Databases: Using a clinical trials database

iT Centre Learning

iT services

UNIVERSITY OF OXFORD

About this workshop

This workshop helps you to work effectively with a clinical trials database.

What you will learn

We will investigate the underlying structure of the Sched3 database, examining tables, fields and records.

We will try out the forms that are provided, for reviewing the existing data and for adding new data, and discuss good practice when inserting data into a database using forms. We will look at the process of a respondent becoming a participant, and try out the tools provided to manage this.

We will learn to create simple select queries, for collecting interesting data from the main data set, and try out all kinds of criteria for selecting information. We will optionally look at some other kinds of queries for managing the data and for examining trends and relationships.

What you need to know

These activities are designed to be carried out with the **Sched3** database, specifically set up using *Access* for the Oxford Vaccine Group.

However, the ideas and techniques covered in this workshop will apply to a range of databases. Many of the concepts will be the same or similar, whichever database and indeed whichever software you may later use.

I will assume that you are reasonably confident in using a *Windows* computer and working with data, and that you know something about the Sched3 project context. You will need to be able to:

- Find, open and close a computer file
- Move around a computer screen using mouse or keyboard or equivalent
- Insert, delete, and correct text and numbers
- Navigate the commands, buttons and menus, using Help as necessary

If you need to review these activities, **Lynda.com** is a great place to get guidance. Here are some relevant videos:

Windows basics for first-time users (in Windows 7 Essential Training)

Computer literacy for Windows 10

The resources you need

A copy of the **Sched3** database, with anonymised data, will be provided for you to experiment with during the workshop, and there will be a computer available for you to use with *Access for Windows* installed.

!! You should check with the project manager before using the live database for experiments. !!

The small print

Copyright

About the workshop designer

Pamela Stanworth has over a decade's experience working on databases with researchers and departments across the University. She brings a pragmatic approach to building projects that are effective, reliable and sustainable.

Pamela's roots are in engineering, working with blue-chip industrial companies, technical consultancy and small businesses. Her commitment in teaching and consulting is to enable people to use appropriate technology in their work, efficiently and to a high standard.

Revision history

Version	Date	Author	Comments
1.0	April 2017	Pamela Stanworth	Created

Learning Objectives

This workshop has the following learning objectives:

Learning Objective One: Exploring the data in the tables

Learning Objective Two: Exploring the same data using forms

Learning Objective Three: Working on data using forms

Learning Objective Four: Moving a person from Responses to Participants

Learning Objective Five: Creating queries

Learning Objective Six: Queries with criteria

Learning Objective Seven: More queries with criteria

Learning Objective Eight: Some optional queries

Study Videos

During the workshop, I will point you to a variety of resources that will help you in achieving these objectives.

Videos to support these topics are available from Lynda.com. Find the playlist for the database queries course in the ITLC Portfolio: visit http://portfolio.it.ox.ac.uk and search for "queries playlist".

Watching these videos requires an Oxford University account with Lynda.com. Read about Lynda.com here: http://portfolio.it.ox.ac.uk/resource/lyndacom/lyndacom-welcome-about-these-videos-and-learning-resources

Learning Objective One: Exploring the data in the tables

Open the **Sched3** database (for today's workshop, look in your home drive **H:/**).

Notice all the tables, forms and queries that are listed in the Navigation Pane.

Open the table **tblResponses** in datasheet view. Explore the fields (names at the tops of the columns) and the records (one record per person). Do not be tempted to edit the data values in this table – a table is where data is *stored*.

Look at the same table in design view – notice the same fields are listed here, with their data types.

Close **tblResponses**, then examine **tblParticipants** in the same way. This database has just 2 tables.

Learning Objective Two: Exploring the same data using forms

On the pink welcome form, use the button provided to open the **Responses** form. Navigate around one record using mouse or keyboard – you are using the form to view the data that is stored in the **tblResponses** table.

Look at both tabs, labelled **Demographics** and **Screening**.

Use the arrow buttons to navigate to some other records (other people).

Use **Find** to find these records and look up their details:

person with Surname **Khan**: what is their postcode?
person with Firstname **Helen**: what is her mother's name?
person with email address that begins **nobles**: who screened them and on what date?

Learning Objective Three: Working on data using forms

A new person has responded, so you need to add them as a new record. Use the Responses form to do this: Michael Derek Tucker, male, born 4 September 1952.

Use **Find** to find these records and correct their details:

person who lives in **Baker Street**: response is **Yes;** date of birth **1 May 2016**
person living in town of **Aynho**: excluded because of a health problem
person with email address that begins **casebycase**: fully enrolled in Group 2

Remember that edited data is saved as you leave the record.

Learning Objective Four: Moving a person from Responses to Participants

F Cited and H Wood have agreed to participate. They will have participant numbers 006 and 007. Add them to the Participants list. There are more fields to complete now: in the **Participants** form give plausible data for a few fields.

Learning Objective Five: Creating queries

Use the Create Query Wizard to create these new queries. In each case, examine the data that is presented, and check the design in Design View. Fields can appear in any order.

1. People who are respondents: surname, firstname, full address, response – save it as **qryNamesAndAddresses**
2. Respondents: firstname, surname, date of birth, email address, were they excluded?, reason for exclusion – save it as **qryExclusions**
3. Participants: participant number, group, participant initials, date of withdrawal, actual dates of visits 1, 2, 3, 4, 5, 6 and 7 – save it as **qryEnrolmentLog**
4. Participants: participant number, for SAE1 2 and 3 give the date, diagnosed and comments – save it as **qrySAEs123**

Notice the queries that you are creating are listed in the Navigation Pane, so you can run them again at any time.

Learning Objective Six: Queries with criteria

You are going to edit some of the queries you have already saved. In each case, open the query in Design View, make the changes, then run the query and check that the results are sensible.

1. In any one of your queries, add another field and delete one of the existing fields
2. Edit **qryNamesAndAddresses** to show only those respondents who live in the county of Oxfordshire, and shown alphabetically by surname
3. Now narrow down the same set of names and addresses to show only those living in Oxfordshire who gave the response **Yes**
4. Edit the same set of names to show those not living in Oxfordshire who gave the response **Yes**

Learning Objective Seven: More queries with criteria

You are going to edit some of the queries you have already saved. In each case, open the query in Design View, make the changes, then run the query and check that the results are sensible.

1. Edit **qryExclusions** to show people in ascending order of date of birth, born in 2016 or later
2. Change **qryExclusions**, to show people whose GP's surname begins with W (people born in any year)
3. Use **qryExclusions** to show the people who show no reason for exclusion
4. Use **qryEnrolmentLog** to find participants who withdrew before 1st October 2016
5. Use **qryNamesAndAddresses** to show respondents who have not given a postcode
6. Create a new query showing the initials and participant numbers of those who have given Biobank consent for both serum and genetics

Learning Objective Eight: Some optional queries

Try making some of these interesting queries – they are all optional, so pick ones that are relevant to your own work, or make up your own examples.

Create a new query that will find any duplicates, where the same person (same name and address and date of birth) has been entered twice in **tblResponses**. Test your query.

Copy/paste the **qryNamesAndAddresses**, and remove any criteria from the new query. Edit it to show people who live in Northamptonshire. Now make it into a more flexible query, where the user can type in the name of the county they want to see listed. Test your query.

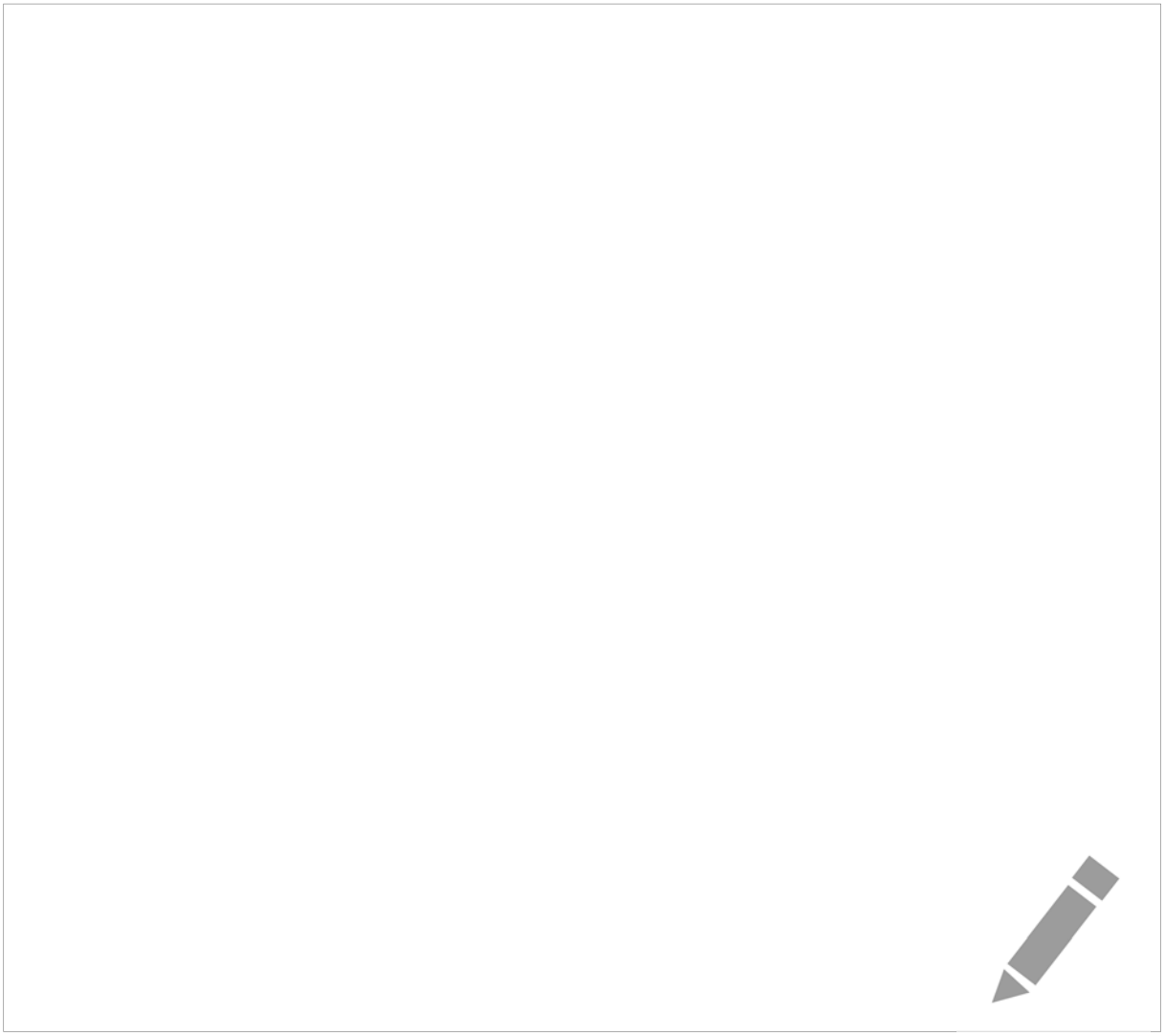
Copy/paste the **qryEnrolmentLog**, and remove any criteria from the new query. Edit it to calculate the participant's age (in days) at each actual visit. You may need to add some more fields to the new query. Test your query.

