Table 2: CTTI Recommended Strategies for Optimizing Data Quality

Data should be collected by mobile technologies in such a way as to optimize the quality of the data. This table outlines CTTI recommended strategies for optimizing data quality at the point of collection when using a mobile technology. Strategies should be developed prospectively, and this tool is organized to highlight recommended approaches and additional considerations at each critical step of the protocol design process. For additional considerations pertaining to data quality, please reference Section II-2 (pg9 Ln22) of the recommendations.

<table>
<thead>
<tr>
<th>Critical Step in Protocol Design</th>
<th>Recommended Strategy</th>
<th>Data Quality Aspect(s) this Strategy Addresses</th>
<th>Additional Considerations</th>
</tr>
</thead>
</table>
| Formulation of Research Question | To encourage participants to use the mobile technology in the way they are instructed to do so, sponsors should ensure the relevance of the scientific question to participants. | ▶ Promoting correct data attribution  
▶ Minimization of data variability  
▶ Minimization of missing data | Click [here](#) for detailed recommendations and a tool to support the selection of a technology derived endpoint to answer the research question of interest. |
| Mobile Technology Selection      | To optimize study participant adherence to the trial requirements for data collection, mobile technologies should be selected with the needs, preferences and abilities of the study participant population in mind. | ▶ Promoting correct data attribution  
▶ Minimizing data variability  
▶ Minimizing missing data | Click [here](#) for detailed recommendations on mobile technology selection |
| Determination of Participant Incentives | To discourage participants from intentionally misusing the mobile technology, sponsors should design protocols in such a way to avoid any undue incentives to ‘game the system’. | ▶ Promoting correct data attribution  
▶ Minimization of data variability | |
| Developing Informed Consent Language | To ensure participants are willing to use the mobile technology in the way they are instructed to do so, the informed consent should include language indicating that use of the | ▶ Promoting correct data attribution  
▶ Minimization of data variability  
▶ Minimization of missing data | Click [here](#) for CTTI’s recommendations on improving the informed consent process. |
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| mobile technology is a requirement for participation in the trial.¹ | To optimize study participant adherence to the trial requirements for data collection, CTTI recommends that sponsors ensure the delivery of effective training for all study participants as well as study staff, where applicable. | ▶ Promoting correct data attribution  
▶ Minimization of data variability  
▶ Minimization of missing data | Click [here](#) for detailed recommendations on how to develop effective technology training for study participants and staff |
| Developing the Training Plan | To identify any unanticipated potential issues associated with data collection as outlined in the protocol, sponsors should consider conducting feasibility (or pilot) studies of their protocol prior to launching the trial. | ▶ Promoting correct data attribution  
▶ Minimization of data variability  
▶ Minimization of missing data | |
| Pilot Testing the Protocol | To optimize the likelihood that participants are willing to use the mobile technology in the way they are instructed to do so, sponsors should consider including a run-in period that evaluates whether participants’ adherence in using the mobile technology meets a pre-determined level. | ▶ Promoting correct data attribution  
▶ Minimization of data variability  
▶ Minimization of missing data | |
| Study Screening Process | | | |