Assessment of pain and other patient symptoms in routine clinical care as quantitative, standardised, "scientific" data

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Competing interests: T. Pincus is president of Medical History Services, LLC, which receives royalties and license fees for a copyright and trademark for MDHAQ and RAPID3. All revenue supports further development of quantitative questionnaire measurement for patients and doctors in clinical care. Dr Pincus is also a consultant for Abbie, Lilly and Pfizer. J.R. Chua and I. Castrejon have declared no competing interests.

ABSTRACT

Pain is the most common basis for visits to a rheumatologist, and reduction of pain is a primary goal of clinical care. Pain is assessed optimally by the patient on a self-report questionnaire. In clinical trials and other clinical research concerning pain and pain relief, detailed questionnaires are generally completed by patients. However, in routine clinical care, pain is generally assessed only according to narrative descriptions by the physician, and only a minority of settings assess pain using a standard, quantitative measure. Accurate, standard, quantitative assessment of pain in routine care is easily assessed in all patients with all diagnoses on a 0–10 visual analogue scale (VAS), by asking each patient to complete a 2-page multidimensional health assessment questionnaire/routine assessment of patient index data 3 (MDHAQ/RAP-ID3) at all visits. The MDHAQ includes VAS for pain, patient global assessment, and fatigue, as well as a quantitative physical function scale, RAPID3, review of systems, and recent medical history. The questionnaire provides the doctor with a 10-15 second overview of medical history data that otherwise would require about 10-15 minutes of conversation, saving time for the doctor and patient to focus on the most prominent concerns for the visit. MD-HAQ scores from patients with 10 different rheumatic diagnoses, and specific data indicating similarity of scores in patients with osteoarthritis versus rheumatoid arthritis on the same questionnaire, are presented to illustrate the value of the MDHAQ in routine care.

Pain is the most common basis for visits to a rheumatologist (1). It has been recognised since 1948 that pain assessment "necessarily depends on the patient's statement and the observer's judgment" (2). A valid and reliable patient self-

report visual analogue scale (VAS) to assess pain quantitatively was described in 1974 and used in many clinical trials (3). The health assessment questionnaire (HAQ), a scale to assess physical function, was reported in 1980 (4); almost all versions used in clinical trials and clinical care also include a pain VAS and a patient global VAS, to become the most widely used questionnaire in rheumatology (5, 6). Poor physical function on a patient questionnaire was reported in rheumatoid arthritis (RA) as the most significant measure in identification of work disability in 1980 (7) and the prognosis of mortality in 1984 (8). Functional disability and pain on a self-report questionnaire are prognostic of earlier death in the general population, with risk according to functional disability as great as smoking (9). Poor physical function may be a more reversible risk factor for death than smoking in public health campaigns (9).

The above observations might have been expected to result in widespread use of patient self-report questionnaires in routine rheumatology clinical care to assess pain, physical function and other problems from a patient perspective. However, quantitative assessment of pain and physical function remains performed by only a minority of rheumatologists, even in recent years (10, 11). The only quantitative data available in the medical records of most rheumatology patients remain laboratory tests, the limitations of which have been recognised for decades (12, 13). This review contains 5 sections: a) a summary of scientific advantages of completion of patient questionnaires by all patients at all visits in routine clinical care; b) a description of pragmatic advantages of patient self-report questionnaires in routine care; c) some principles concerning completion of a patient questionnaire in routine clinical care from each patient at each visit;

d) a description of MDHAQ/RAPID3 (multidimensional health assessment questionnaire/routine assessment of patient index data), a questionnaire used by the authors in all patients at all visits; e) a summary of MDHAQ/RAP-ID3 scores in patients with many rheumatic diagnoses, including evidence of similarity of pain and physical function scores in osteoarthritis (OA) *versus* RA indicating similar disease burdens, to illustrate the value of patient questionnaires in routine clinical care.