How many of the participants are male, and how many female? How many are in each of Group1 and Group2? Create new queries to find out, and save them for future re-use.

Create a list of the respondents, showing their full names (first name combined with surname) and GP details (GP Name combined with Health Centre).

Create a list of participants with Participant Number, giving their V2 interval and V3 interval (interval is the number of days between First Date of Visit and Last Date of Visit).

Create a list of participants with their Surnames, showing how many days old they were at Withdrawal.



Notes on Databases and Tables

Some Database Vocabulary for *Access*

A collection of database information is organised into one or more *tables*. You may think of each table in a grid layout.

Each row of the table is known as a *record*. There must be one record for each item included in the table – for example, the records may be about the employees in a department, the books in a library or the individual wall paintings in an ancient cave. The order of the records is not important: indeed it is usual to change frequently the order the records are shown in, when analysing the data.

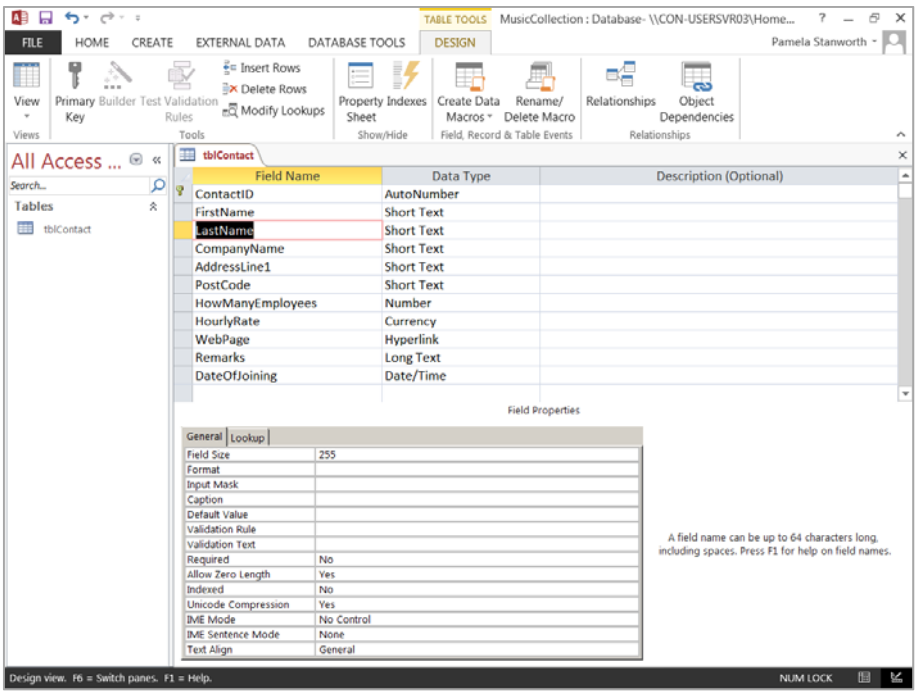
No two records can be identical – there must be at least one different value to distinguish them.

Each column of the table is known as a *field*. Each field contains a different piece of information about the record items – for example, an employee's date of birth, a book's author or the dimensions of a painting. All the entries in one column must have the same *data type* e.g. all text or all integer numbers.

The set of tables, along with the queries, forms and reports used to manipulate them, are saved together in one *Access* file.

Defining Fields in Design View

(on the **Home** tab of the ribbon) will switch to show the table in Design View. Design View shows a list of the field names that have been set up, each with its data type and its Field Properties. Here you add the names of the fields you require for this table.



A Table in Design View

As you click on any row, the Field Properties for that field are listed in the lower window pane. For example, the **Field Size** specifies the maximum number of characters or digits that the user will be allowed to enter. The **Caption** is the label that will appear with the field, on forms, reports etc. (this may differ from the field name itself, for instance including spaces and more familiar punctuation).

There is no theoretical limit on the number of fields per table, although *Access* allows a maximum of 255 fields per table. The overall limit for an *Access* database is 2 gigabytes (GB) for data and objects.

Data Types

Each field is assigned a **data type** – this may be text, a number such as an integer or a fixed length decimal, date & time and so on. All the data in a particular field (for all the records) must have the same data type. If this is not possible, this is an indication that the fields have not been chosen correctly to represent the real situation.

Once data has been entered in a table, the data type cannot easily be changed, so the data types must be chosen carefully at the planning stage.

Data types available in *Access* are:

Short Text	This may include words and digits which are not to be used as numbers for calculation
Long Text	Longer portions of text which will not be sorted or calculated (up to 65,535 characters)
Number	Numbers
Date/Time	Dates and/or times
Currency	Numbers formatted for currency
AutoNumber	Assigns a fresh counting number as each new record is added (counting numbers can be sequential or randomly chosen)
Yes/No	Yes and no or a field that can only have one of two values (Yes is stored as -1, No as 0)
Attachment	Attach images, data, documents etc
Hyperlink	Address of a remote location, such as URL
OLE Object	A piece of data created in other software, such as an *Excel* spreadsheet or a graphic or photo, linked or embedded in the database

tblContact

Field Name	Data Type
ContactID	AutoNumber
FirstName	Short Text
LastName	Short Text
CompanyName	Short Text
AddressLine1	Short Text
PostCode	Short Text
HowManyEmployees	Number
HourlyRate	Currency
WebPage	Hyperlink
Remarks	Long Text
DateOfJoining	Date/Time

Example of Fields and Data Types

In this example table (0) , the fields have been given a variety of data types. The **ContactID** field is used to identify each record uniquely, and it has the AutoNumber type; this means that as each new record is added, a new **ContactID** number will automatically be assigned to it. The **LastName** field has the Short Text type. The **Remarks** field is Long Text type, allowing the user to enter a quantity of comments; such a field cannot be used for sorting or analysis.

Using the Table

From Table Design View, clicking 

will switch to Datasheet View. Here each field appears as a column, and any data values will appear in rows.

The first empty row is shown, ready for the first record to be entered. The mouse or arrow keys can be used to move between the fields of a record. Once some data has been entered in the first record (first row), you can move down and add another record.

The Close button × for closing just this table (leaving the database file open) is at the top right of the table window.

Saving Data Values in the Table?

The data is saved automatically, without any confirmation from you, as you move from one record to the next, or as you close the table.

Creating Further New Tables In Design View

In the **Create** tab of the ribbon, 

will create a new blank table and display it in Design View. In Design View, you can add such fields as are needed.

Managing Tables and Databases

Saving the Table Design

Clicking  on the Quick Access Toolbar or 

on the **File** menu will save the table design. If no name has yet been assigned to the table, you will be prompted for one.

Note that this does not save the data in a table: data is saved without confirmation when you move to another record.

Closing the Table

When some data has been entered, the table can be closed using  . There is no command to save the data explicitly at this point, because new or amended data was saved as you moved between records.

You will only be prompted to save the table design if you have made any changes.

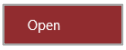
The table name now appears in the Navigation Pane.

Closing the Database File

The database file can be closed using 

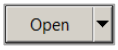
on the **File** menu.

Opening a Database File

Selecting 

on the **File** menu gives you options for opening an existing database. Choose a recent file, or click 

then 

. From here you can navigate to the device and folder where a file has been saved. The file is opened in the usual *Windows* way e.g. select the filename in the dialog and click 

.

Deleting a Table

If a table is unwanted, right-click on its name in the Navigation Pane and select **Delete**. The table design and any data it contained are deleted.

Opening a Table

The bar at the top of the Navigation Pane is used to control the way that lists of the objects in the database file are displayed. **All Access Objects** is often a good choice here, as it lists all tables, forms, queries etc.

To open one table in Datasheet View, double-click the table name or right-click and select **Open**. To open the table in Design View, select **Design View** on the right-click context menu.

Working on Data Using Forms

Forms in Databases

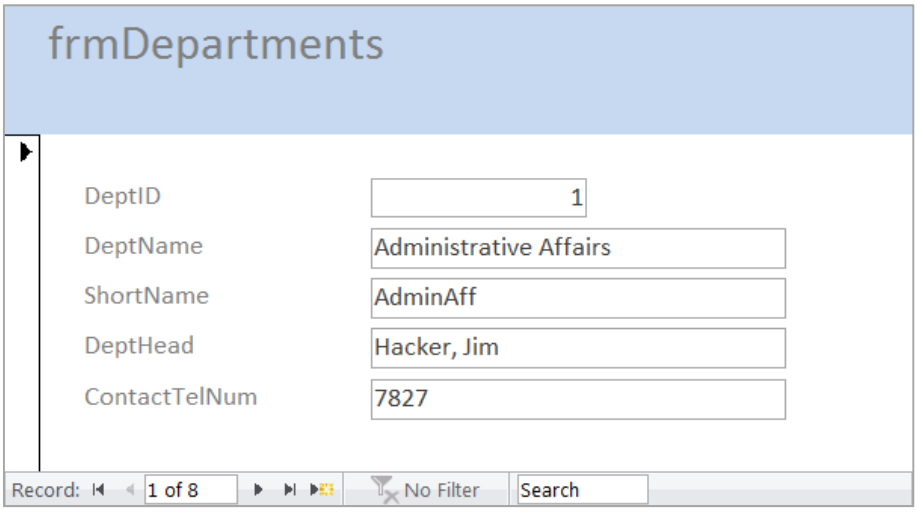
The data in a database is stored in tables, and the tables are joined using relationships. This is the structure which is essential for the data to model your situation or project properly. However, a table is not a suitable or efficient environment for people to work on the data: finding the correct row and column, and typing the correct data is difficult and likely to be error-prone.

For this reason, a database must have forms which people use for reviewing and editing the data that is held in tables. A well-designed form is laid out clearly, with the data boxes or controls in a convenient sequence so that the human user can enter and edit the data efficiently. This helps the user to read and edit the data much more easily than by looking at the same information in the table.

Several forms may be based on the same table (or query), but offer different layout or a different set of fields, to be used in different situations. As usual, available forms are listed in the Navigation Pane.

Using the Form

Form names appear in the Navigation Pane. Double-clicking a form name opens it in Form View, showing one or more records. This is where the user can navigate between the fields and records, and view, edit or add data.



A Form Created Using the Wizard, Shown in Form View

Managing Forms

When finished, the form can be closed by clicking  . If the form design has been changed, you will be prompted to save. You are saving changes to the form design, not changes to the stored data (data changes would have been saved automatically as you worked).

Select Queries

Using Queries

Once a quantity of data has been collected in tables, it becomes interesting to analyse it using a query, looking perhaps at only selected data records, or only some fields, or looking at related records from a number of tables.

The most common type is the select query, which selects records and/or fields from related tables as requested, then displays the results in a datasheet that looks similar to Table Datasheet View.

A query is used to investigate and manipulate data that has been entered into the tables that make up a database.

A query may be used to:

- Sort records
- Select only some fields
- Select only some records using criteria
- or Collect related data from several tables

Suppose you have a database file open, with a table already created and filled with suitable data.

