

IBUC 2012 Paper Abstract

Integrating Biometric Measurements in a Blaise Instrument

There is increasing interest in including biometric measurements in social surveys, and identifying associations between socio-economic status and health and mortality. NatCen has for been conducting surveys that require collection of biometric data for many years, using both survey nurses and, for some measures, lay interviewers. These measurements include blood pressure, height/weight, ECG, grip strength, waist/hip circumference and lung function. The traditional approach has been to provide interviewers and nurses with the necessary equipment and train them to measure and enter the data in the appropriate input fields in the survey instruments. This method has some serious weaknesses, such as potential keying errors and the user having to split their attention between the laptop and the measuring equipment.

The ideal solution is to use equipment that connects directly to the laptop and to populate the data fields in the instrument with the readings. We have achieved this for one biometric measurement, namely full lung function or spirometry. The module shells out to third party software that reads input parameters, controls the measurement session and returns the resulting data to be stored in the Blaise data file.

The benefits of such a solution are particularly compelling for spirometry, as the outcome depends on respondent participation and feedback to the nurse. A forced blowing manoeuvre is required which many people find difficult; reproducible blows are needed so respondent technique is crucial. The software provides information about the quality of each blow which the nurse uses to improve the respondent's technique and to spur them on to blow in a consistent way.

This paper will describe

- Survey background and biometric measurements
- Reasons for finding a new method of measuring lung function
- Exploring and selecting suppliers
- Interfacing with Blaise
- User training
- Data extraction and reconciliation

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