Scientific advantages of completion of patient questionnaires by all patients at all visits in routine clinical care

A valid and reliable patient self-report questionnaire meets the same criteria of the scientific method seen for laboratory tests: quantitative data in a standard format, a protocol for collection and management of the data, identification of levels indicating a poor prognosis, criteria for interpretation of quantitative data for management decisions. Data from patient self-report questionnaires appear as "scientific" to assess and manage patients with RA as traditional "objective" formal joint counts, radiographs or laboratory tests (14, 15) The "scientific" value of patient selfreport questionnaires is supported by extensive evidence (Table I):

- Physical function scores on patient self-report questionnaires are far more significant than radiographs or laboratory tests in the prognosis of severe outcomes in RA, as noted above, including functional status (8, 16), work disability (17-20), costs (21-23), joint replacement surgery (24) and premature death (8, 16, 25-29).
- 2) Patient self-report measures and indices which include only these measures are as efficient as joint counts and/or laboratory tests to distinguish active from control treatments in clinical trials involving methotrexate (30), leflunomide (30), adalimumab (31), abatacept (32). Indices of only patient measures distinguish active from control treatments as efficiently as indices which include joint count and /or laboratory tests in clinical tri-

Table I. Scientific rationale for patient questionnaires in routine rheumatology care.

- 1. Predict severe RA outcomes such as mortality and work disability at far greater significance than lab tests, x-rays.
- 2. Patient self-report measures and indices of only patient measures distinguish active from placebo arms of clinical trials as well as joint counts and laboratory tests and indices which include these "objective" measures.
- 3. Limits of traditional measures for RA, including joint counts, radiographs, and laboratory tests.
- 4. More likely to document incomplete response to methotrexate than laboratory tests.
- 5. Provide excellent clues to recognise fibromyalgia, particularly in patients who have other primary diagnoses.
- 6. Informative in patients with all rheumatic diseases in which it has been studied.

als of methotrexate (30, 33), leflunomide (30, 33), adalimumab (31, 35), abatacept (32, 36), anakinra (34), certolizumab (37), infliximab (38), and rituximab (39).

- 3) Traditional measures have significant limitations to assess and manage patients. Patient questionnaire scores are more reproducible than formal joint counts (40-46) and radiographic scores by physicians, in large part because a single observer (in this case the patient) is likely more consistent than 2 observers (a joint count has input from both doctor and patient). Hand radiographs are far less significant than physical function to predict long-term clinical outcomes including mortality (47, 48). Laboratory tests are normal in 30-40% of patients with RA (13, 49-51). Patient scores for pain and physical function are most likely to be abnormal, and to provide quantitative data to document improvement with medical intervention (52).
- Patient questionnaire scores are more likely to document incomplete response to methotrexate than laboratory tests (53).
- 5) Patient questionnaire scores provide useful clues to recognise fibromyalgia, particularly in patients who have other primary diagnoses such as RA, systemic lupus erythematosus (SLE), OA, and others (54-57).
- 6) Patient questionnaire scores are informative in patients with all rheumatic diseases in which they have been studied (58), including OA (59, 60), as well as systemic lupus erythematosus (SLE) (60), gout (60), ankylosing spondylitis (AS) (60-64), and vasculitis (65).

Pragmatic advantages of patient self-report questionnaires

Patient questionnaires present many pragmatic advantages to both doctors and patients in outpatient visits. The patient does almost all the work. Office flow is minimally disrupted when a brief (2-page) questionnaire is presented to each patient at each visit upon registration for completion as part of the infrastructure of care. The patient prepares for the encounter by focusing on concerns to discuss with the doctor. The questionnaire empowers the patient as a partner in care.

A patient questionnaire improves doctor/patient communication, with an "agenda" or "road map" available <u>before</u> the encounter for both patient and doctor (60). The questionnaire provides the doctor with a 10–15 second overview of medical history data that otherwise would require about 10–15 minutes of conversation, saving time for the doctor and patient to focus on the most prominent concerns for the visit.

How to collect a patient questionnaire in routine clinical care from each patient at each visit

The most efficient strategy for collection of a self-report questionnaire in routine clinical care is for the clinic receptionist to ask each patient with any diagnosis to complete the same questionnaire upon registration at the reception desk (66). Most patients spend 5–10 minutes waiting to see the physician, and the time can be well-spent in the waiting area to help the patient prepare for the visit.

