Utilizing the Patient-Specific Needs **Evaluation (PSN) for Data-Supported** and Individualized Treatment (UNITE)



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VALUE AND CLINICAL UTILITY OF THE PSN

- We introduce the PSN as an ultrashort and patient-reported generic tool to:
 - increase the probability of offering patients the most appropriate treatment (first-time-right)
 - prevent ineffective or too expensive treatments

This improves (cost)effective treatments for individuals based on real-world data instead of group means.

- It contains the Personal Meaningful Gain (PMG), a novel construct evaluating individualized, clinically relevant treatment outcomes that outperformed the MIC and PASS
- The PSN and associated decision-support model may function as a conversation starter, facilitate expectation management, and aid shared decision-making as a new framework for data-supported, patient-centered, value-based healthcare.

The Personal Meaningful Gain (PMG)

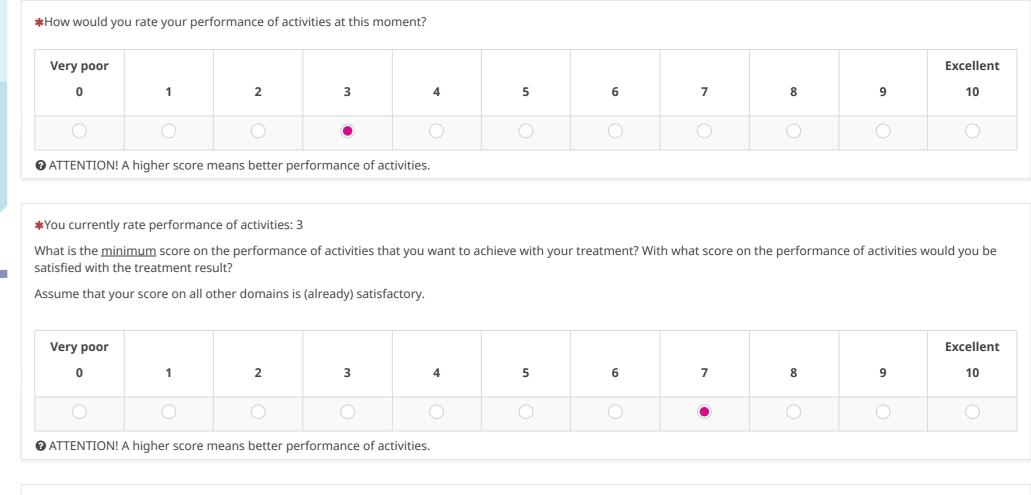
Developed with a total of 5461 participants

The PSN is an ultra-brief, patient-specific but generic instrument that identifies:

- 1. The patient's most important information needs
- 2. The most important treatment goals
- 3. The individual's threshold to be satisfied with the treatment results, and
- 4. Evaluates whether this threshold is reached at follow-up

Scan the QR code to try the PSN





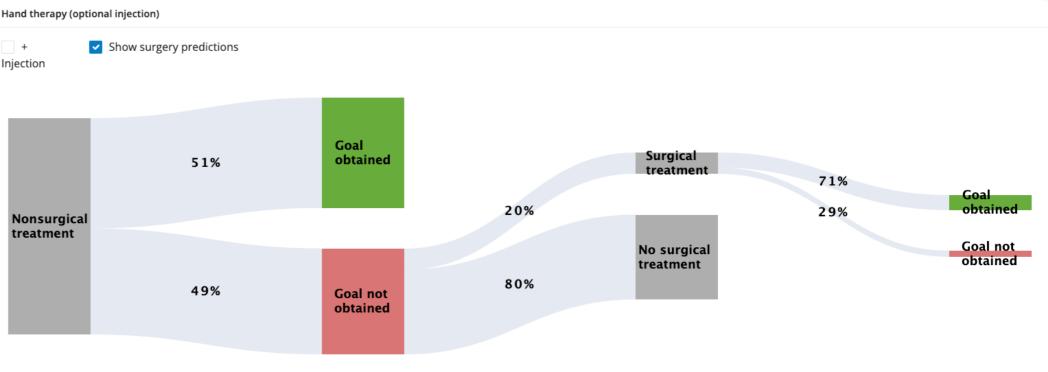
The PMG has higher positive predictive value (0.76, [0.74-0.78]) for being satisfied with the treatment results compared to the PASS (0.70 [0.69-0.72]) and MIC (0.64 [0.62-0.65]) of an NRS for pain (p<0.001) and function (0.67 [0.65-0.68] and 0.64 [0.62-0.66], p<0.001). This indicates that the PMG has a superior ability to identify patients who are satisfied with their treatment results (based on n = 5373).

I am satisfied if I improve on the performance of activities from a 3 to a 7.

Predicting if a patient

Trained on 5010 participants





To predict the probability of obtaining the PMG, we selected a gradient boosting machine algorithm with thirteen predictors. This model had an area under the curve of 0.73 (0.70 - 0.76) and excellent calibration in the test set. This figure displays the user-centered shiny app we designed to visualize the predictions for different treatment options

Scan the QR code to try the personalized decision-support model







Xpert Clinics