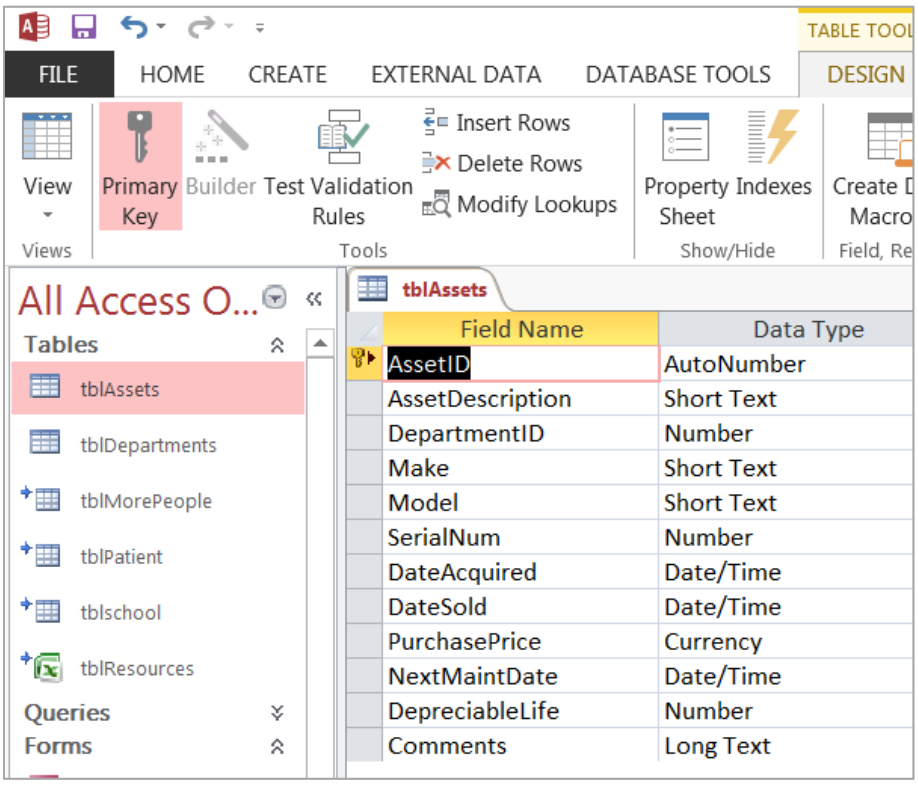


Table Design

It may be interesting to present only a few of the fields from the table, to start considering the significance of the data. A query can be created to do this, based on the table.

Queries that have already been created are listed in the Navigation Pane on the left-hand side of the screen.

More About Queries

A whole course pack is downloadable from the ITLC Portfolio website, which covers creating queries of many kinds. Visit our Portfolio website at http://portfolio.it.ox.ac.uk and search for this course pack:

"Databases: Querying and analysing data using Access (not a current course)".

Further information

Getting extra help

Course Clinics

The IT Learning Centre offers bookable clinics where you can get pre- or post-course advice.

About Lynda.com

Lynda.com is free to all members of the University. Visit courses.it.ox.ac.uk/lynda and sign in with your Single Sign-On (SSO) credentials. Some courses recommend pre- and/or post-course playlists of Lynda.com videos to support your learning. You can watch these anywhere, anytime, and even download them onto a tablet or smartphone for off-line viewing.

If you need a quiet place to work through playlists away from distractions, the IT Learning Centre offers frequent Lynda Labs that you can book onto.

About the ITLC Portfolio online

Many of the resources used in the IT Learning Centre courses and workshops are made available as Open Educational Resources (OER) via our Portfolio website at http://portfolio.it.ox.ac.uk.

About the IT Learning Centre

The IT Learning Centre delivers over 100 IT-related classroom-based courses, and gives you access to thousands of on-line course through Lynda.com.

Our team of teachers have backgrounds in academia, research, business and education and are supported by other experts from around the University and beyond.

Our courses are open to all members of the University at a small charge. Where resources allow, we can deliver closed courses to departments and colleges, which can be more cost effective than signing up individually. We can also customize courses to suit your needs.

Our fully-equipped suite of seven teaching and training rooms are available for hire for your own events and courses.

For more information, contact us at courses@it.ox.ac.uk

About IT Customer Services

The IT Learning Centre is part of the Customer Services Group. The group provides the main user support services for the department, assisting all staff and students within the University as well as retired staff and other users of University IT services. It supports all the services offered by IT Services plus general IT support queries from any user, working in collaboration with local IT support units.

The Customer Services Group also offers a data back-up service; an online shop; and a PC maintenance scheme. Customer Services is further responsible for desktop computing services – for staff and in public/shared areas – throughout UAS and the Bodleian Libraries.

Appendix 1: Tables in Sched3 Clinical Trials Database

Table of Responses

tblResponses

Field Name	Data Type
IDResponses	AutoNumber
Participant Number	Short Text
Participant Initials	Short Text
First Name	Short Text
Middle Name	Short Text
Surname	Short Text
DateOfBirth	Date/Time
House Name/Number	Short Text
Street	Short Text
Village/Town/City	Short Text
County	Short Text
Postcode	Short Text
MothersMobileNumber	Short Text
FathersMobileNumber	Short Text
HomePhone	Short Text
WorkPhone	Short Text
EmailAddress	Short Text
Response	Short Text
Dateresponsereceived	Date/Time
GPName	Short Text
GPSurgery	Short Text
GPSurgeryAddress	Short Text
GPTel:	Short Text
GPFax:	Short Text
ChildHealthDepartment	Short Text
Comments	Long Text
Availability	Long Text
BestTimeToCall	Short Text
Mothers Name	Short Text
Fathers Name	Short Text
Excluded	Yes/No
Date notified of exclusion	Date/Time
Reason for Exclusion	Short Text
Exclusion Details, please specify	Long Text
Booked V1 Date	Date/Time
Booked V1 Time	Date/Time
Actual V1(first infant vaccinatio	Date/Time
Fully Enrolled	Yes/No
Screening Failure	Yes/No
Group	Short Text
TemporaryExclusionCriteria	Short Text
TemporaryExclusionStartDate	Date/Time
TemporaryExclusionEndDate	Date/Time
How did they hear about the stu	Short Text
How they heard, other (please s	Short Text
Postcard stopped	Yes/No

	Have the family previously partic	Yes/No
	Which study, please specify	Short Text
	Poster location, please specify	Short Text
	Approached by, please specify	Short Text
	Date of Screening	Date/Time
	Booked V1	Date/Time
	Booked V 1 time	Date/Time
	Screened by initals	Short Text
	Actual V1	Date/Time
	Sex	Short Text
	OVC newsletter invite sent	Yes/No
	OVC invite date	Date/Time
	OVC invite by initials	Short Text

Table of Participants

tblParticipants

Field Name	Data Type
FirstName	Short Text
MiddleName	Short Text
Surname	Short Text
DateOfBirth	Date/Time
Sex	Short Text
HouseNumber/Name	Short Text
Street	Short Text
Village,Town,City	Short Text
County	Short Text
Postcode	Short Text
HomePhone	Short Text
MobPhoneforMother	Short Text
MobPhoneforFather	Short Text
WorkPhone	Short Text
EmailAddress	Short Text
Mother'sName	Short Text
Father'sName	Short Text
GPName	Short Text
HealthCentre	Short Text
ChildHealthComputer	Short Text
Availability	Short Text
Comments	Short Text
BestTimeToCall	Date/Time
ActualV1	Short Text
Withdrawn	Short Text
Date Of Withdrawal	Date/Time
Reason For Withdrawal	Short Text
Biobank consent for serum	Yes/No
Biobank consent for genetics	Yes/No
Permission to contact in the futu	Yes/No
If withdrawn, do they wish to wi	Yes/No
Group	Short Text
Booked V1 (2 months to 13 weel	Date/Time
Actual V1 (2 months to 13 weeks	Date/Time
BookedV2 (3 months of age)	Date/Time
ActualV2 (3 months of age)	Date/Time
BookedV3 (4 months of age)	Date/Time

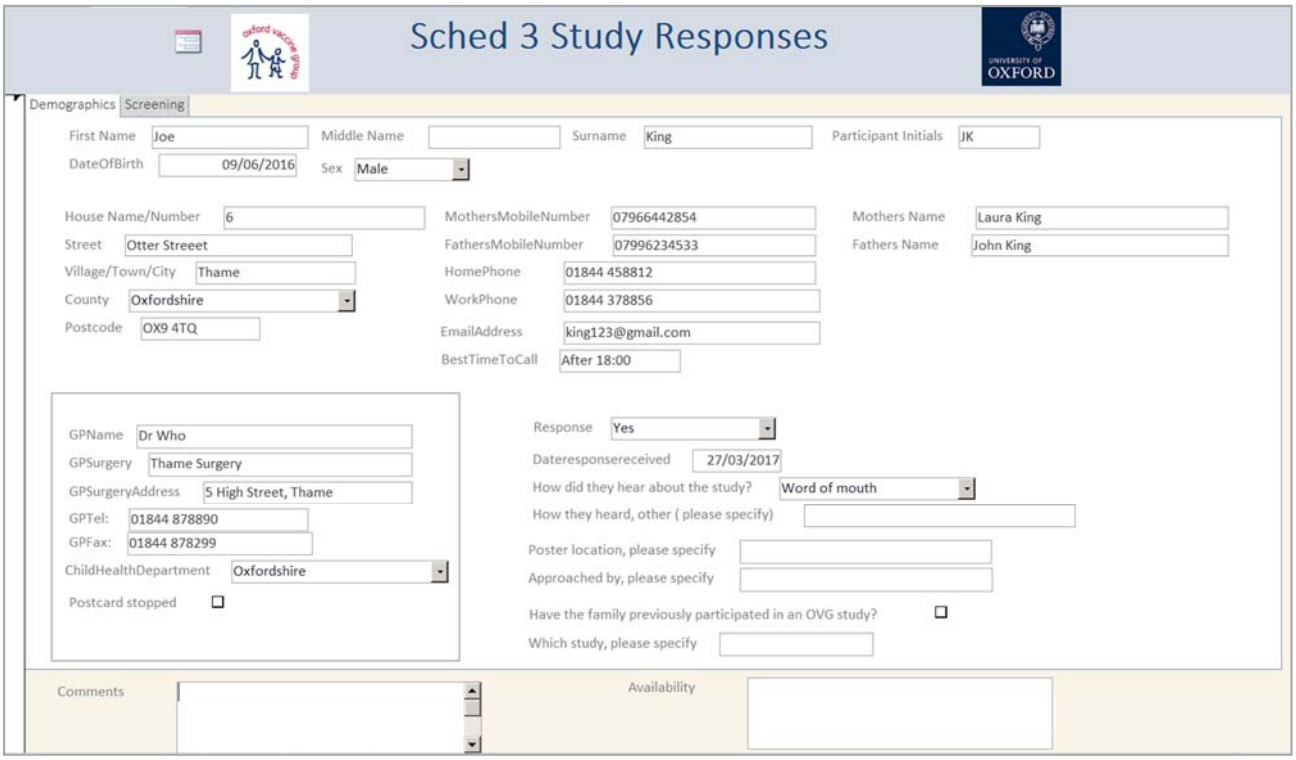
	ActualV3 (4 months of age)	Date/Time
	BookedV4 (5 months of age)	Date/Time
	ActualV4 (5 months of age)	Date/Time
	BookedV5 (12 months of age)	Date/Time
	ActualV5 (12 months of age)	Date/Time
	BookedV6 (13 months of age)	Date/Time
	ActualV6 (13 months of age)	Date/Time
	BookedV7 (18 months of age)	Date/Time
	ActualV7 (18 months of age)	Date/Time
	SAE1Date	Date/Time
	SAE1Diagnosed	Short Text
	SAE1Comments	Short Text
	DateSAE1 reported to OVG	Date/Time
	DateSAE1 reported to CTRG	Date/Time
	IButton 1 Time Fitted	Date/Time
	IButton 1Time Removed	Date/Time
	IButton1 Returned	Date/Time
	IButton1 downloaded	Date/Time
	IButton 1 number allocated	Short Text
	IButton 2 Time Fitted	Date/Time
	IButton2 Returned	Date/Time
	IButton 2Time Removed	Date/Time
	IButton2 downloaded	Date/Time
	IButton 2 number allocated	Short Text
	IButton3 downloaded	Date/Time
	IButton 3 Time Fitted	Date/Time
	IButton 3Time Removed	Date/Time
	IButton3 Returned	Date/Time
	IButton 3 number allocated	Short Text
	IButton 5 Time Fitted	Date/Time
	IButton 5Time Removed	Date/Time
	IButton 5 Returned	Date/Time
	IButton 5 downloaded	Date/Time
	IButton 5 number allocated	Short Text
	IButton 6 Time Fitted	Date/Time
	IButton 6 Time Removed	Date/Time

