Reconciling treat-to-target with clinical practice: The challenge and how to meet it

Treat-to-Target (T2T) has become the standard treatment approach for rheumatoid arthritis. In concept, T2T is a straightforward 2-stage procedure: Evaluate progress, then escalate treatment if a scale score exceeds a threshold. However, guidelines require T2T to be implemented collaboratively and with discretion. Studies have raised concerns about its feasibility for clinical practice and identified differences between how patients and providers evaluate progress as an impediment. Unfortunately, most studies fail to appreciate that progress assessment is a distinct process and not compatible with selection-based decision models. This brief report identifies 5 ways that progress and selection decisions differ. Having more appropriate methods and models will enable investigators, educators, and practitioners to focus on how commonalities between patients and providers are established and maintained, and how disagreements are overcome.

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Treat-to-Target in structure and practice

Treat-to-Target (T2T) is an evidence-based treatment approach that has been applied to chronic illnesses such as diabetes, coronary heart disease, and hypertension [1-3]. Following a comprehensive review of studies and an international task force report [4,5], T2T was incorporated into Rheumatoid Arthritis (RA) practice. It now is integral to the American College of Rheumatology (ACR) and the European League Against Rheumatism (EULAR) guidelines [6,7].

The structure of T2T is straightforward: The patient's current Disease Activity (DA) is measured by a scale or battery; a scheme applied to classify the treatment response and define a threshold for effectiveness (i.e., halting joint damage), then an escalation procedure is initiated when the threshold is not met. Studies that evaluated the effectiveness of T2T mandated adherence to a rigid protocol. Consequently, they prevented practitioner discretion, patient involvement, and collaborative decision making [8,9]. However, the task force report that recommended that T2T be incorporated into clinical practice

added two caveats, in the form of overarching principles:

- That treatment be based on a shared decision between patient and provider, and

- That the primary goal of treatment is to maximize long-term quality of life [5].

In the ACR and EULAR guidelines, decisions about targets, thresholds, and progress, patient education, management, and goal setting are expected to be made deliberately and collaboratively. These decisions are not made by adhering to a fixed procedure or by a patient's mere endorsement of their physician's advice [6].

Several investigators have noted that collaborative T2T adds complexity to clinical practice [10,11]. Nonetheless, there are considerable advantages. They include improved communication between patient and provider, and greater patient satisfaction with treatment [12-15]. In addition, the two principles are consistent with current attitudes and values about patient-centered care [16,17]. However, these advantages must

be balanced against a variety of concerns, such as the prospect that collaboration might undermine the goal of achieving remission and of halting the progression of joint damage [18]. A further concern is that patients and providers have different, oftentimes discrepant, ways of perceiving symptoms and evaluating treatment [19-22]. The complications and problems led one practitioner to suggest that T2T and shared decision making are inherently at odds [23], and another group to recommended that daily practice adopt the "elements and structure of a clinical trial" [24].

The discrepancy between patients and providers is a long-standing issue [25]. The pertinent question all along has not been whether a discrepancy exists, but whether it can be overcome, and if so, how? Collaborative T2T has brought this issue to the fore, but in a new way by dividing decision making into two distinct and consecutive tasks: The first stage assesses the clinical situation and evaluates the current treatment. The second, contingent on the first, "escalates" or "intensifies" by selecting a new regimen. This two-stage strategy is collaborative at both stages. Patient and provider decide together how well the current treatment is working. Together, they determine whether progress is satisfactory. If it is not, they decide whether to wait, obtain additional information, re-consider treatment goals, or escalate by proceeding to stage 2.

Discrepancies in Stage 1 decisions have been especially concerning to critics and observers. For the T2T approach to be effective, the decision to change is contingent on the evaluation of progress. Progress assessments must be based on Disease Activity (DA) scores. However, there is evidence that patients base progress assessments and willingness to change their current treatment on factors other than DA [26-28]. If these discrepancies are not reconciled, treatment may not diminish symptoms sufficiently and the desired outcome of preventing further joint damage may not be achieved.

