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Viewpoint

Patient engagement in health technology assessment (HTA) and the regulatory process: what about rheumatology?

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INTRODUCTION

The call for person-centred care and shared decision making goes beyond the consultation room of the patient and health professional.¹ On national as well as international level, patients contribute to health innovations and policy making.² There is an increasing emphasis on patient engagement in identifying unmet needs and the development and subsequent authorization of effective treatments to ensure that they are based on robust input from patients reflecting their preferences, values and priorities.³

Although rheumatology is one of the leading specialties in collaborative research,⁴ implementation of patient engagement in health economics lags behind. This may be due to (a) the difficulties lay people experience in understanding the context of health technology (HTA), its methods for patient preference elicitation, constructs such as Quality-Adjusted Life Years (QALYs), Disability-Adjusted Life Years (DALYs) and Incremental Cost Effectiveness Ratios (ICERs), but also to (b) the complex role of patients when deciding on healthcare resource allocation. However, there is no reason to assume that patient and public involvement (PPI) in HTA is neither feasible nor desirable.⁵ On the contrary, especially in times of economic crisis and radical health policy reforms, patients are confronted with decisions that could affect the accessibility and affordability of safe and effective treatments.⁶ It is the role of patients to ensure that research, licensing and reimbursement decisions align with patient values. As key stakeholders, they not only have the right to be involved, they also own knowledge and experiences that can guide the development of new interventions, the assessment of their utility and the conditions under which market

authorization is warranted. Listening to patients and engaging patients as partners right from the start and throughout all stages of HTA and the authorisation process, will reduce the waste of resources,⁷ enhance the implementation of patient-centred care and ultimately lead to better health outcomes. Early involvement of patients or patient organisations is a responsibility of the HTA research team.

Knowledge of PPI from other areas of health research, may not be immediately transferable to the context of HTA and regulatory decision making. And, HTA researchers as well as patient representatives may not have the knowledge and skills that are required to build sustainable collaborative partnerships in this specific field of health research. The purpose of this article is to raise awareness of concepts and opportunities of meaningful PPI strategies in economic evaluations of health interventions (figure 1).

Defining meaningful patient engagement

Engaging patients in health research has many faces and a common nomenclature is lacking. Here, we follow the definition of engagement as the active and meaningful involvement of patients in HTA and regulatory decisions. The adjective *active* emphasizes the critical difference from the traditional patient role as *passive* study participant.⁸ *Meaningful* refers to the involvement of patients as partners in the decision making phases of developing, conducting and evaluating research. Their contributions are based on but not limited to their experiential knowledge of living with a long-term condition. It includes their experiences with the healthcare system and their experiences with fellow patients and patient organisations. This source of knowledge complements the scientific knowledge of researchers. Such contributions also complement the evidence gained



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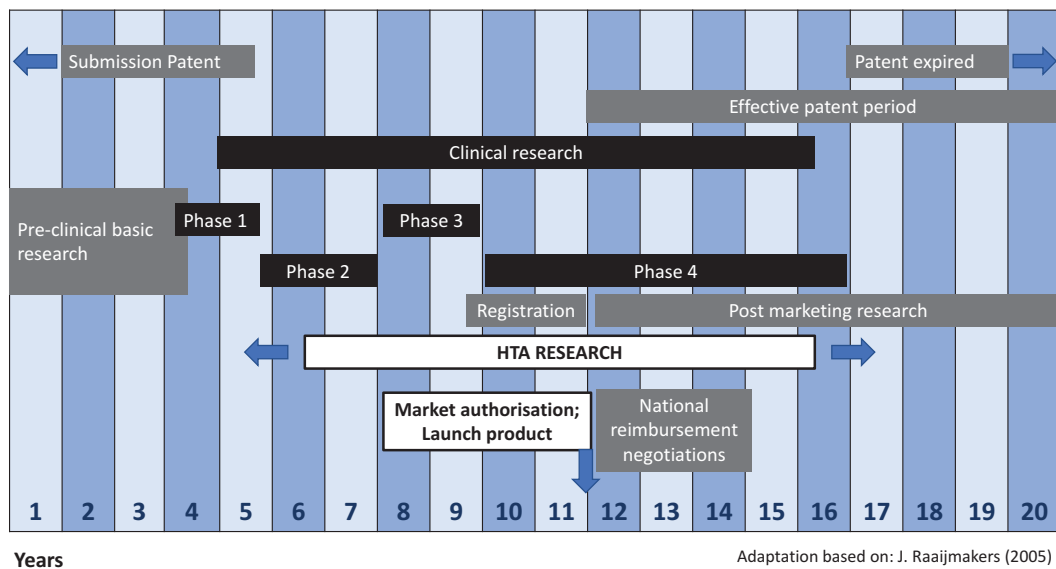


Figure 1 The medicine development and authorization process.

through preference elicitation methods. Combining both strategies of PPI, consultation and collaboration, strengthens the legitimacy and rationality of research findings.