	IButton 6 Time Removed	Date/Time
	IButton 6 Returned	Date/Time
	IButton 6 downloaded	Date/Time
	IButton 6 number allocated	Short Text
	Actual V1	Date/Time
	First Date of V2	Date/Time
	Last Date of V2	Date/Time
	First Date of V3	Date/Time
	Last Date of V3	Date/Time
	First Date of V4	Date/Time
	Last Date of V4	Date/Time
	First Date of V5	Date/Time
	Last Date of V5	Date/Time
	First Date of V6	Date/Time
	Last Date of V6	Date/Time
	First Date of V7	Date/Time
	Last Date of V7	Date/Time
	Actual V2	Date/Time
	Actual V3	Date/Time
	Actual V4	Date/Time
	Actual V5	Date/Time
	Actual V6	Date/Time
	Actual V7	Date/Time
	V1 Blood Volumes	Short Text
	V2 Blood Volumes	Short Text
	V3 Blood Volumes	Short Text
	V4 Blood Volumes (A)	Short Text
	V5 Blood Volumes	Short Text
	V6 Blood Volumes (B)	Short Text
	V7 Blood Volumes	Short Text
	NP swab A	Date/Time
	NP swab B	Date/Time
	V1 Blood comments	Short Text
	V2 Blood comments	Short Text
	V3 Blood comments	Short Text
	V4 Blood comments	Short Text
	V5 Blood comments	Short Text
	V6 Blood comments	Short Text
	V7 Blood comments	Short Text
	V5 Swab comments	Short Text
	V7 Swab comments	Short Text
	Biobank version number/date	Short Text
	Royal Mail Special Delivery tacki	Short Text
	Samples posted (V4)	Date/Time
	Royal Mail Special Delivery tacki	Short Text
	Samples posted (V6)	Short Text

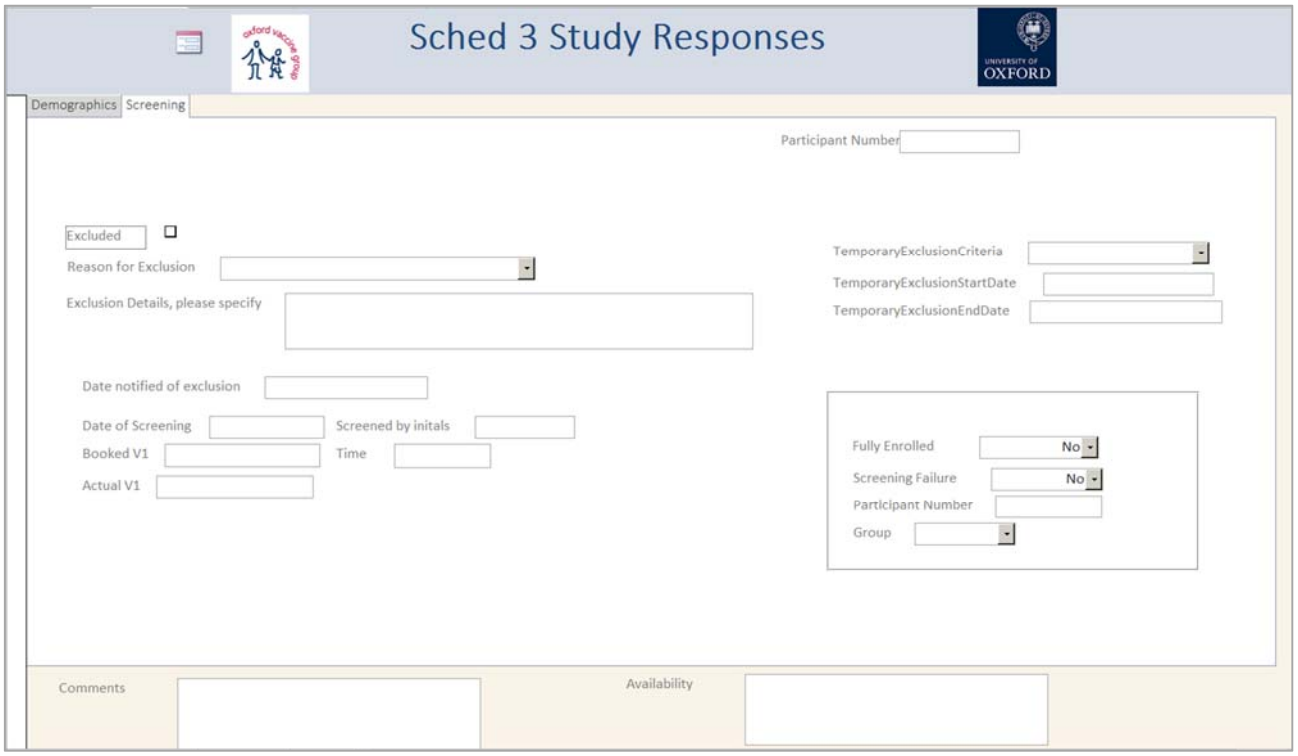
Samples posted by (V4)	Short Text
Samples posted by (V6)	Short Text
Participant number	Short Text
Participant initals	Short Text
Actual V1 visit time	Date/Time
Actual V2 visit time	Date/Time
Actual V3 visit time	Date/Time
Actual V4 visit time	Date/Time
Actual V5 visit time	Date/Time
Actual V6 visit time	Date/Time
Actual V7 visit time	Date/Time
SAE2Date	Date/Time
SAE2Diagnosed	Short Text
SAE2Comments	Short Text
DateSAE2 reported to OVG	Date/Time
DateSAE2 reported to CTRG	Date/Time
Immune response checked	Yes/No
Unscheduled form for V1 Date s	Date/Time
Unscheduled form for V2 Date s	Date/Time
Unscheduled form for V3 Date s	Date/Time
Unscheduled form for V5 Date s	Date/Time
Unscheduled form for V6 Date s	Date/Time
ID	AutoNumber
V2 Booked Date	Date/Time
V2 Booked time	Short Text
V3 Booked Date	Date/Time
V3 Booked time	Short Text
V4 Booked Date	Date/Time
V4 Booked time	Short Text
V5 Booked Date	Date/Time
V5 Booked time	Short Text
V6 Booked Date	Date/Time
V6 Booked time	Short Text
V7 Booked Date	Date/Time
V7 Booked time	Short Text
Biobank consent for tissue	Yes/No
First Date V2	Date/Time
Last Date V2	Date/Time
agree to obtain imms hx	Short Text
previously provided Biobank sam	Short Text
OVC newsletter invite sent	Yes/No
OVC invite sent date	Date/Time
OVC invite sent by initials	Short Text
Invite method	Short Text
SAE3 Date	Date/Time
SAE3 Diagnosed	Short Text
SAE3 Reported to OVG	Date/Time
SAE3 Reported to CTRG	Date/Time
Number of SAEs	Short Text

