilitate collaborations regardless of the institution of origin, representing more and equal opportunities to all. In that respect, the use of telemedicine and social media may play an increasingly important role.11,12 Initiatives suggested in order to address these unmet needs are summarised in table 3. EMEUNET has been paving the ground for the implementation of such initiatives over the last years. Indeed, EMEUNET has successfully developed online interactive tools promoting networking and knowledge exchange

### Table 2

<table>
<thead>
<tr>
<th>Type of collaboration</th>
<th>Clinical practice n (%)</th>
<th>Research n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>229 (95)</td>
<td>N/A</td>
</tr>
<tr>
<td>Informal personal contact</td>
<td>74 (31)</td>
<td></td>
</tr>
<tr>
<td>Common clinics</td>
<td>144 (60)</td>
<td></td>
</tr>
<tr>
<td>Multidisciplinary meetings</td>
<td>172 (72)</td>
<td></td>
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</tbody>
</table>

Ways of starting the existing collaborations

<table>
<thead>
<tr>
<th>Ways of starting</th>
<th>Clinical practice n (%)</th>
<th>Research n (%)</th>
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</thead>
<tbody>
<tr>
<td>Knowing other specialists personally</td>
<td>177 (74)</td>
<td>124 (74)</td>
</tr>
<tr>
<td>Attending common national/international conferences and workshops</td>
<td>80 (33)</td>
<td>65 (39)</td>
</tr>
<tr>
<td>Working in the same hospital</td>
<td>77 (32)</td>
<td>50 (30)</td>
</tr>
<tr>
<td>Attending the same meetings or seminars</td>
<td>67 (28)</td>
<td>39 (23)</td>
</tr>
<tr>
<td>Working in the same laboratory</td>
<td>9 (4)</td>
<td>25 (15)</td>
</tr>
<tr>
<td>Already in place before joining the department</td>
<td>44 (18)</td>
<td>49 (29)</td>
</tr>
</tbody>
</table>

*More than one option could be chosen.

Denominators varies depending on the categories as not all respondents were doing clinical and research activities.

N/A, not applicable.

### Table 3

<table>
<thead>
<tr>
<th>Unmet needs</th>
<th>Suggestions</th>
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<tbody>
<tr>
<td>-Multidisciplinary research collaboration and research grants</td>
<td>-Interactive multidisciplinary online platform</td>
</tr>
<tr>
<td>-Meeting opportunities</td>
<td>-Multidisciplinary conferences</td>
</tr>
<tr>
<td>-Multidisciplinary educational offer</td>
<td>-Webinars, podcasts</td>
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<tr>
<td></td>
<td>-Multidisciplinary journal club</td>
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<td></td>
<td>-Smartphone app</td>
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<td></td>
<td>-Case discussions</td>
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<td></td>
<td>-Training workshops</td>
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among young clinicians and researchers across the world, and has been pioneering these efforts (journal club, peer-mentoring programme, etc).

Similar initiatives have been pursued by other organisations. Of note, the current study, involving four young specialists’ organisations, testifies to the feasibility and success of ‘at-distance’ multidisciplinary collaborations. Moreover, collaborative initiatives are currently being prepared among our organisations, including multidisciplinary podcasts on multiorgan diseases. This could be the first step towards multidisciplinary workshops, or to the development of online collaborative platforms for clinical and translational researchers subsequently facilitating the exchange of resources and ideas sharing across countries and specialties.

In conclusion, young clinicians and researchers in rheumatology, nephrology, paediatric rheumatology and allergy and clinical immunology have reported great interest and enthusiasm in further developing opportunities for collaboration in both clinical and research settings. This work addresses the knowledge gap in multidisciplinary care of people living with RMDs and may hopefully lead to the development of new initiatives to ultimately contributing to improved patient care.

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