Use of Flow Charts to Guide Data Collection and Administrative Responsibilities in Epidemiologic Field Studies
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Overview: In epidemiologic field research, mastering data collection procedures can be challenging for field staff. To facilitate training and compliance of field staff, it is critical to have a comprehensive Manual of Operations (MOO) that includes standard operating procedures (SOPs) for all data collection and quality control activities. As part of the MOO, Social & Scientific Systems (SSS) creates flowcharts to diagram complicated study procedures and administrative tasks. These flowcharts are added to the list of training resources and are used as a quick reference in the field to guide staff through study operations. Having study specific flowcharts as visual aids facilitates field staff compliance with data collection and administrative procedures and improves organization – resulting in increased efficiency and ultimately to improved data quality. It also allows for easier monitoring of compliance with required activities by supervisors who are managing remote field staff.

Methods: In one recent project, field staff working in multiple states conducted data collection visits in participant homes. These visits lasted up to three hours and consisted of a complicated series of data and specimen collections, anthropometric measurements, and lung function tests completed in a precise and prescribed order. These field staff also performed mandatory daily, weekly, and quarterly uploads of various study and administrative data, and conducted daily and weekly calibrations of various study equipment. While all of these activities were detailed in individual SOPs within the MOO, the addition of a series of flowcharts that broke the complex protocol down into a series of manageable steps were critical to the study’s success.

Conclusions: Inclusion of flowcharts as visual aids in field study operations has resulted in a high level of compliance with data collection and administrative procedures and efficiency of operations for both field staff and their supervisors. Data quality is ultimately improved as a result of comparability of data and specimen collection methods across all field staff.