Of note, patients are defined as people with personal, first-hand experience with a condition (or a parent of a child with juvenile arthritis) and with sometimes divergent interests. Within the group of patients, views and experiences may be diverse, emphasizing the fact that the patient perspective is heterogeneous. In addition, within the context of economic evaluations, the role and values of citizens are equally important to patients and justifies the use of the term PPI.

Patient consultation

There are two complementary strategies to capture the lived experiences of patients in research: consultation and collaboration. Both strategies represent the anchors on a continuum, with consultation at one side of the equator and collaboration at the other end. The first strategy results in patient-based evidence comprising information about patient or citizen experiences, perceptions, needs or attitudes regarding their health and healthcare delivery.⁹ There are many validated methods that have a strong track record in HTA (box 1) such as discrete choice experiments, best worst scaling and analytical hierarchy processes.¹⁰ Also, qualitative approaches or mixed methods studies have been reported. What these methods have in common, is that participants are consulted to elicit personal preferences, opinions or concerns, often as a contribution at one time point.

Consultation methods provide a wealth of data that is necessary to obtain a broad overview of patients' behaviour, concerns and priorities and is used, for instance, to calculate QALYs or personal out-of-pocket expenses. The

Box 1 Methods for generating patient-based evidence

- ▶ Discrete choice experiment.
- ▶ Best worst scaling.
- ▶ Willingness-to-pay experiment.
- ▶ Analytical hierarchy processes.
- ▶ Focus group or nominal group technique.
- ▶ Interview.
- ▶ Ethnographic fieldwork.
- ▶ Deliberative inclusive methods (Delphi, RAND).
- ▶ Mixed methods study.

use of patient preference information in clinical practice can direct health innovations, facilitate shared decision-making and improve adherence and disease management. However, these methods do not ensure the full picture of the patient perspective. Limitations are the one-way communication, absence of dialogue and the lack of opportunities to have a say in the design and conduct of the study. Who guarantees whether the right questions are addressed, whether patient relevant outcomes are measured and whether the design is set up and worded in a patient-friendly manner?

PRP collaboration

We recommend to combine consultation methods with collaborative partnerships in which patients contribute their expertise and experiences as equal team members.¹¹ This role as *expert patients* has been developed by EULAR¹² and coined as *Patient Research Partner* (PRP). Their contributions go beyond providing a personal perspective on the topic under research. In contrast to consultation, collaboration is based on two-way communication.

When involved as equal partners, then PRPs carry equal responsibility for informing the decision as each other party involved in conducting the HTA. Despite the lack of

Box 2 Potential added value of PRPs in the context of HTA and regulatory decisions

PRPs can help in addressing the following challenges:

- ▶ Ensure the patient perspective is preserved in every phase of HTA.
- ▶ Assist in developing research design, including aims and methods.
- ▶ Warrant safety, privacy and ethical concerns.
- ▶ Emphasize the importance of intangible aspects of disease, not captured in QALY.
- ▶ Provide patient input through written submissions.
- ▶ Provide oral submissions through personal testimonies.
- ▶ Review informed consent procedures.
- ▶ Assist in the development of economic models and their interpretation.
- ▶ Review patient information materials (package leaflets).
- ▶ Suggest strategies for recruitment and retention.
- ▶ Advocate for equity and promote affordable access to healthcare
- ▶ Contribute to the analysis and interpretation of study findings.
- ▶ Contribute to the write up of the study results (co-authorship).
- ▶ Promote dissemination of results among patients and the public.

Box 3 Case 1. PRP involvement in HTA research agenda setting

An example of patients collaborating with an HTA agency, comes from the Swedish Rheumatism Association (Reumatiker Förbundet) and its network of trained patient research partners. One of their tasks is to identify research gaps and nominate technologies for HTA. In an ongoing initiative the Reumatiker Förbundet collaborates actively with the Swedish Agency for HTA and Assessment of Social Services (SBU) and researchers to develop a shared research agenda regarding the effects of rehabilitation in rheumatic diseases. The involved parties follow the James Lind Alliance methodology to identify unanswered questions of all stakeholders. The SBU took responsibility for the evaluation of the scientific evidence gaps of those research questions that are most important to the end users.

a strong evidence base compared to the widely used consultation strategies, PRPs can have a significant influence on the design and conduct of economic evaluations (box 2).

Although there are challenges given the confidential nature of the inputs, PRPs can contribute to the development of economic models.¹³ They can help to answer the question whether ‘the model represent all relevant states or possible sequences of events over the relevant patient subgroups’ lifetime.¹⁴ They can participate in discussions on the role of behaviour in the uptake and adherence to a new technology, something that can substantially impact cost-effectiveness ratios. PRPs can provide information on healthcare resource seeking practices—or even not seeking care, that should be accounted for in

Box 4 Case 2. PRP involvement in an EMA expert meeting

Patients can be involved as individuals or through a patient organisation. EULAR regularly nominates patient representatives in EMA committees. In 2019 two patients were invited for an ad hoc expert meeting on the safety concerns of one of the targeted synthetic Disease Modifying Anti Rheumatic Drugs (tsDMARDs). One representative had a rheumatic condition and one Crohn’s disease. Prior to the meeting, they received the ‘preliminary rapporteur’s assessment report’ highlighting the safety issues identified with the medicine. It also included a draft recommendation for the Pharmacovigilance Risk Assessment Committee (PRAC). During the meeting with a large group of clinicians and researchers representing a variety of disciplines, the patient experts were invited to provide input in the discussions on the interpretation of the potential risks for patients and the proposed additional risk minimization measures. They were able to listen to the responses of the pharmaceutical company at the start of the meeting, and after the meeting, they received the final decision made by the PRAC, and a request to review the draft ‘public health communication’ from a patient perspective (personal communication).