Appendix 2: Forms in Sched3 Clinical Trials Database

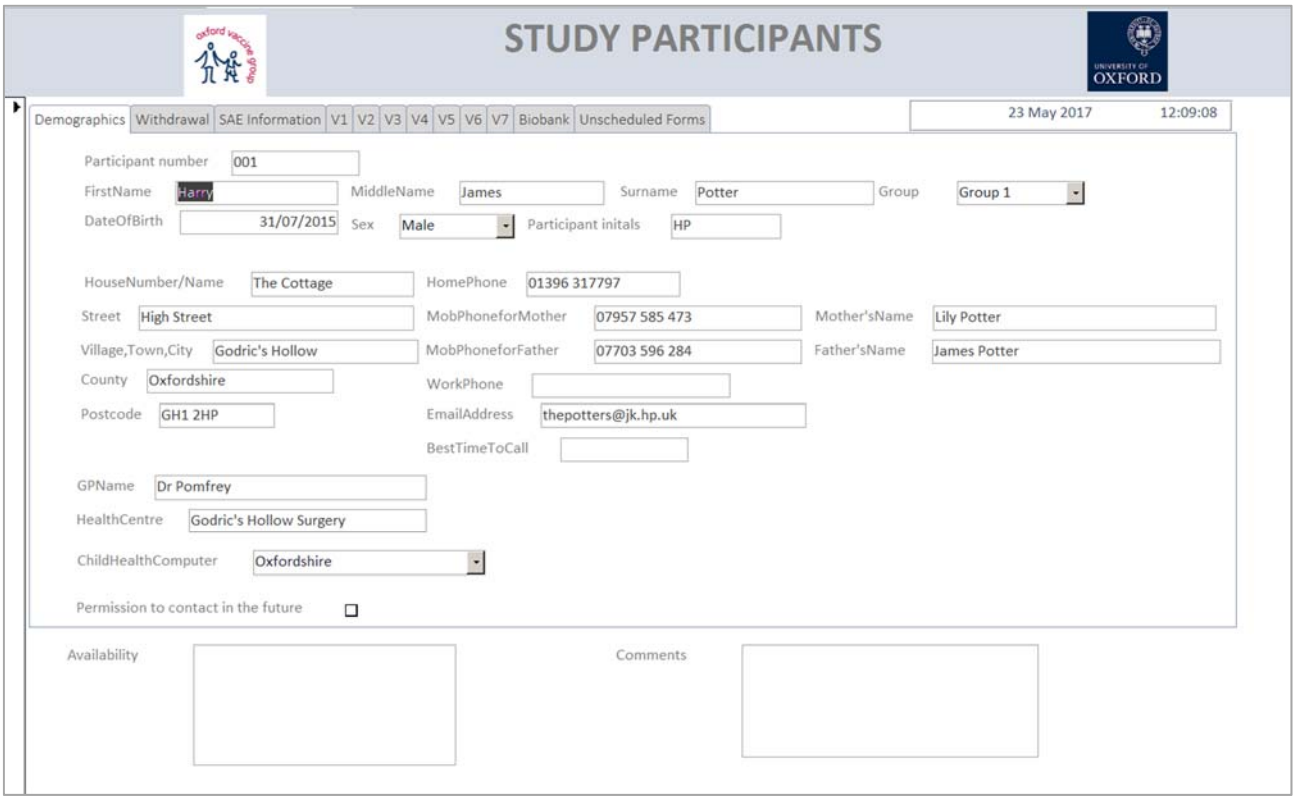
Form: Responses - Demographics



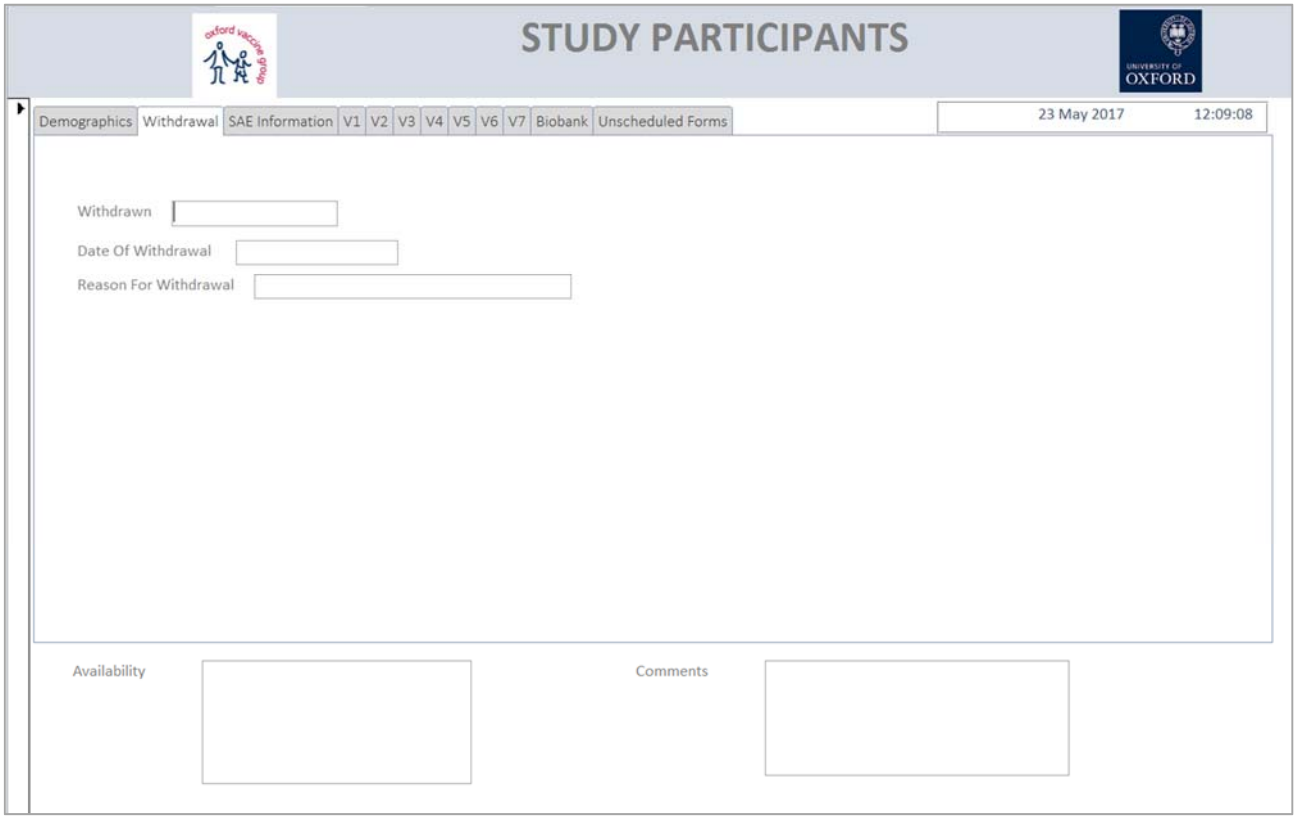
Form: Responses – Screening



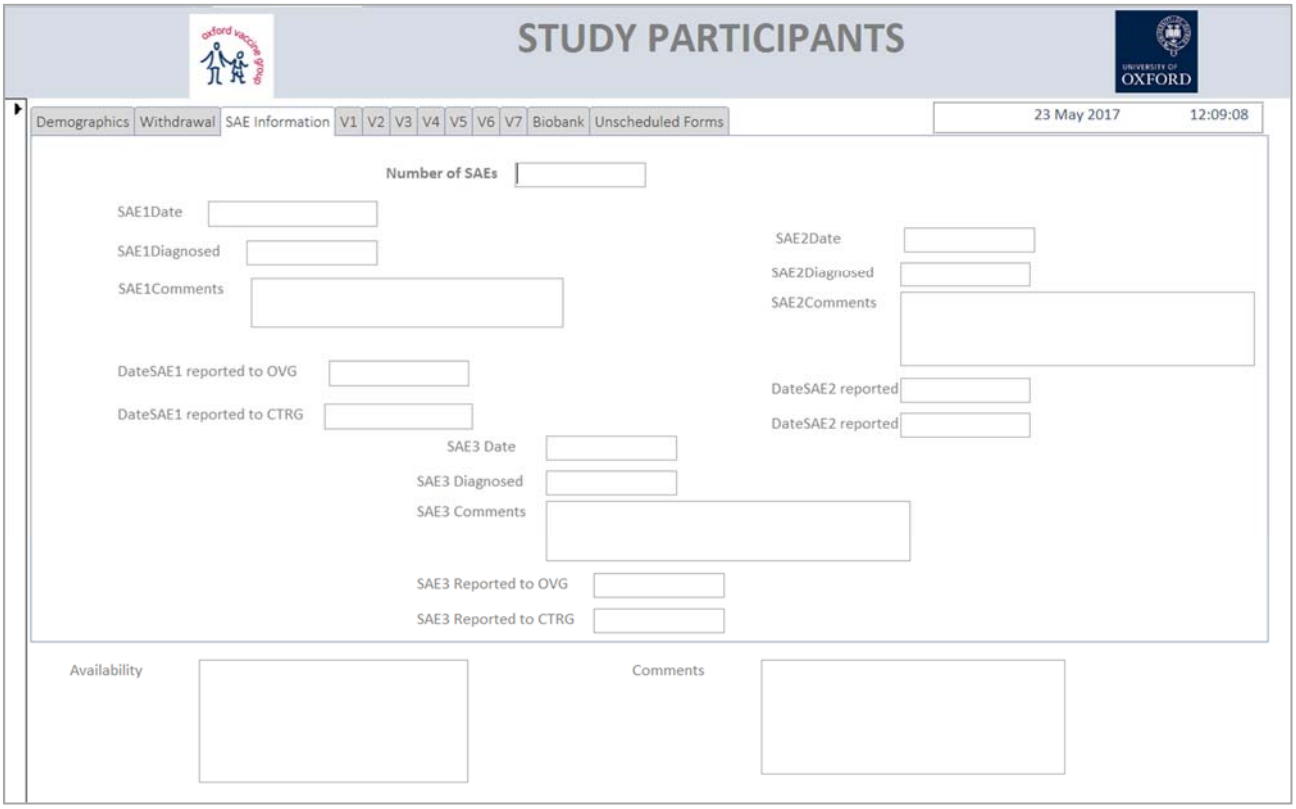
Form: Participants – Demographics



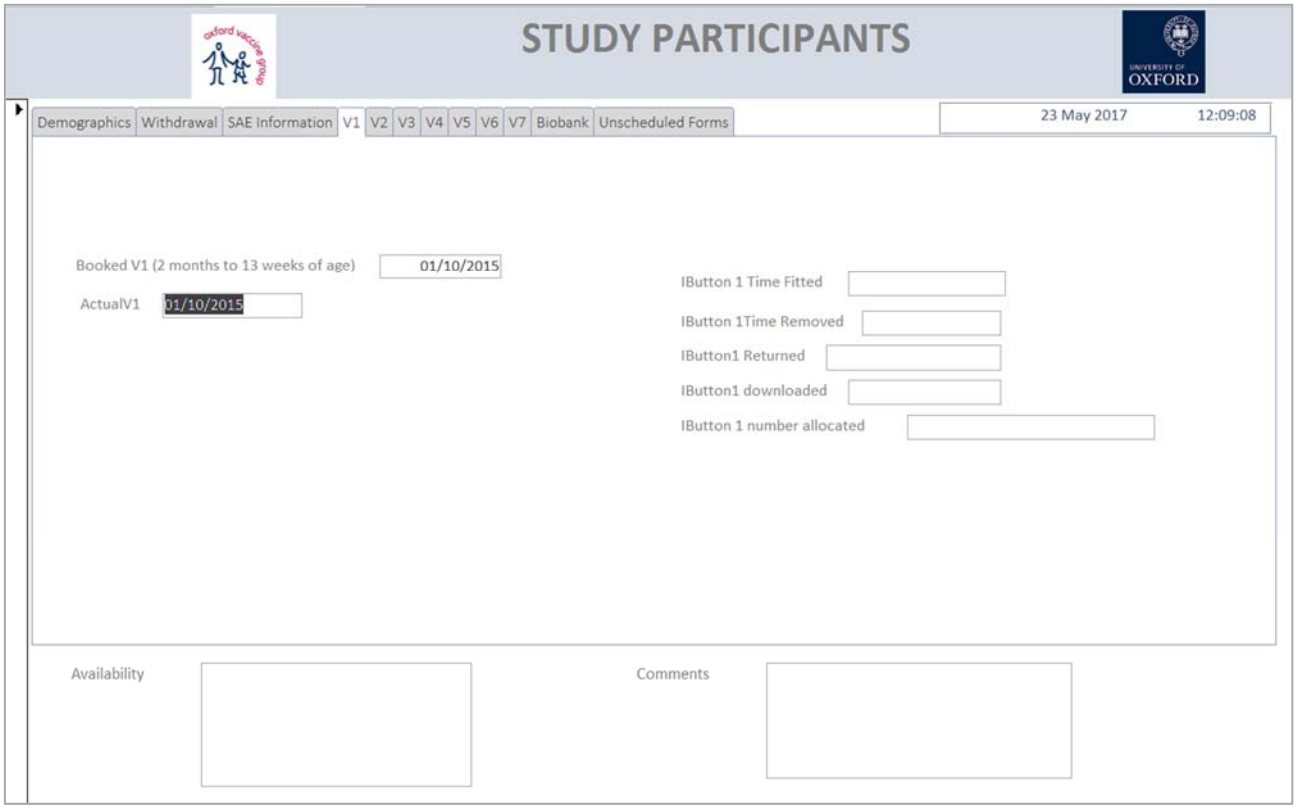
Form: Participants – Withdrawal



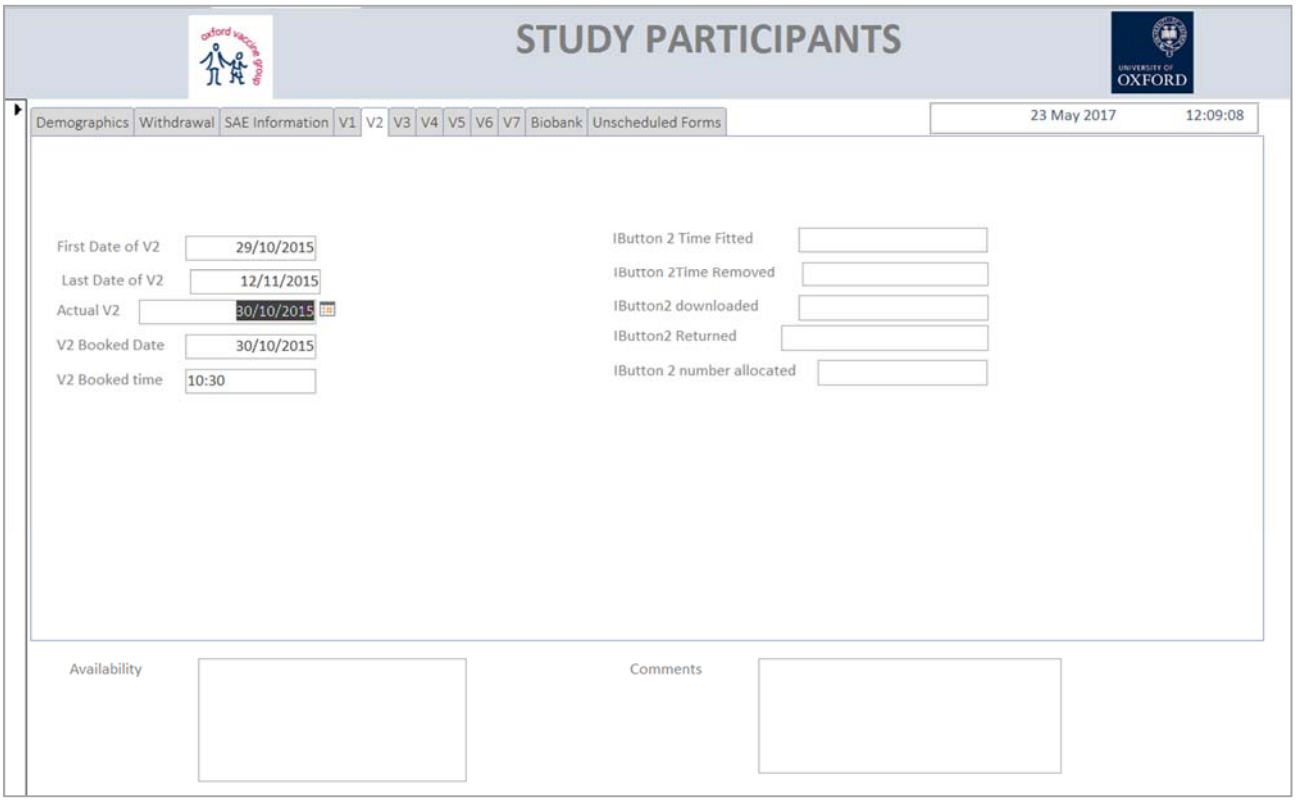
Form: Participants – SAE Information



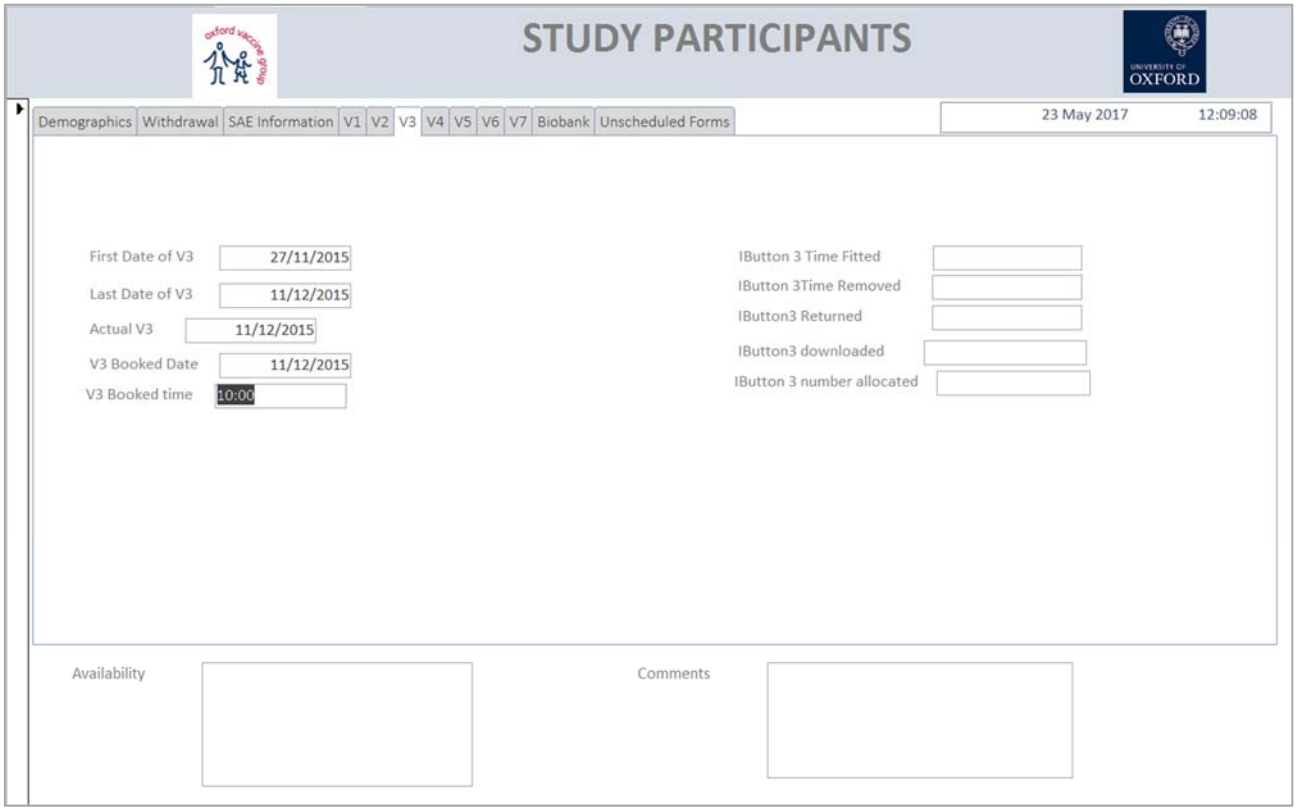
Form: Participants – V1



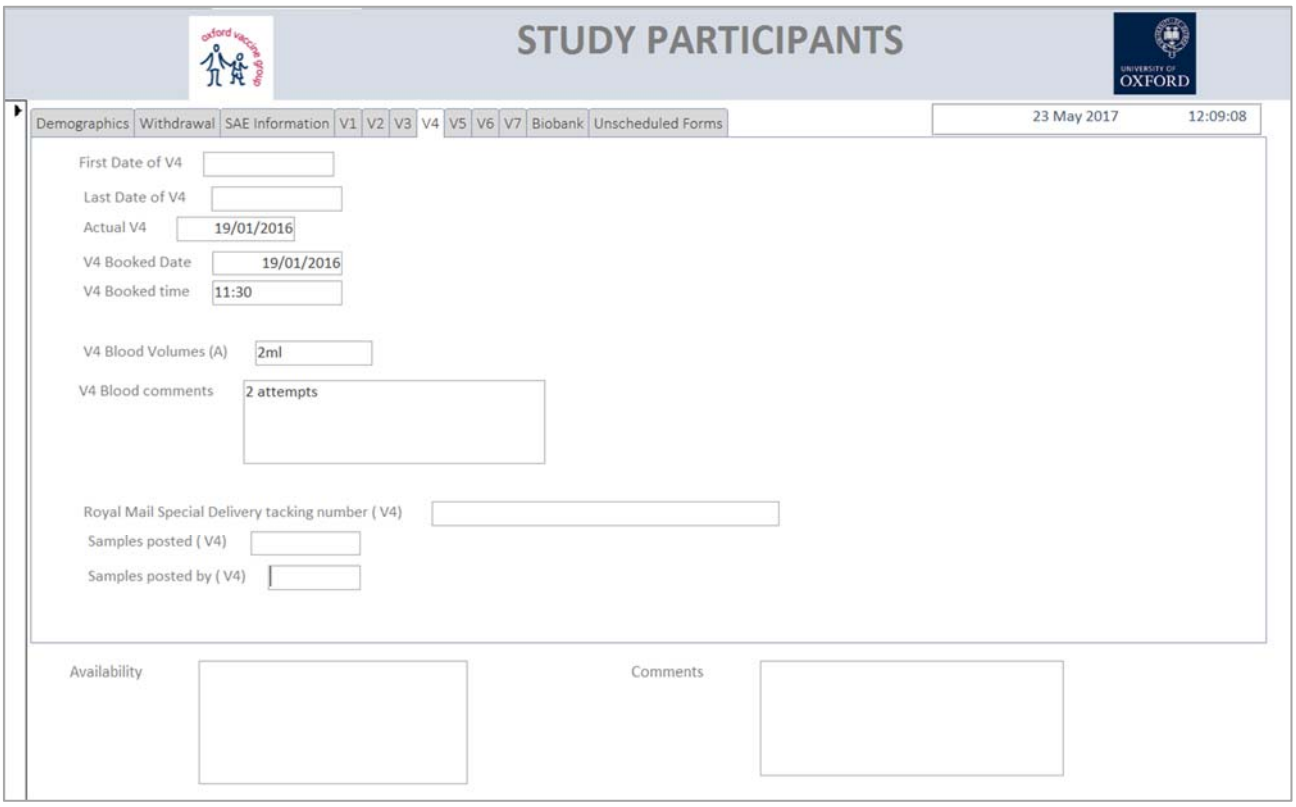
Form: Participants – V2



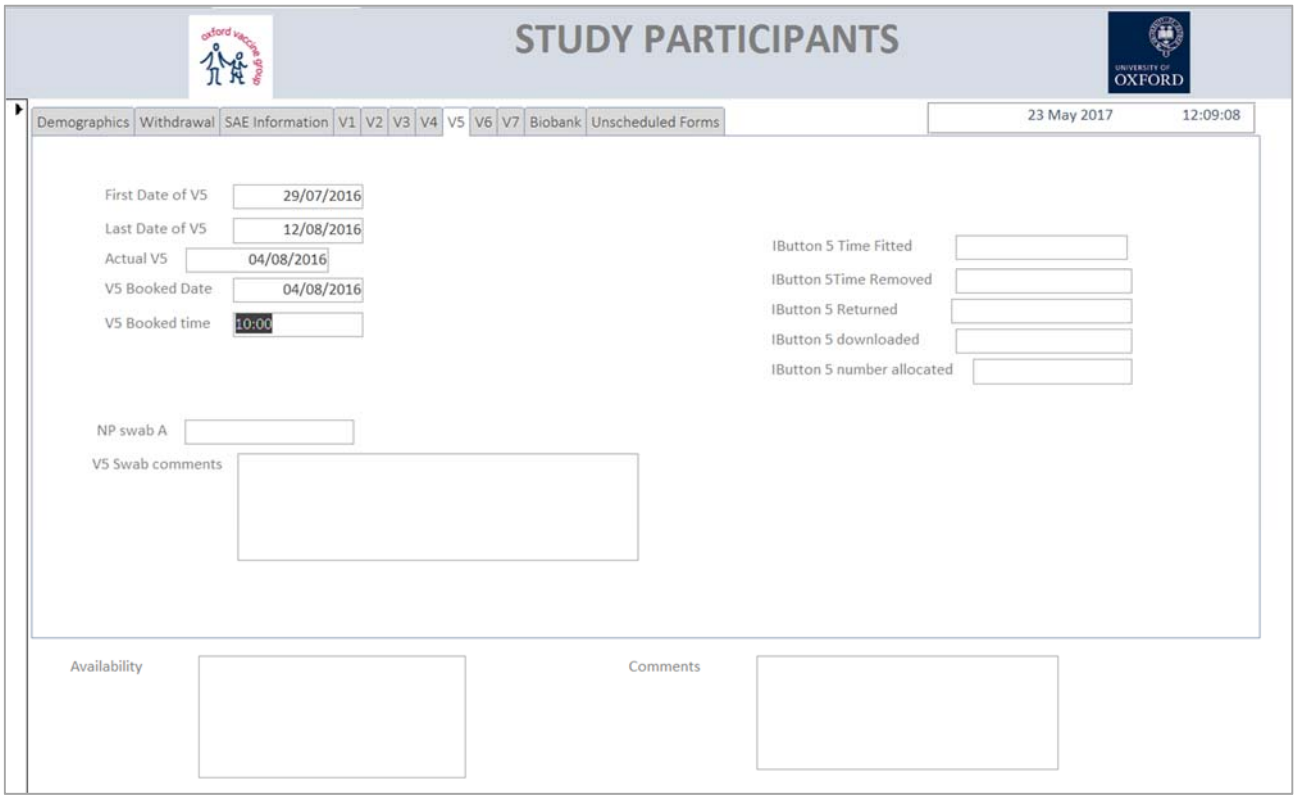
Form: Participants – V3



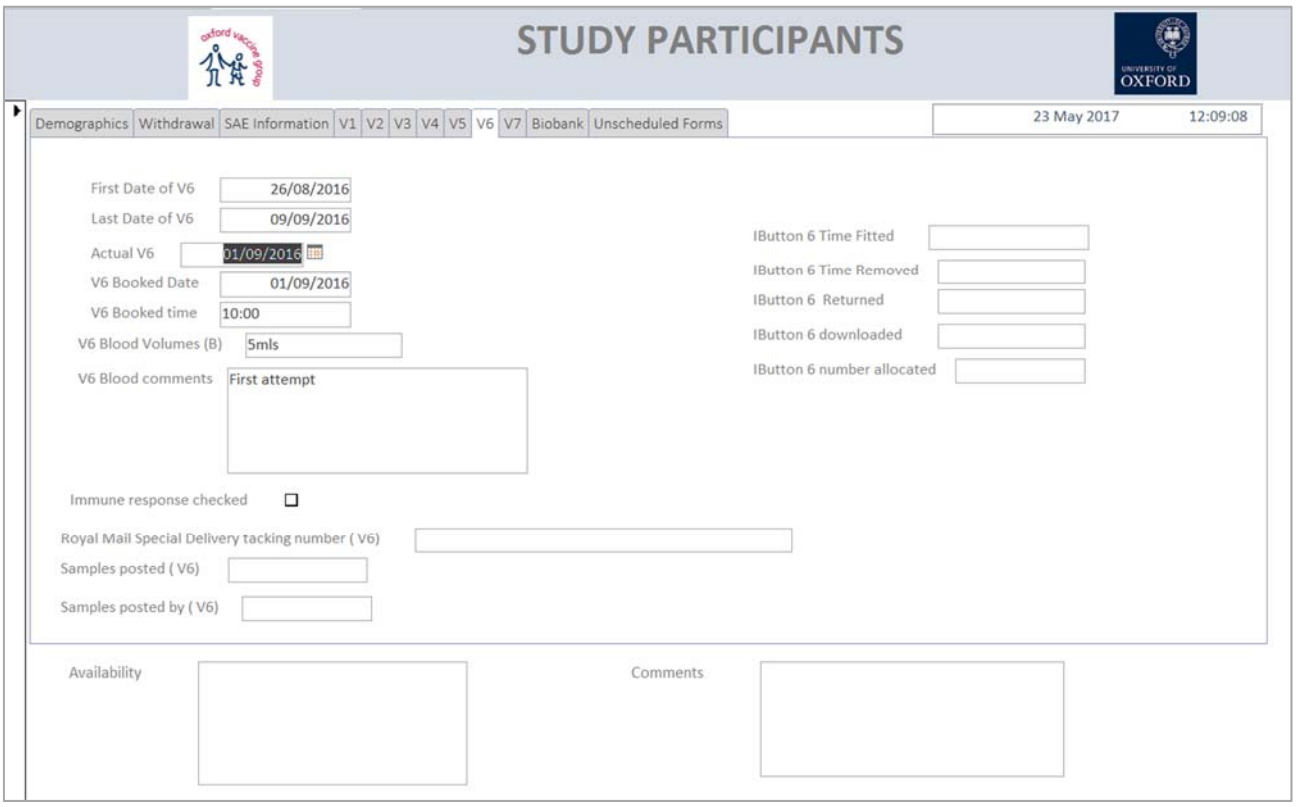
Form: Participants – V4



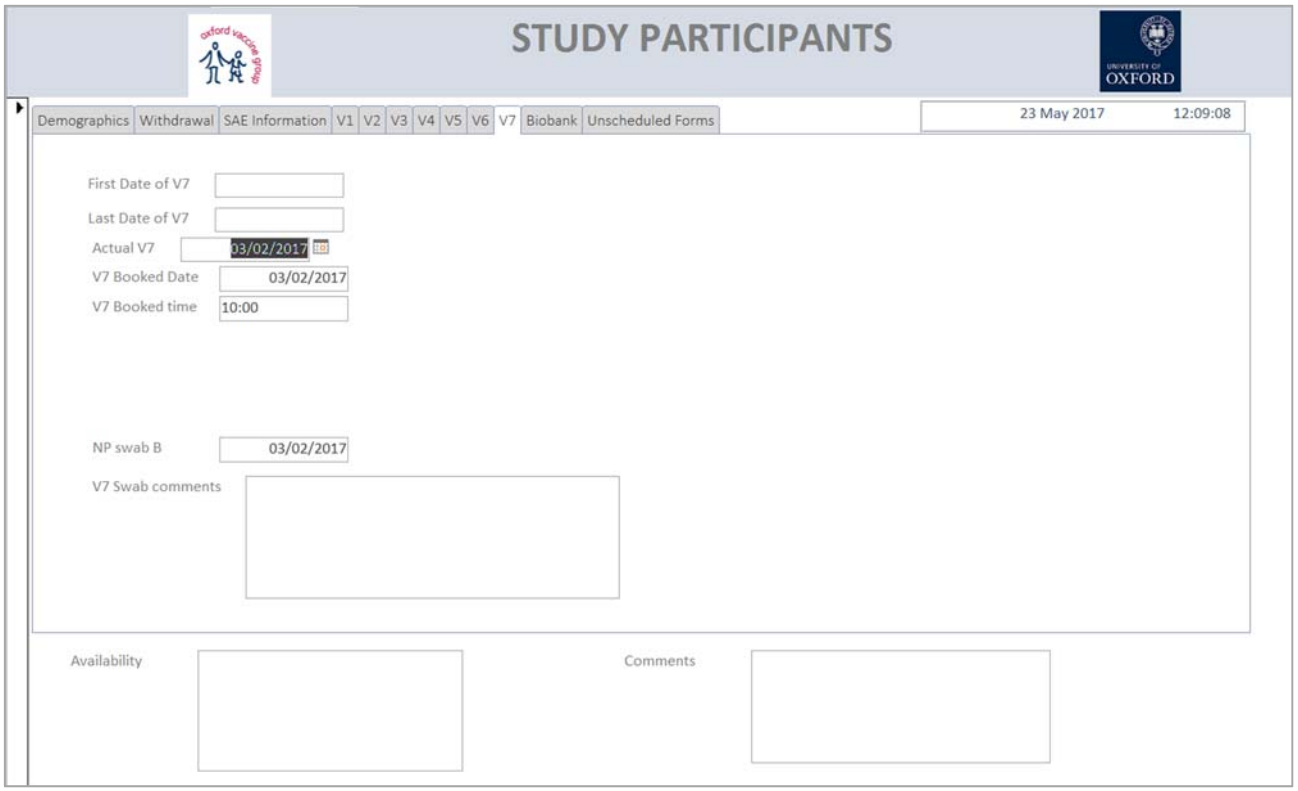
Form: Participants – V5



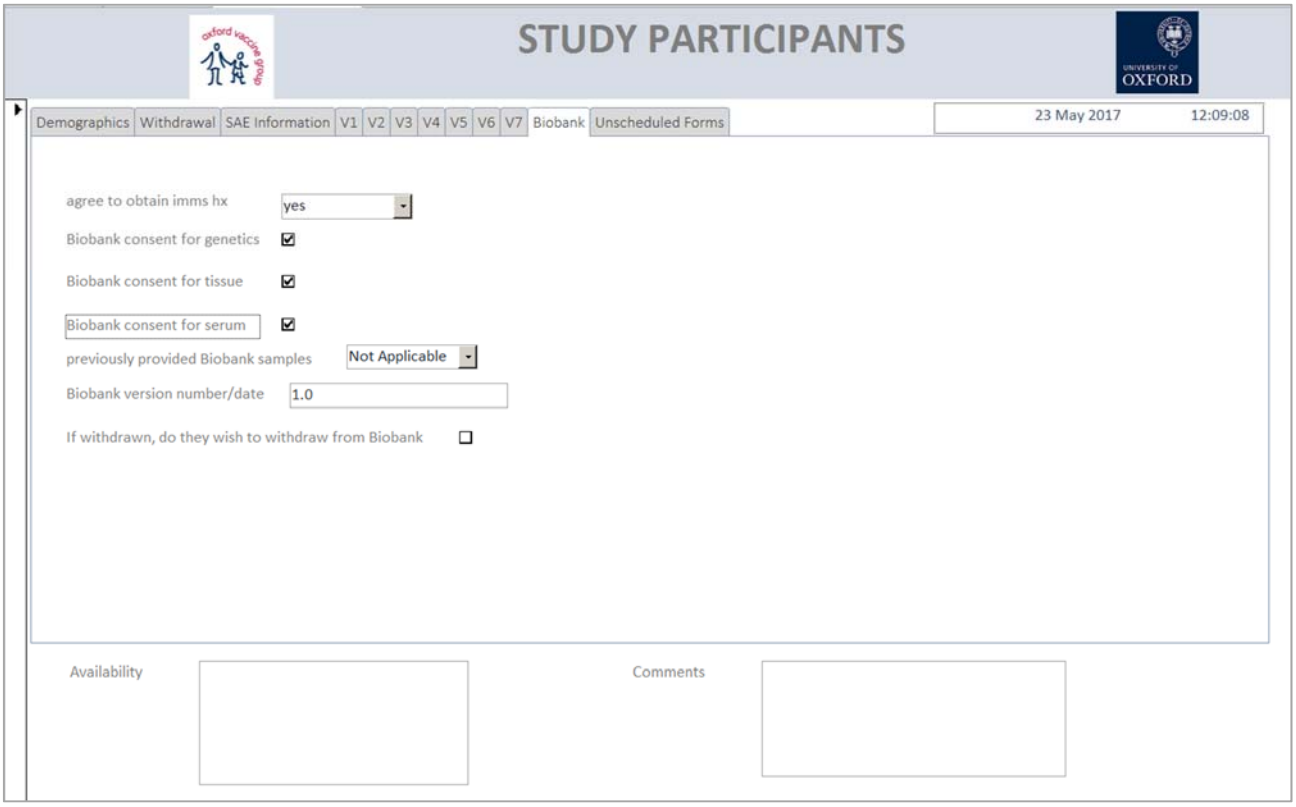
Form: Participants – V6



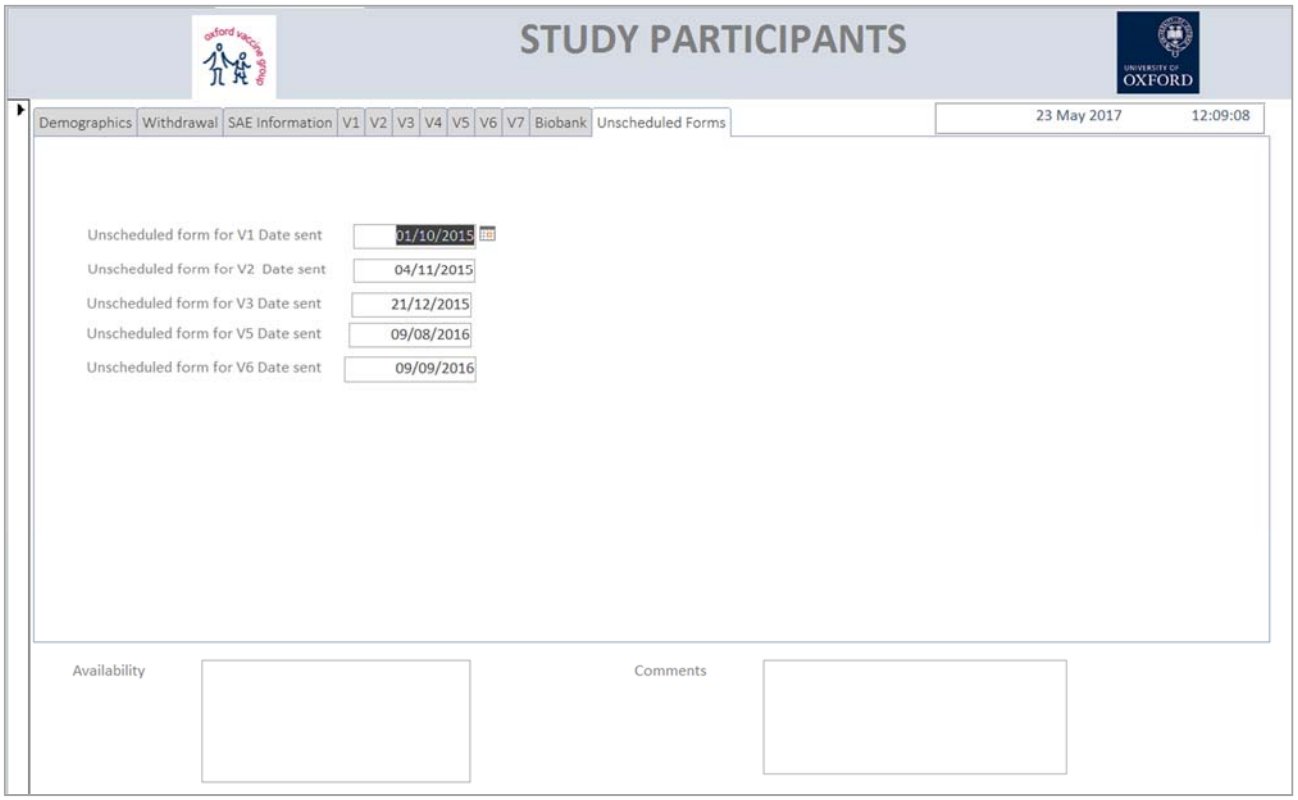
Form: Participants – V7



Form: Participants – Biobank



Form: Participants – Unscheduled Forms



Oxford Vaccine Group: Using a clinical trials database

Pamela Stanworth
pamela.stanworth@it.ox.ac.uk

Your safety and comfort are important

- Where is the fire exit?
- Please tell us if anything doesn't work
- The toilets are along the corridor outside the teaching rooms
- The rest area has vending machines and a water cooler

Resources for your learning

Activities for you to practice today
- In the course handbook
- Work at your own pace!
- Be selective