Investigating the first stage of decision making

There are several reasons for discrepancies at stage 1 [29]. Though, to some extent at least, the findings reported above are artefacts of the studies themselves. For instance, the unwillingness finding *presumed* that patients were unwilling to change and sought the reasons why [28]. The other two studies examined treatment changes that *had already been made*. One study identified factors that influenced a hypothetical stage 1 decision [27]. The other identified factors that influenced an actual stage 2 decision [26]. What these studies have in common is that the models they employed led them to overlook the progress assessment stage of T2T. If patients and providers and tasked to make a collaborative stage 1 decision, surely it is crucial to learn how patients assess their progress. Why has this area of inquiry been largely ignored?

An answer that warrants consideration is that the two decisional stages of T2T are fundamentally different, and most researchers are less familiar with stage 1 than stage 2. The latter involves a choice between prospective alternatives- for instance, to increase the dosage of the current treatment, add an adjunctive treatment, or introduce a new agent. A stage 2 decision is a *selection* decision. In contrast, a stage 1 decision involves a comparison between the patient's current status and a desirable state. The task is to determine whether progress is sufficient. A stage 1 decision is a *progress* decision [30,31]. Note the differences between the two stages:

- Progress assessments can occur at any time. A variety of events may trigger patients to assess their progress. In contrast, selection decisions occur at a specific time and place, typically in a consulting or hospital room.

- Progress decisions operate by a *compatibility* test. The pertinent question, in informal terms, is "how well are things going?" Good progress means that the current status is compatible with an expectation. In contrast, selection decisions operate by an *optimality* test. The pertinent question is whether the selected alternative maximizes an expected benefit and minimizes risk [32.33].

- Progress decisions are *evidential*. They are contribute knowledge to a future course of action. In contrast, selection decisions are *behavioral*, and prescribe a specific course of action [34].

- Progress decisions are *inflection points* on an unfolding narrative. Most patients are distinctly capable of connecting their treatment progress to the course of their lives. In contrast, selection decisions are *discrete* actions and based principally on the patient's illness. Sound selection decisions require expertise in narrowing the range of options and selecting criteria for comparing alternatives. Patients participate in selection decisions by rating the importance of the criteria.

- Progress decisions require *conversation* and promote a *shared understanding* of the current clinical situation. In contrast, selection decisions rely on a *transmission of information*, principally from physician to patient [35,36].

These differences exhibit the complexity of collaborative T2T. To investigate it, it may be clinical and epidemiological researchers may find it useful to appreciate how their training in Evidence-Based Medicine (EBM) can impede their work. Shortly after its introduction, EBM's principal advocates elected to merge with Decision Analysis (DA) [37-39]. By now, the DA method of rational decision making has been incorporated into health care administration, education, and research. Clinicians in particular rely on DA to make optimal treatment decisions, and the shared decision making literature is rife with examples of DA-based shared decision making [40-43].

DA is commonly presented as a four-step sequential process:

- Model a decision situation,

- Consult the literature to introduce likelihoods,

- Rate utilities and preferences, and

- Make an optimal decision by trading-off risks and benefits.

These four steps have been reiterated in both the EBM and the DA literatures [44-46]. However, these steps neglect two features that are described in the classic work of DA [47]. Both are critical to clinical practice. First, there is a pre-analysis step, where the decision maker applies insight and intuition to recognize a decision problem. This step occurs prior to formulating a decision model. Second, the DA procedure is not sequential, but iterative or "hypothetico-deductive" [48], which means that problems and solutions are recognized and then revisited; models are created, modified, and discarded. Not only do these passages invoke terminology that early EBM discourse regards as anathema, it indicates that models are constructed to fit situations, not vice-versa, and that models change as the situation emerges.

Conclusion

Collaborative T2T brings the preliminary step of decision making to the fore. Recall that a progress assessment may occur at any point and be prompted by a variety of circumstances. Lack of compatibility between a current clinical situation and an expectation may call for an iterative step, where targets and goals are reconsidered and decisional criteria are re-examined. Conversation at stage 1 is essential to establish commonality about these matters, and to incorporate the relationship between the patient's illness and their life. The challenge for researchers, and it is no mean task, is to incorporate the two neglected features of DA into their work. As we have seen, the applicability of T2T to everyday clinical practice has yet to be determined. For researchers who wish to explore its feasibility, the beginning point is to recognize the two-stage structure of T2T and the distinctive nature of stage 1. From that point forward, research can focus less on stage 2 and more on how stage 1 discrepancies are recognized, addressed, and overcome.

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