Five points concerning use of patient questionnaires in routine care should be emphasised:

- a. It is essential to orient the staff to the concept that the questionnaire is an important component of care, which provides data as valuable as laboratory tests to help the doctor deliver the best treatment plan. Enthusiasm on the part of the staff is recognised by patients, and its lack (or worse, disparaging comments) leads to a lessening of patient interest.
- b. The physician must scan the questionnaire and should note important information. Unfortunately, there are settings in which physicians ask patients to complete questionnaires and do not review them at all – the value of a 10-15 second overview of medical history data that would require about 10-15 minutes of conversation is lost, and patients sometimes lose respect for the physician.
- c. It is important that patient questionnaires be reasonably attractive. Avoid copies of copies, which may have text cut off from the page (which the senior author has seen on more than a few occasions in travels at various sites). The patient will lose respect for a questionnaire that is poorly presentable and appears to be an afterthought of the office.
- d. Self-report of medical history data always requires interpretation by a knowledgeable health professional, as is the case with a laboratory test such as ESR or CRP, or ancillary study such as ultrasound.
- e. Collection of a questionnaire at each visit ensures that some quantitative information is collected at each visit, including the same items, to facilitate recognition of improvement, worsening or stability of clinical status, but in no way prevents performance of formal joint counts, radiographs, ultrasound, collection of laboratory tests, or any other information regarded as important by the physician.

MDHAQ/RAPID3 as an example of a patient questionnaire for routine care, developed as a clinical tool for continuous quality improvement in usual care, rather than a research agenda

The health assessment questionnaire (HAQ) (9) was reported in 1980, and

MDHAQ® (Multi-Dimensional Health Assessment Questionnaire) (M801.03 NP2)

This questionnaire includes information not available from blood tests, X-rays, or any source other than you. Please try to answer each question, even if you do not think it is related to you at this time. Try to complete as much as you can yourself, but if you need help, please ask. <u>There are no</u> right or wrong answers. Please answer exactly as you think or feel. Thank you.

1. Please check ($$) the ONE best answer for your abilities at this time:										FOR OFFICE
OVER THE LAST W	EEK, were	you able	to:	Without ANY <u>Difficulty</u>	With SOMI <u>Difficul</u>	E ty	With MUCI Difficul	UN. H <u>T</u> o ty	ABLE	USE ONLY 1.a-j FN (0-10):
a. Dress yourself, inc doing buttons? b. Get in and out of I c. Lift a full cup or gl d. Walk outdoors on e. Wash and dry you f. Bend down to pick g. Turn regular fauce h. Get in and out of a i. Walk two miles or j. Participate in recreasy you would like, k. Get a good night's I. Deal with feelings	bed? ass to your flat ground r entire boo to up clothin ets on and o a car, bus, three kilon ational act if you wish sleep? of anxiety of depressi	g shoelac mouth? ? dy? g from th off? train, or a heters, if vivities and ? or being n ion or fee	es and e floor? wirplane? you wish? d sports nervous? ling blue?			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		2 2	3 3 3 3 3 3 3 3 3 3 3	1=0.3 16=5.3 2=0.7 17=5.7 3=1.0 18=60 5=1.7 20=6.7 9=0.3 22=7.3 9=0.3 22=7.3 9=0.3 22=7.3 9=0.3 22=7.3 9=0.3 22=7.3 9=0.3 22=7.3 13=4.0 27=9.0 13=4.3 23=0.3 14=4.7 23=0.5 15=4.7 14=0.5 15=4.7 14=0.5 15=5.7 14=0.515=5.7 14=0.5 15=5.7 14=0.515=5.7 14=0.5 15=5.7 14=0.515=5.7 14=0.5 15=5.7 14=0.515=5.7 14=0.5 15=5.7 14=0.5
2. How much pain have you had because of your condition OVER THE PAST WEEK? Please indicate below how severe your pain has been: NO 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0									4.PTGL (0-10):	
3. Please place a check (ν) in the appropriate spot to indicate the amount of pain you are having today in each of the joint areas listed below:									RAPID3® (0-30)	
a. LEFT FINGERS I b. LEFT WRIST I c. LEFT ELBOW I d. LEFT SHOULDER I e. LEFT HIP I f. LEFT KNEE I g. LEFT ANKLE I h. LEFT TOES I q. NECK I	Image Image 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	□ 2 □ 2 □ 2 □ 2 □ 2 □ 2 □ 2 □ 2 □ 2 □ 2	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	i. RIGHT FIN j. RIGHT WF k. RIGHT EL I. RIGHT SH m. RIGHT H n. RIGHT KN o. RIGHT AN p. RIGHT TC r. BACK	VGERS RIST BOW OULDER IIP VEE VKLE DES		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Constant of the second se	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Cat: HS = >12 MS = 6.1-12 LS = 3.1-6 R = ≤3
4. Considering all the ways in which illness and health conditions may affect you at this time, please indicate below how you are doing: VERY O O O O O O O O O O O O O O O O O O O										RADAI (0-48)
Page 1 of 2		PLE	ASE TUP	RN TO THE	OTHER	SIDE			м	801.03 NP2
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Fig. 1. MDHAQ/RAPID3, page 1.

