

## **Why use ODK?**

### **Slide 1**

This online training was developed by the London School of Hygiene and Tropical Medicine Open Research Kits. It provides an introduction to the use of electronic data collection using XLS forms for the software Enketo and Open Data Kit. I am Hannah Brindle, a research fellow with the Emergency and Epidemic Data Kit and this is Robert Butcher.

### **Slide 2**

The LSHTM Open Research Kits provides technological solutions to data collection in global health research. There are three components to the LSHTM Open Research Kits. The first is the LSHTM Open Data Kit. This uses the free software Open Data Kit (ODK) to allow data to be collected electronically. We will discuss this in further detail in our next slides. The second is the LSHTM Emergency and Epidemic Data Kit which uses our tools to collect electronic data and provide automated reporting in health emergencies. Lastly, the LSHTM Open Making Kit which supports 3D design and printing for researchers. To find out more about LSHTM Open Research Kits please visit the websites uses the links on this slide.

### **Slide 3**

So why should we use electronic data collection instead of paper?

Firstly, we can reduce errors by adding constraints and skip patterns to our questionnaires. For example, if we are entering the age of the study participant, we can set the questionnaire to not allow an age of over 120 years to be entered. This is called a constraint. Additionally, we can add skip patterns for example we will only ask questions about professions if the participant is over a certain age. This reduces the need for cleaning when we come to analyse the data to produce reports.

Secondly, if data is collected using paper there is often a requirement for double entry, mainly due to the chance of errors when transcribing the data. The provision of electronic data collection removes the need for transcription from paper thereby also removing the need for double data entry.

Thirdly, we can reduce or even remove the need for paper. In low resource or remote settings, the printing and transport of paper is costly, logistically challenging and can result in security issues if not stored adequately.

Finally, we can produce reports in real-time which can help inform immediate public health or research decisions. This is possible as the data is transmitted directly to a server where we can download the data and run scripts using R software to produce automated reports.

#### **Slide 4**

The Open Research Kits project uses the software Open Data Kit (ODK) for electronic data collection.

Open Data Kit is an open source community project based in Seattle in the USA. It is free to use and provides multiple online tools to help develop forms for data collection. To use ODK you need to do this through an app on an Android device.

A WiFi connection is required to download the forms however, once this is done, there is no need for the connection to enter data and save the forms. The only time you will then need internet/WiFi again is to send the forms to the server.

#### **Slide 5**

Enketo is part of the ecosystem of ODK which allows webforms/surveys to be created. Unlike ODK, the webforms can be used on Android and iOS devices as well as desktop computers but like ODK, the forms can be completed offline. There are many different applications (themes and widgets) which allow you to change the format of the webform. You can also print the surveys should you need to.

#### **Slide 6**

There is therefore a hybrid system consisting of data collection on an Android device using the ODK app or a webform on a computer or other device and a system which can be used both offline and online to enter and save data.

#### **Slide 7**

With regard to security, our ORK electronic data systems uses multiple layers of encryption from collection of data on the device e.g. tablet or phone to transport of the data over WiFi to the storage of the data on a server.

#### **Slide 8**

To read about ODK being used in different settings please go to our webpage which outlines some case studies.