CO CoE mHealth Online Survey Design Lessons Learned

**Survey Design Guidelines**

* Use multiple questions to address multiple topics – do not have multi question questions. For example:
	+ Don’t: Where and when did you go swimming
	+ Do: Q1. Where did you go swimming? Q2. When did you go swimming. Breaking each question down into its separate parts is easier for people to digest what you are asking of them
* Ask as few questions as possible per page
* Open-ended questions: Ask very specific open-ended questions and avoid "Other (specify)" or general feedback boxes because cognitively demanding and time-consuming
* Use common language. Evaluate grade level and other readability metrics using online readability score calculators for survey language
* Minimize technical terms and jargon
* Minimize the use of matrices
* List answer categories vertically instead of horizontally
* If special instructions are essential, write them as a part of the question statement
* Number the questions consecutively and simply, from beginning to end
* To avoid premature termination, insert words and/or symbols that accurately communicate progress towards completion
* Use drop down boxes only when answering process is simplified
* Design introductory page and first questions so that they are relevant, fast, and easy.
* Ask questions that require more brain power earlier on (food history) before brain is tired and save easy questions for end (where do you live, work, demographics)
* Use conventional formula similar to those normally used on paper self-administered questionnaires, e.g. numbered items, left justification, vertical response choices
* Define desired response path by placing information in the order respondent should process it
* Use consistent language and formatting throughout

**Techniques to Increase Data Quality**

* Ask respondents to commit to provide their best responses (Ask at the beginning of the survey, "Are you willing to commit to providing your best data?"
* Embed checks for correlation between answers that should be correlated (e.g., height/weight, birthdate/age)
* Add "soft checks" throughout to make sure responses are not blank and in a valid range, then prompt to the user if there is a problem
* Build in checks for repeatability (e.g., ask the same question multiple times throughout the survey)
* Set certain questions to specific formats to ensure you get the type of data you want – ex: date questions set to only accept mm/dd/yyyy format

**Other Tips**

* Embed cues for exposure recall (e.g., a calendar)
* Consider asking important questions first (e.g., with Campylobacter, exposures that are most likely to be associated with an outbreak (raw milk) at the beginning)
* Ask the respondent at the end of the survey how confident they are overall in the quality of their responses and recall
* Sit in on phone interviews to further improve future iterations of questionnaires (to identify where/when additional clarification is provided)
* Include contact information for follow up questions
* Include educational messages and material throughout
* Add in logic so that LPHAs are automatically notified if a case reports certain risk factors of interest (raw milk consumption, ill contacts, etc.)
* Ask case if they would like us to contact them to provide additional information at the completion of the survey
* Automatically send educational material and other resources to the case upon survey completion so they have access to all the information

**References**

Vannette DL The Qualtrics handbook of question design. <https://www.qualtrics.com/ebooks-guides/qualtrics-handbook-of-question-design/> Accessed December 2019.

**Pew Research Center**. *Questionnaire design.* Available from: <https://www.pewresearch.org/methods/u-s-survey-research/questionnaire-design/>. Accessed December 2019

Don Dillman's Guiding Principles for Mail and Internet Surveys (Summarized on UNE Center for Community and Public Health website: <https://www.une.edu/sites/default/files/Microsoft-Word-Guiding-Principles-for-Mail-and-Internet-Surveys_8-3.pdf>).