Follow-up work
- Continue with exercises after the session
- Playlist of videos in Lynda.com

Course topics

Part 1: Collecting data

Organising data in a database

Tables for storing information

Forms for editing and viewing

Moving a person from Responses to Participants

Part 2: Analysing data

Creating a query

Editing a query – fields and sorting

Setting criteria in a query

More interesting queries

This project

Getting Started

Database vocabulary

A **database** is a collection of data

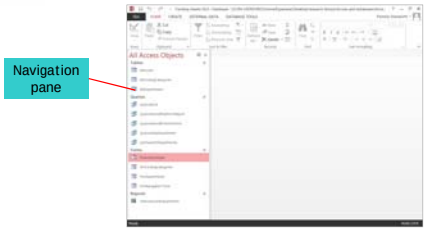
Data is organised into one or more **tables**

Each row is a **record**

Each column is a **field**

	Name	Phone	Town
record 1	Peter	238172	Oxford
record 2	Sheila	426372	Witney
record 3	Janine	826812	Thame

Opening a database file



Part 1: Collecting the data

Data is stored in tables

Datasheet View shows the raw data

Review, enter or correct the data

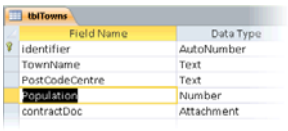
Data is saved *as you leave* a record

Two views of a table

Datasheet View

Design View

Fields are listed, with their data types



Databases: Using a clinical trials database

Look at Learning Objective One

Restart at 9:45 please

If you want to continue with the exercises, you could …

Copy today's Exercise files to a memory stick

Download the files (and more) from the ITLC Portfolio at http://portfolio.it.ox.ac.uk

Playlist of videos about queries

Using forms

