**Appendix 1. Detailed Methods**

*Inclusion criteria.* The target group of participants included perioperative leaders and experts in perioperative quality and safety, as well as experts from all healthcare fields who have published on handoffs, received grant funding, and who have presented their findings to the scientific community. This included physician anesthesiologists (including residents), certified registered nurse anesthetists, anesthesia assistants, nurses, surgeons, educators, researchers, and selected representatives from industry with prior involvement with APSF (including pharmaceutical companies and electronic health record vendors). Remaining available space was advertised widely to any professional participating in or interested in perioperative handoffs through the *APSF Newsletter*, on the APSF website, in the American Society of Anesthesiologists newsletter *ASA Monitor*, and on the social media platforms Facebook and Twitter. Registration was complimentary, but registrants paid for their own travel and lodging expenses. The list of conference participants is included in the Supplementary Digital Content.

*Exclusion criteria*. No interested people were refused registration or participation in the Delphi surveys, including conference planning committee members.

*Consensus rationale and overall process*. The consensus process was devised by the conference planning committee (AVA, ARB, JBC, PEG, MBL-F) with assistance from a professional meeting facilitator. The committee’s goal was to convene a group of professionals who could provide direction to the anesthesia and perioperative communities about handoff best practices and handoff research priorities. We decided *a priori* to undertake a multi-step Delphi process to develop statements that would then be discussed in person at the conference. We used this approach to engage participants early and maximize the number of statements reaching the threshold for consensus at the conference. As is conventional in projects using the Delphi approach, iterative rounds of questioning were used to generate consensus.1 The consensus process unfolded in four steps: Round 1 – open-ended question survey, Round 2 – closed-ended question survey, Round 3 – in-person small group discussions, and Round 4- large group voting.

*Delphi Round 1: Open-ended Questioning.* Based on clinical and research experience and drawing from the published literature on handoffs, the conference committee created a set of open-ended questions about handoffs: their conduct, implementation strategies, and research priorities. These questions constituted a seven-question survey delivered to the 107 registrants for the APSF conference as of June 30, 2017. The survey (Appendix 1) was delivered electronically using a platform that enabled response tracking (Qualtrics, LLC, Provo, UT). Up to three e-mail reminders were sent to non-responders. In total, 62 participants responded (57.9%)

Responses were analyzed using a qualitative thematic analytic approach,3 in which similar responses were grouped into categories reflecting overarching themes. For example, responses to a question about which metrics should be used to measure handoff success included: “Was the template observed?” “How often a checklist is used and implemented” and “% of time all of the elements of the handoff process were met” and were grouped into the theme “process metrics: compliance/adherence.” For each question, one planning committee member coded responses, eliminating duplicate responses in the process. A different committee member reviewed that coding and suggested changes s/he thought were needed. Discrepancies were resolved by discussion and consensus between these two planning committee members. Data were managed with Microsoft Excel (Microsoft Corporation, Redmond, WA).

*Delphi Round 2: Closed-Ended Questioning.* The second round of the Delphi process focused on reviewing first-round content that had been summarized by the investigators leading the process.27 To achieve this goal, the themes from the first round were converted to statements. For example, the theme “process metrics: compliance/adherence” became “It is essential to measure process metrics such as handoff process compliance or adherence.”

To minimize the survey burden for conference attendees and to increase the likelihood of response, we opted to randomly assign conference registrants to one of six groups corresponding to different aspects of handoffs. The six groups were (1) handoff process elements, (2) handoff metrics, (3) handoff research topics, (4) handoff education and training, (5) handoff process implementation, and (6) patient and family involvement in handoffs. These assigned groups would later be used to determine “breakout session” groups for round 3 of the Delphi process. Conference registrants (115 registered as of August 1, 2017) were invited to participate in Round 2 of the Delphi process in a similar fashion as Round 1 but were asked to answer questions from only one of the six groups (Appendix 2). The survey invitation e-mail included a link to the conference website (<http://www.apsfhandoffs.info>), where registrants could view all candidate statements. The group assigned to research topics was asked to answer Likert-scale questions indicating perceived importance of a given research topic. The other five groups were asked to indicate whether they agreed with a given statement. Additionally, all participants were asked whether they agreed to define “consensus” at the in-person conference as 75% agreement. In total, 87 participants responded (75.7%). Number of responses by group are presented in Figure 1. Round 2 results were collated using summary statistics; data were managed with Microsoft Excel.

*In-person conference*. The part of the APSF conference dedicated to handoffs was held on September 6, 2017. The agenda is reproduced in Appendix 3. Following a brief introduction and overview of the meeting process, 10 short lectures were presented about topics relating to handoffs, including evidence supporting handoff standardization, types of perioperative handoffs, use of simulation in handoff training, handoff educational approaches, and implementation science.2 The slides from each presentation are available at www.apsfhandoffs.info. The last presentation was an overview of the Delphi round 2 results.

*Delphi Round 3: Small Group Discussions.* After the lectures, the six preassigned breakout groups met in separate locations at the conference venue to discuss their group’s statements. Each participant was also given a printed document with the statements from all six groups, with summary statistics describing pre-conference agreement. A facilitator and scribe, who had been trained using simulated small group discussion and role-playing prior to the conference, led each group through discussion of that group’s statements, encouraging dialogue, addressing disagreements, and editing statements with the goal of achieving consensus on as many statements as could be addressed in the allotted time. After each breakout group’s session, there was a vote on the final edited list of statements. The number of participants in each group are presented in Figure 1. Only those statements reaching the 75% threshold for consensus during this round were advanced to Round 4 for voting.

*Delphi Round 4: Large Group Voting.* After the small group sessions, all conference participants reconvened to review all of the statements meeting the threshold from each breakout group. The voting was conducted with an audience response system (Turning Point®, Turning Technologies, Youngstown, OH), which exported voting data in Microsoft Excel® format. We first achieved consensus (94%) from the participants that 75% would be the threshold for “consensus” and that 90% agreement would be the threshold for “strong consensus.” The meeting facilitator read each statement aloud and participants voted on each statement separately. A short discussion period was allowed during each group’s allotted presentation time. During this discussion, participants could propose edits to the statements to achieve consensus or could offer commentary about why they disagreed with a given statement.

**References**

1. Hsu C, Sandford B. The delphi technique: making sense of consensus. *Pract Assessment, Res Eval*. 2007. doi:10.1016/S0169-2070(99)00018-7

2. Cooper JB, Lane-Fall MB, Agarwala A V. First Stoelting Conference Reaches Consensus on Many Perioperative Handover Recommendations. *Anesth Patient Saf Found Newsl*. 2018;32(3).

3. Guest G, MacQueen K, Namey E. Introduction to applied thematic analysis. *Appl Themat Anal*. 2012. doi:http://dx.doi.org/10.4135/9781483384436