introduced by TP into usual clinical care a week after publication. Over the years, changes have been made to facilitate the value of the HAQ to both patients and doctors, viewed primarily as a continuous quality improvement (CQI) activity to improve patient care, rather than as a research activity (67). In contrast to traditional research and clinical trials, the CQI approach seeks to account for all patients rather than a few selected patients, and to implement findings in actual care. The guiding priorities have been clinical value and feasibility, although all changes have been evaluated carefully according to appropriate psychometric criteria for validity and reliability, and reported in rheumatology journals, initially as a modified HAQ (MHAQ) in 1983 (68), and ultimately a multidimensional HAO (MDHAQ) in 1999 (69) and 2005 (70). While developed primarily for use in routine care, quantitative data from the MDHAQ have provided much valuable information for research studies (59, 71-73).

The MDHAQ is a 2-page questionnaire, usually on both sides of a single sheet of paper, completed by a patient in 5–10 minutes, with content including:

1) 8 basic activities of daily living: items 1 a-h are taken verbatim for each of the 8 categories of ADL in the original HAQ (74), scored by the patient on a 0-3 scale (0 = with-





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Fig. 2. MDHAQ/RAPID3, page 2.

out any difficulty, 1 = with some difficulty, 2 = with much difficulty, 3 = unable to do).

- 2) 2 complex activities: Items i and j: queries concerning "walk 2 miles or 3 kilometers" and "participate in sports and recreation," were added in the mid-1990s in response to improving status of patients with RA with normal scores of "zero" on a HAQ or MHAQ (floor effects). The MDHAQ includes 10 activities (70). The HAQ includes 20 activities grouped into 8 categories of two or three activities each (4)
- Psychological queries in HAQ format: three queries, items 1k-m, in the patient-friendly HAQ format were

introduced into the MDHAQ concerning sleep quality and capacity to deal with anxiety and depression. Formal scoring of these queries has been performed (as a 0-9.9 scale) (69, 70). The information is quite useful clinically, as scores for poor sleep, anxiety and depression often are higher than any of the 8 queries of the original HAQ or MHAQ.

4) Visual analogue scale (VAS) for pain: a 0–10 visual analogue scale (VAS) pain on the MDHAQ is in a 21-circle format, rather than a 10cm line as on the HAQ (75, 76) which facilitates scoring for patients, doctors and staff, as a ruler is not needed.

- 5) Visual analogue scale (VAS) for patient global assessment: the VAS to score patient global assessment (PATGL) also is in a 21-circle format.
- 6) Self-report joint count: a rheumatoid arthritis disease activity index (RADAI) self-report joint count (77) is positioned on the MDHAQ between two 0-10 visual VAS for pain and global status in order to reduce the likelihood of patients giving the same answer on both VAS (although scores are similar in most patients, as level of pain is related to global well-being). Joint pain in 8 joints or joint groups is rated "none"= 0, "mild"= 1, "moderate"= 2, or "severe"= 3. Scores for neck and back which were not on the original RADAI, are added on the MDHAQ, but not included in the total count or score. The count is the 0-16 total of each positive joint or joint group. The RADAI score is the 0-48 total of the 0-3 score for each joint and joint group.
- 7) Symptom checklist: the MDHAQ includes a symptom checklist not found on the HAQ, which can serve as a review of systems. Patients who check more than 20 of 60 symptoms generally have non-inflammatory problems such as fibromyalgia (54, 55), although they may also meet formal criteria for RA, systemic lupus erythematosus (SLE), or other rheumatic disease. Fibromyalgia is seen in 20-40% of patients with RA (56) or SLE (7), and this clue can be quite helpful clinically in these patients (57, 78, 79).
- Fatigue VAS: the MDHAQ also includes a 0–10 VAS for fatigue, not found on the HAQ, also in a 21-circle format. Fatigue is an important problem to many patients (80-82).
- Exercise status: the MDHAQ includes queries about exercise status. Absence of exercise is an important prognostic indicator for mortality in the general elderly population, as significant as smoking in the prognosis of 5-year survival in normal older individuals (9).
- 10) *Medical history information:* the MDHAQ includes 12 queries con-

Table II. Comparison of 0–10 pain visual analogue scale (V)	(AS) scores and HAQ/MHAQ/MDHAQ physical function scores in 7 locales in
patients with rheumatoid arthritis (RA) and osteoarthritis (C	DA).