Easiest for *people* to work on data using *forms*

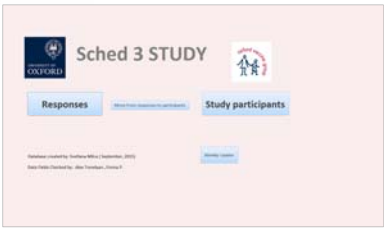
Too risky to work on data in tables

A form is safe and efficient for humans

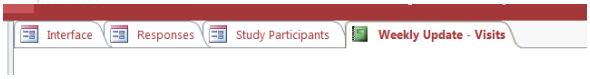
Usually one record at a time

Easy to use

Welcome form



Many tabs open at once

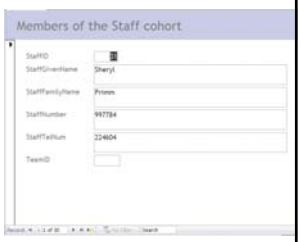


Switch between tabs

Close unwanted tabs

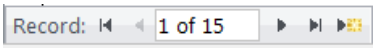
Viewing Responses data

Form is for viewing data
Making corrections
Adding new records



More records

1 record (person) at a time
Browse between records



Search for a person using Find

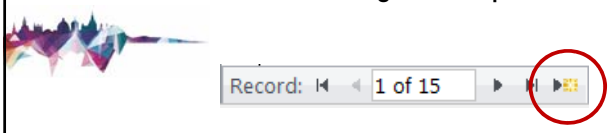
Databases: Using a clinical trials database

Look at Learning Objective Two

Restart at 10:05 please

Working on data using forms

Adding a new person



Create a new record
Enter the person's details
Data is saved *without confirmation*

Editing a person's details

Find the person's record
Correct their details

When a response becomes a participant

A respondent may agree to become a participant

Personal details are copied from Responses table to Participants table

Some more fields to complete too

Databases: Using a clinical trials database

Look at Learning Objectives Three and Four

Restart at 10:25 please

Part 2: Analysing the data

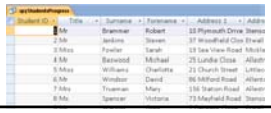
Creating a query

Creating a query using the wizard

Only selected fields and selected records are shown

