**Appendix: Detailed description of engagement strategies used to operationalize PCORI principles in pSCANNER.**

*Principle A. Reciprocal relationships*: *Roles and decision-making authority of all partners, including patient and stakeholder partners, are clear.* In order to demonstrate this principle, we developed an SAB charter document outlining clearly the expectations and processes for the group. The charter was written, refined, and approved by the SAB and subsequently approved by pSCANNER Steering Committee (composed of the principal investigator and site principal investigators who had financial responsibility for grant funds and deliverables). The charter contained purpose, membership, roles, time commitment and meeting participation, decision-making process, compensation, and staff support. The compilation of different options for engagement offered choices for stakeholders based on their interests, desires for impact, and capacity to participate. The charters allowed the stakeholders to make informed decisions about when and how they wanted to engage. For example, the greatest commitment was required of patient co-chairs who partnered with investigators to plan for each of the SAB meetings as well as attend and help lead. The SABs were expected to meet for up to eight hours during the 18-month period. The SAB-Governance focused their discussion on data governance policies and meetings were held with this group on key data governance principles such as which entities and investigators could have access to network data, individual (patient) control and consent related to data sharing, and technical and physical safeguards for data and network assets. The SAB-Condition groups focused on providing input for preparation of informational materials and processes for the condition-specific stakeholder research prioritization panels.

*Principle B. Co-learning:* *Patient and stakeholder partners understand the research process and researchers understand patient and stakeholder engagement and patient-centeredness.* We co-developed with the SAB-Education six animated, narrated informational modules including content, such as patient-centeredness and current science in PCOR intended for the patients, clinicians, and researchers on the prioritization panels. These were distributed to the panels via ExpertLens and publicly via the pSCANNER website (<http://pscanner.ucsd.edu/stk/educational-videos>). In addition, the planning meetings of patient co-chairs and stakeholder engagement team supported sharing of perspectives and collaborative design of SAB meeting agendas and materials. We also demonstrated co-learning via the use of online discussion boards within the panels, which allowed participant-driven questions, comments, and responses. In general, participants reported positive online discussion experiences as evidenced by the responses to the participant experience survey conducted at the end of each panel.

*Principle C.* *Trust, transparency, and honesty:* *Major decisions are made inclusively; There is commitment to open and honest communication; Study findings are communicated to the community studied, in a meaningful and usable way.* We created an open and transparent process of decision-making that led to the panels. The SAB members nominated the aspirational goals for research in each condition, initial set of research topics for each condition, and evaluation criteria that would be used by panelists for prioritization decisions. Input was gathered informally from notes taken during each of the SAB meetings, and in a structured questionnaire distributed to all SAB members. Final decisions were made through voting in the form of a survey. While the process was coordinated by the pSCANNER stakeholder engagement team, voting was only open to SAB members. Recordings and minutes from all the meetings were published for SAB members.

We structured the panels with a commitment to inclusive decision-making and openness. The intended participation was 360 stakeholders equally representing patients, clinicians, and researchers. We committed to using the outcomes of the panel consensus process to drive the research studies that would be proposed in phase II. The ExpertLens software provides immediate tally of the ratings of the individual compared to the group so that all participants can see the decisions of the group. In addition, the online discussion boards organized questions/comments and responses into threads that were available to all participants within the panel. The discussions were monitored by a neutral moderator who watched for any inappropriate language, and posed open-ended prompts on any topics that were not receiving attention in the discussion. Community briefs on the results of the panels were also written for distribution to the panel and SAB members. Finally, the data from the panels were presented to the SAB to give input into interpretation. The SAB made final recommendations on the top priorities, which were sent to the Steering Committee for final approval.

*Principle D. Partnership:* *Time and contributions of patient partners are valued and demonstrated in fair financial compensation, as well as reasonable and thoughtful time commitment requests.* We carefully planned each of the engagement activities to optimize use of stakeholders’ time. For example, SAB meetings were structured and scheduled to provide flexibility and allow maximum participation by patients and other participants. Based on requests from stakeholders, meetings were held via audio/web conferencing and duplicated in two different time slots (12-1 pm and 5-6 pm pacific time) to provide alternatives for members in different time zones, or who work or have appointments during the day. Materials were provided several days in advance so that members could review and become familiar with the content and, if necessary, request clarification or additional details prior to the SAB meeting. Meetings were recorded and made available with meeting notes so that those who were unable to attend could stay up to date. Thus, there was support for asynchronous participation.

All SAB members—patients and clinicians alike— received $100 check per meeting which compensated for the time reviewing materials in advance, the web-conference meeting time of one hour, and any post-meeting feedback.

The panels were designed to facilitate partnership. Because the panels were conducted fully online with ExpertLens and required only a computer/tablet with an Internet browser, participants could engage asynchronously whenever and wherever it was convenient to them. Each panel consisted of three rounds, each lasting approximately 10 days, and the expected amount of time required was three-four hours over the entire panel. The panel members were provided a $300 Visa card for the entire project covering the anticipated 3 hours for three rounds of online Delphi participation panel participation, and effort to review informational materials. This amount was equivalent to the hourly rate for SAB meetings. While most SAB and panel participants accepted the honorarium, some clinicians who work in academic environments declined the payment.