Report	Locale	Pain VAS score in RA mean or median	Pain VAS score in OA mean or median	Question- naire	Function score in RA mean or median	Function score in O A mean or median	Comment
Callahan et al. 1989 (92)	Nashville, TN, USA	5.16	6.01	MHAQ	3.10	1.86	Values are means
Wolfe and Kong 1999 (93)	Wichita, KS, USA	3.63	4.89	HAQ	3.30	3.30	Means - adjusted from 0-3
Slatkowsky- Christensen 2009 (94)	Oslo, Norway	3.64	3.86	HAQ MHAQ	4.09 2.13	3.03 1.59	Means - all OA of hand, though 68% also had hip or knee OA; all patients age 50-70
El-Haddad et al. 2017 (95)	Liverpool, Sydney, Australia	4.3	7.0	MDHAQ	1.7	3.3	Values are medians
El-Haddad et al. 2017 (95)	Rush, Chicago, USA	5.0	7.0	MDHAQ	2.7	2.7	Values are medians
El-Haddad et al. 2017 (95)	NYU, New York, USA	4.7	5.0	MDHAQ	1.7	1.7	Values are medians
El-Haddad et al. 2017 (95)	Ridley Park, PA, USA	2.5	5.0	MDHAQ	1	1.7	Values are medians

HAQ: Health Assessment Questionnaire; MHAQ: Modified Health Assessment Questionnaire; MDHAQ: Multidimensional Health Assessment Questionnaire.

Table III. Mean MDHAQ scores in patients with various rheumatic diseases seen in routine care at Rush University.

Diagnosis	RAPID3 (0-30)	Pain (0-10)	Patient global assess-ment (0-10)	Physical Function (0-10)	Fatigue (0-10)	RADAI (0-48)	Symptom checklist (0-60)
OA (n=301)	15.1 (6.4)	6.5 (2.7)	5.7 (2.8)	2.9 (1.9)	4.8 (3.1)	12.6 (10.5)	10.1 (7.9)
RA (n=317)	11.4 (7.6)	4.6 (3.1)	4.2 (2.9)	2.6 (2.2)	3.8 (3.1)	10.4 (10.6)	7.6 (7.3)
SLE (n=262)	9.9 (7.6)	4.2 (3.3)	4.0 (3.1)	1.7 (1.9)	4.5 (3.3)	7.9 (10.0)	10.5 (8.9)
Gout (n=76)	10.2 (7.7)	4.4 (3.6)	3.8 (3.1)	2.0 (1.9)	3.0 (3.0)	7.3 (8.9)	6.5 (7.0)
Spondyloarthropathies/ Psoriatic arthritis (n=78)	10.4 (7.3)	4.1 (2.7)	4.1 (2.9)	2.3 (2.2)	3.5 (3.1)	9.8 (10.3)	9.1 (9.3)
PMR (n=77)	7.3 (8.4)	3.7 (3.2)	3.6 (3.1)	1.9 (1.9)	3.6 (3.5)	7.3 (8.4)	7.8 (8.2)
FM (n=206)	17.8 (5.4)	7.3 (2.0)	6.9 (2.2)	3.6 (2.0)	6.8 (2.7)	19.4 (11.7)	17.6 (9.1)
Vasculitis (n=72)	6.6 (5.9)	2.6 (2.8)	2.8 (2.6)	1.1 (1.4)	3.0 (5.9)	4.0 (6.5)	6.2 (6.6)
CTD (n=75)	11.0 (7.0)	4.4 (3.0)	4.3 (2.7)	2.3 (2.3)	3.9 (2.9)	8.1 (8.8)	10.0 (8.5)
Total (n=1464)	12.3 (7.6)	5.1 (3.2)	4.7 (3.1)	2.5 (2.1)	4.5 (3.3)	10.9 (10.9)	10.1 (8.8)

MDHAQ: Multidimensional Health Assessment Questionnaire; RAPID3: routine assessment of patient index data 3; RADAI: rheumatoid arthritis disease activity index; OA: osteoarthritis; RA: rheumatoid arthritis; SLE: systemic lupus erythematosus; PMR: polymyalgia rheumatic; FM: fibromyalgia; CTD: other connective tissue diseases.

cerning recent medical history – surgeries, illnesses, hospitalisation, etc. A series of "no" responses saves a physician at least 2 minutes, whereas a "yes" response indicates a matter that should be discussed further at the visit.

