Time for a Reboot: Multi-Modal Approaches to Improving Informed Consent Communication in Pediatric Oncology

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IC : Informed Consent

The Belmont Report defines basic ethical principles and guidance for research involving human subjects and remains a cornerstone of research ethics regulations in the United States [1]. The report applies the*principle of respect for persons* to informed consent (**IC**), requiring potential research participants to have the opportunity, to the degree they are capable, to decide what shall or shall not happen. The concept of a participant's right to information and self-determination is incorporated into numerous international codes, highlighting the centrality of IC in human subject's research. In the United States, federal regulations add additional protections for pediatric research including requirements for parental/ guardian (henceforth, caregiver) permission and assent by capable children.

Although the concepts of parental permission (consent) and pediatric assent are well recognized, the practice and process of obtaining consent varies substantially. For example, what information should be disclosed, in

how much detail, and how much understanding is required for consent to be truly *informed* ? A large body of literature describes challenges with IC [2], herein I will focus on common threats to IC while highlighting previous efforts to improve consent in pediatric hematology-oncology.

Unfortunately, there is often an overemphasis on "getting the consent." A framing which places the focus of consent on the participant's signature on the written form, rather than the process of*ongoing* bi-directional communication about the clinical trial [3]. Ideally quality communication includes the elicitation of a potential participant's (or caregiver's) values and a shared decision-making approach regarding trial-enrollment.

Provider-based factors which may threaten IC including: a lack of adequate training, time limitations, assuming participants have read materials related to the trial in advance, and poor communication. Examples of poor communication include the overuse of medical jargon, the confusing or disorganized presentation of key information, allowing inadequate time for participant questions, and a failure to check for understanding [4, 5]. Finally, although families often prefer to learn about clinical trials from individuals they know, in cases of dual-role consent (as both investigator and clinician), providers may have study-related conflicts of interest or themselves conflate the purpose of the trial with clinical care (i.e., therapeutic misconception), both of which may bias an investigator's perception of the benefits of participation for an individual participant and should be attended to during the IC process [6].

External factors may impact the ability of potential participants (or their caregivers) to understand trial-related information and make decisions consistent with their values. For example, individuals may come to the encounter with personal knowledge, attitudes, and beliefs about clinical research – some of which may not be positive due to mistrust of clinical research or the medical establishment more broadly. The high level of skepticism many Americans expressed towards masking or vaccinations as risk-reduction options against the COVID19 virus is an example of how strongly held personal attitudes can influence one's medical decision-making. Additionally, the ability to process information may be impacted by emotional distress over their child's illness, feeling pressured to secure a "spot" on the trial in cases of rare diseases or early phase trials, and unrealistic optimism that their child is more likely to benefit from participation. Identification as a racial minority or low socioeconomic status has been associated with diminished understanding; and long densely written IC forms may be intimidating to individuals with limited health literacy [7].

In our work with parents whose children were offered an early-phase clinical trial, they recommended a basic informational sheet defining key terms and a simple statement of the trial's purpose, a two-visit IC model, and communication suggestions for medical providers [4]. We subsequently tested a two-visit consent model using a structured communication checklist and the presentation of key information using multi-modal aids. This approach was well received and significantly increased caregiver knowledge of trial-related scientific concepts [8, 9] which suggests the efficacy of this approach in improving the conveyance of important trial-related information. In interviews, many caregivers indicated it was helpful to have a visual brochure to share with other family members to reference later (unpublished data). Of note, despite significant improvements in knowledge, nearly one-third of caregivers failed to understand complex concepts regardless of literacy level or education indicating a need for ongoing repetition of scientific information which may be confusing or unfamiliar to participants [8].

Although our approach was successful, we recognize that it was highly dependent on human factors such as adequate time with potential participants, training in IC communication, adherence to a structured checklist, clinician-investigator's belief in the process, and the ability to reinforce key concepts. Given practical realities such as workforce turnover, competing demands on time, and multiple study staff likely obtaining consent, we now recognize that scalable, standardized approaches to augment IC are urgently warranted.

In this issue of *Pediatric Blood & Cancer* , Wongthai et al describe the use of a multi-modal assent document in children aged seven to twelve [10]. Children randomized to the multi-modal tool spent significantly longer time with the assent document, expressed more visual signs of enjoyment and displayed enhanced comprehension, recall, and satisfaction in comparison to children randomized to the standard assent form [10]. Such novel approaches to IC communication should be broadly applied to improve the transfer of information

to caregivers whose children are offered clinical trial enrollment. Furthermore tools, as described here, can be used independently to consistently convey information while reducing burdens on study-staff.

The Belmont Report highlights that "*because the subject's ability to understand is a function of intelligence, rationality, maturity, and language, it is necessary to adapt the presentation of information to the subject's capacities* " and to verify participant understanding. In its current format, the standard process of IC is often woefully inadequate at conveying information effectively. There is a need to optimize the presentation of information in alternative formats that can reach multiple styles of learners, such as those who prefer an audio-visual approach. Given the increasing consumption of information in short formats online, clinical trial communication needs a reboot - we must evolve to match how people prefer to consume information.

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