HTA. Involvement of PRPs in the phase of cost-effectiveness trial design, can ensure that vulnerable populations are not excluded and ultimately benefit from better access thanks to lower prices, less out-of-pocket expenses or better coverage.

Working with researchers and policy makers in this context requires that PRPs are well prepared for their specific role in HTA research. They should have a constructive attitude and understand the importance of achieving consensus. They must have the ability to balance the interests of patients against that of society.

In conclusion, the primary responsibility of PRPs is to provide a patient perspective in all its diversity and to ensure that the patient perspective is preserved throughout the research and decision building process; It is not their role to be representative for the entire target patient population. Representativeness of the study is obtained through the gathering of patient-based evidence.¹⁵

Patient engagement in HTA

Opportunities for patient organisations to influence HTA decision making are public written submissions during the scoping phase. Patient organisations can suggest priorities which technologies to assess, outcomes that are important to patients, and nominate patients, not as contributors to individual HTAs, but as advisors (see case 1 in box 3) or full members with voting rights to HTA committees (see case 2 in box 4).¹⁶ They can also invite oral submissions from individual patients or carers at committee meetings to provide personal testimonies. These kinds of input form part of the evidence base considered by the agency. Finally, patient organisations can provide lay versions of HTA communications. They can also support efforts from patients to appeal HTA decisions.

Facilitating patient engagement

Facilitating patient engagement in HTA and the regulatory process is equally important as in other areas of research. HTA agencies and regulatory agencies have developed frameworks for patient engagement. The European Medicines Agency (EMA) published in 2014 the revised framework for interaction with patients and consumers and their organization in which the agency supports access to real-life experiences of diseases and their management, including the use of medicines. This information will contribute to ‘understanding the value, as perceived by patients, of the scientific evidence provided during the evaluation process for the purposes of benefit/risk decision making’.¹⁷

The Food and Drug Administration’s provides similar guidance to researchers through the Patient-Focused Drug Development initiative.¹⁸ Recently, the Canadian Institute of Health Research published the draft Ethics Guidance for Developing Research Partnerships with Patients.¹⁹ Finally, INVOLVE has produced six draft Standards for Patient Engagement that are currently piloted and evaluated in different areas of health research in the UK.²⁰

Recommendations from the field of rheumatology

Experiences from other areas of research have resulted in a set of useful recommendations for researchers and PRPs to prepare for effective partnership.^{11 12 21 22} They call researchers for engagement of PRPs right from the conception of the research protocol. They recommend to discuss mutual expectations, timelines and responsibilities, and to give PRPs time to familiarize themselves with the research. Because terminology and concepts of HTA might be a barrier for efficient partnership, EULAR has opened its economic course for PRPs. A minimum of training to the specifics of HTA will reinforce genuine involvement of PRPs at all stages. PRPs can also assist in the knowledge transfer of HTA findings to patients, decision makers and the general public. As the project progresses, researchers should encourage an open dialogue in a safe environment.²³ They should respect the value of the PRP’s input and invite PRPs to tell their personal story. Include PRPs in all emails and conversations, avoid jargon, share relevant documents, and allow sufficient time for patients to respond to emails. Make sure PRPs stay involved throughout the research process and are included in the decision making. Accept that PRP involvement may impact research objectives, problem identification and prioritization of the research agenda. And finally, be aware of the potential overburdening of PRPs by regular evaluation, involving more than one PRP and to not always ask the same person.

DISCUSSION

In summary, patient-centred HTA is critical to capture the unique lived experiences of patients. Combining *consultation* strategies to collect patient-based evidence with

collaborative partnerships ensures an adequate representation of their perspectives in economic evaluations. Although empirical evidence for the impact and process of patient involvement is still scarce, practical recommendations exist and may guide researchers and PRPs to implement engagement strategies.

Currently, the categorical imperative of patient engagement in HTA is not supported by a substantial body of knowledge demonstrating its added value. Some studies claim that patient engagement guarantees the effectiveness, safety and affordability of new interventions. It may promote good quality of healthcare services, increase trust in healthcare providers and improve adherence and patient satisfaction with healthcare services. But these claims are based on assumptions or extrapolation from clinical research, and not on systematically collected empirical evidence. The main challenges for the future are therefore to build a solid evidence base for patient engagement in HTA, to develop consensus on the role and profile of PRPs, and on a methodology for demonstrating impact. Wouldn’t it be nice if the specialty of rheumatology would also take a lead in addressing these challenges?

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