CommCare Fundamentals - Data in CommCare

Data in CommCare - Learning Objectives

We know that data is incredibly important for your work. It helps you identify what's working and what's not, and equips you with the information necessary to make decisions and solve problems. In this unit, you'll learn all about data in CommCare. We'll explain how data gets from a phone to CommCare HQ, what types of data can be accessed, and provide examples of how the data can be used.

By the end of this unit, you will be able to:

- Describe the flow of data in CommCare
- Explain how CommCare functions when there is no network
- Define and provide examples of the different data types in CommCare: worker activity data and raw data
- Distinguish between the two types of raw data available in CommCare: form data and case data

CommCare Data Flow

Let's begin this unit on Data in CommCare by answering this question: How is data collected on the phone made accessible on CommCare HQ?

As you can see in the figure above, there are three main steps in the data flow process:

First - Data is entered into forms via CommCare Mobile
Second - Data is submitted via cellular phone networks or Wi-Fi networks to the CommCare HQ server
Third - Data is accessible and downloadable via the CommCare HQ website
Sending data

Getting data from the phone to the server, and making it accessible on the CommCare HQ website requires connectivity via cellular phone networks or Wi-Fi networks.

So what happens to the data collected on a phone when there is no signal?

ACCESSING DATA

Once the data is sent, who can access and download the data?

In most projects, data is accessed and downloaded by any CommCare HQ/web user with permission to view it. In some instances, where mobile users are sharing the same case list, one mobile worker may be able to see some of the data that was submitted by another mobile worker. This is called case sharing. However, case sharing is an advanced concept so we won’t review it here. If your project will be using case sharing or you are simply interested in the concept, you can learn more about it here.

We used some terms here that you may not yet be familiar with: web user and mobile user. You’ll learn more about the differences between web and mobile users in the next unit, Unit 5, in this course.

For now, let's learn more about the types of data accessible in CommCare: raw data and worker activity data.

Types of Data Captured by CommCare

In general, two types of data are captured by CommCare:

- **Raw Data** – this is data from the questions and answers contained in a form. Raw data is also sometimes called key indicator data or programmatic data. Raw data, once analyzed, can help you understand progress towards your indicators and program effectiveness.

- **Worker Activity Data** – this is data about how and when mobile workers submit forms. The technically inclined can think of this as metadata. Worker activity data can help you understand mobile worker performance and enable you to provide supportive supervision.

RAW DATA

What is raw data?

*Raw Data* is data from the questions and answers contained in a form.

For example, if you have a question like “what is the patient’s birth date” and the answer is “14 September 2012,” that data -- both the question and the answer -- are then visible in CommCare HQ as raw data. These are also sometimes called key indicator data or programmatic data.

Raw, or programmatic, data includes anything that is specific to the form design, including questions, answers, hidden values, and calculations. Examples include text, numbers, dates, and GPS coordinates.
Types of Raw Data

Two kinds of raw data can be downloaded or exported:

i. **Form Data**: data collected in a single form. A form data export will allow you to download submissions from any single form in an application.

ii. **Case Data**: data collected for an individual case. A case data export will allow you to download all of the data which has been flagged as part of a case file (across all forms within the application).

More details about CommCare Data can be found in this section of the Help Site.

**WORKER ACTIVITY DATA**

What is Worker Activity Data?

Worker Activity Data is data about how and when mobile workers submit forms

The technically inclined can think of this as *metadata*. From viewing worker activity data, you can find out things like:

- Which mobile worker submitted the form
- How long it took the mobile worker to complete the form
- When the form was sent to the CommCareHQ server over the mobile data network or Wi-Fi network
- Whether the form is related to a case and, if so, which one (see Unit 3: Case Management for more about cases)

Using Worker Activity Reports

For your convenience, Dimagi has developed a variety of reports using worker activity data. Collectively, we refer to them as "Worker Activity Reports," and have made them available on CommCare HQ. Across numerous CommCare projects, worker activity reports have been very useful in monitoring workers and providing supportive supervision. These reports can be generated and viewed within CommCare HQ, exported to Excel, or sent via email.

Reports available to you include, but are not limited to:

- **Case Activity** - how frequently does a given mobile worker submit a form related to a given case
- **Submissions by Form** - which forms are being submitted by a given mobile worker over a time period
- **Daily Form Activity** - how many forms does a given mobile worker submit over a time period

Below is an example of a report based on worker activity data. This report is called Daily Form Activity, and it shows the number of forms each mobile worker submitted on each day over a specified time period. This report is useful for a number of reasons. For example, you can see that user06 has not submitted any forms during this time frame, while user07 has submitted 22 forms. Using this report can inform decisions about which workers may need extra attention. But remember: these reports are just a starting point. You should always engage a mobile worker in a conversation to understand all the factors impacting their performance.

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You can learn more about Worker Monitoring on the CommCare Help Site.

The next section is not about CommCare technology, but how projects are structured for effective implementation.

Go to the next section.

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