Again, we recognized that these are important issues. However, in giving authoritative guidance, we considered it important that two important principles are sustained. Firstly, it is essential that guidance reflects the facts as currently known rather than opinion or data from a single source. Secondly, guidance is intended to provide a sound basis for initiating and managing the treatment. Specialists must retain some freedom to make alterations or additions to the treatment according to the clinical circumstances; in our view, therefore, it is appropriate to lay down a core of rational treatment leaving the details for clinicians to determine. We included within our report a clear indication, however, that the guidelines will be updated and extended as the evidence base grows. Such a review process is in place.

Meanwhile, we are grateful for all input to the continuing guideline development process.

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Drug survival in rheumatoid arthritis

SIR, We have read with interest the editorial of Treharne et al. [1] on drug compliance/adherence in rheumatoid patients, highlighting the complex processes underlying this behaviour and, indeed, the variety of sometimes expensive/complex methods for measurement. We have examined another relevant measure of medication continuation in patients with rheumatoid arthritis (RA), which has the advantage of being cheap and easy to measure, requiring no complex questionnaires or expensive measuring devices. ‘Drug survival’ measures the length of time a patient continues to take a particular drug: it is a well-recognized measure of drug effectiveness, which encompasses factors such as adverse drug reactions and side-effects, poor adherence, loss of efficacy and others [2]. To measure drug survival, it is simply necessary to ask the patient when starting on a new medication to note the date they stop taking the medication regularly. Although drug survival has been examined in a variety of medical situations, it has not previously been extensively studied in RA.

We examined the influence of medication beliefs and psychosocial factors on drug survival in 68 patients with RA starting their first disease modifying anti-rheumatic drug (DMARD) [3]. Forty-seven patients were drug survivors, continuing to take their prescribed DMARD regularly 1yr after initiation. Although medication beliefs, as measured by the Beliefs about Medications Questionnaire [4], did not predict drug survival, both age and anxiety levels (measured using the Spielberger State-Trait Anxiety Inventory – Short Form (STAI-SF) questionnaire [5]) did. Specifically, drug survivors were younger and more anxious than those who discontinued taking their DMARD within the first year, a group characterized by older age and lower anxiety levels.

Drug survival is cheap and easy to measure: understanding the factors that contribute to drug survival can only add to our understanding of compliance/adherence. In this case, if we assume that drug survival is a ‘good’ outcome, we need to target our counselling at those who are older/less anxious. Given that beliefs about medications do not appear to influence drug survival, these somewhat counter-intuitive and intriguing findings challenge our approach to promoting compliance/adherence/drug survival in our rheumatology patients.

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Re: Drug survival in rheumatoid arthritis—an interesting method but not a measure of adherence or concordance

SIR, Mulherin and Wong’s [1] description of ‘drug survival’ of disease-modifying anti-rheumatic drugs (DMARDs) is an interesting approach to medication taking among people with rheumatoid arthritis (RA). The authors highlight how this purportedly simple binomial approach does not distinguish the multitude of causes that lead to DMARD discontinuation. We believe the approach to be far from simple and would like to raise some questions about it. This approach might be considered akin to the recording of overdoses as a measure of major depression. Many depressed people do not take an overdose and many overdoses are not suicide attempts. In addition to the fact that not all DMARD discontinuers were non-adherent we would expect that not all DMARD continuers are adherent.

An issue that we would like to see clarified is the exact definition of ‘regularly’ taking DMARDs required for Mulherin
and Wong's [1] measure of ‘drug survival’. The specificity of ‘regularly’ may differ across researchers, clinicians and, most importantly, patients. The knowledge that one’s DMARD (dis)continuation is being studied may enhance differences in patients’ specificity, perhaps by playing on the minds of those who are clinically or subclinically anxious. This is relevant to the authors’ predictive results, discussed subsequently. Another important issue is the exact way the data were recorded: were participants asked to recall information at the end of the study year? Where did participants write the date when they stopped taking their DMARD? How were these data collated?

Turning to terminology, we are uncomfortable with the term ‘drug survivor’, which has connotations of making it through a traumatic event and not the positive outcome of ongoing product tolerance in the face of clinical need that ‘DMARD continuation’ (as we would prefer to call it) should impart. This aspect of survival may come from the statistical tradition of survival analysis [2], which could be applied to the amount of time a patient continues on a DMARD. The associated term ‘failure’ may have similar emotionally laden interpretation: it is the medication that fails and not the patient, although vulnerable patients may not view it in this way.

Returning to the heart of the issue, how many of Mulherin and Wong’s 21/68 participants, who were DMARD discontinuers (31%), were actually due to regimen non-adherence? How many of these participants made this decision without discussing with any of their multiple healthcare professionals? This would be a discordant outcome [3]. It would be interesting to know whether these patients differ from DMARD continuers who are rigorously adherent despite ongoing concerns or those who do not highlight that their DMARD use consistently differs from the exact prescription. For this reason, we would not consider DMARD discontinuation to be a proxy measure of non-adherence or discordance per se, but would definitely advocate the approach as a clinically relevant concept, of which Mulherin and Wong provide an important initial psychosocial study. It is interesting that the younger participants were more likely to be DMARD continuers, but it would be more relevant to know whether this was specifically due to older participants being more susceptible to adverse events related to DMARDs. It is also intriguing that participants with higher state anxiety were more likely to be DMARD continuers, particularly given our finding that RA patients reporting greater satisfaction with their healthcare social support go on to have increased severity of anxiety symptoms 6 months later, even when controlling for demographics, disease activity and other psychosocial factors [4, 5]. However, the timing of the anxiety assessment in Mulherin and Wong’s [1] study is not clear, and we would hypothesize that RA patients who have to discontinue their DMARDs due to severe adverse effects would show increased anxiety mood from the time of commencement to the time of discontinuation, as previous qualitative evidence shows [6], especially if the disease is in flare or the patient perceives that their medication options are running out. Further to this we would hypothesize that RA patients who come to the concordant decision along with their healthcare professionals to discontinue their DMARDs (due perhaps to sustained disease control balance against experienced side-effects or toxicity concerns) would show decreased anxiety mood from the time of commencement to the time of discontinuation. This highlights the importance of considering the various possible reasons for DMARD discontinuation, and may be much relevant to apply to biological therapies.

We would be happy to see the expansion of the application of DMARD continuation after a comprehensive classification coding has been described to address hospital information system listings and validated against other measures of the patients’ perspective, as Mulherin and Wong [1] have done for undifferentiated DMARD discontinuation. It would also be interesting to examine the views of the healthcare professionals independently or interactively in the discourse of their consultations with their patients.

Future research on DMARD continuation could beneficially examine the following issues: what are the clinical and psychosocial outcomes in RA patients who are offered but initially refuse DMARDs or are deemed unsuitable due to contraindications? Is there any influence of the type of DMARD and adherence to associated monitoring requirements? Does this alter over time, for example, more than 1 yr after DMARD commencement? What costs are associated with the research staff, time required to set up and monitor DMARD continuation in a cohort? Final and foremost, research is needed to examine whether it is constructive to set up psychological services to attempt to improve DMARD continuation, especially for the more elderly and less anxious as Mulherin and Wong [1] suggest based on their evidence. We hypothesize that such psychological services will be cost-effective as well as being valued by the patients and will add to the existing disease and medication education that is provided by rheumatology clinical nurse specialists, physiotherapists and occupational therapists nationwide and forms part of the Arthritis and Musculoskeletal Alliance Standards of Care [7].

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