- 11) *Demographic data:* date of birth, gender, ethnic group, marital status, occupation, and formal education level are queried, so a database can be developed directly from the questionnaire.
- 12) RAPID3 (routine assessment of patient index data): the raw total of 10 0–3 scores for physical function in 10 activities (total=0–30) is divided by 3 for a 0–10 physical function score. The 0–10 pain VAS and 0–10 patient global assessment (PATGL) VAS

are each added to the 0–10 physical function score, compiled into a 0–30 routine assessment of patient index data (RAPID3) score. RAPID3 distinguishes active from placebo arms of clinical trials as well as disease activity score 28 (DAS28) or clinical disease activity score (CDAI) (14) and is informative in patients with all rheumatic diseases in which it has been studied (58).

Examples of data derived from routine use of MDHAQ in routine care

Most of the medical literature presenting data concerning pain, physical function, fatigue, and other patient problems obtained by self-report are research studies such as clinical trials or cohort studies, with a protocol and agenda to recognise clinical changes with treatment, as well as studies concerning prognosis and outcomes. Relatively little information is reported in the literature from routine care, which usually is not regarded as a setting for quantitative, standard, "scientific" observations.

One basis for this situation may stem from a concept that the "best evidence" concerning any phenomenon in clinical medicine is derived from controlled clinical trials and meta-analyses of these trials rather than from routine clinical care (83). This concept has been criticised in recent years with an observation from the Oxford Group that "early hierarchies that placed randomised trials categorically above observational studies were criticised (84) for being simplistic (85, 86). In some cases, observational studies give us the 'best' evidence (84)...there is a growing recognition that observational studies – even case-series (87) *and anecdotes* can sometimes provide definitive evidence (84, 88)."

Two tables of data that have been compiled completely from data collected prospectively in routine clinical rheumatology care are instructive. Table II summarises data presented elsewhere in this supplement (p. S88-93) that osteoarthritis (OA) presents a similar disease burden to patients as RA at this time, according to self-report MDHAQ scores for pain and physical function collected in routine care. It appears in retrospect that pain VAS scores may have been in the same range in OA as in RA even in 1989, while poor physical function was more likely to be seen in RA than OA in earlier decades (Table II). It is recognised that data presented to detect comparable severity of disease burden in OA versus RA requires the same patient questionnaire. This matter is presented at greater length in the other article in this volume (p. S88-93).

Table III presents a summary of scores for pain, physical function, as well as other variables for which patient selfreport provide optimal data, according to MDHAQ scores. It is informative to recognise that scores in patients with fibromyalgia are highest for all the measures depicted, including pain, patient global assessment, physical function, RAPID3, fatigue, RADAI, self-report joint count and distress. Although some clinicians suggest that this information renders patient questionnaires "nonvalid," the data can be used to help identify fibromyalgia in clinical care (54, 55), particularly secondary fibromyalgia, which is seen in about 20-40% of people who meet recognised criteria for RA (78, 89, 90), OA (78), and SLE (91).

The second highest scores are invariably seen in patients with OA and third or fourth in RA patients, reinforcing the observation in Table II that OA patients have as severe disease burden as RA patients. Fatigue scores are higher than pain scores in patients with SLE and vasculitis, consistent with clinical observations. The value of RAPID3 in many rheumatic diseases is reinforced (58). Higher scores on the RADAI self-report joint count in OA versus RA indicates that OA frequently is polyarticular and, may often be perceived by patients as symmetrical, although further research currently in progress to interpret the self-report of symmetrical joint pain in patients with OA. The Table is not presented to indicate definitive comparisons of different diseases as in the previous table comparing OA and RA, but indicates that similar types of comparisons can be performed based on data collected in routine care. In conclusion, data concerning pain on a 0-10 VAS are collected easily in routine clinical care along with other patient symptoms on an MDHAQ (or other simple questionnaire), to provide quantitative, standard scores, rather than narrative descriptions. Medical care is advanced by quantitation and it is suggested that a quantitative score for pain should be incorporated into all rheumatology care.

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