Beware: editing the data here *is changing* the source data in the tables

When query is run, presents the *latest* values from the tables

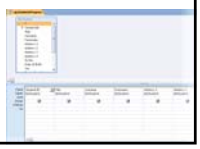


Two Views of a query

Switch between Design and Datasheet Views 

Diagram shows tables, fields and sorting

Design grid lists the selected fields



Close and save the query 

qry naming convention

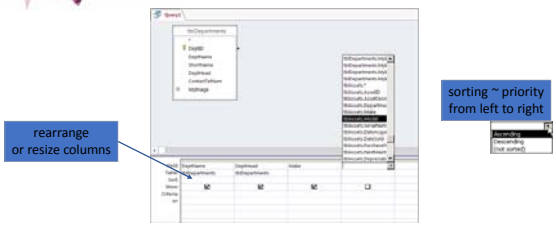
Databases: Using a clinical trials database

Look at Learning Objective Five

Restart at 10:55 please

Setting criteria in a query

Changing a query design



Query criteria

Criteria to limit the records shown

Enter a value under one field

- All records which exactly match will be included

Dates, text and numbers

Logic:

- AND
- OR
- NOT

Criteria for ranges

Comparisons using > < >= <=

Between

Wildcard symbols * ? #

Is Null criteria

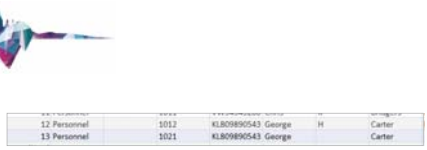
Databases: Using a clinical trials database

Look at Learning Objectives Six and Seven

Restart at 11:30 please

Some interesting queries - *optional*

Find duplicates



Create, using the Query Wizard

Parameter queries

A more flexible query
The user sets different criteria to be applied each time

In Criteria, type prompt text
in [square brackets]

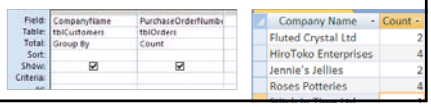
Using wildcards in parameter criteria
Like [Which town]&"*"

Mistakes in criteria may appear as parameter queries ☹

Grouping records in a query "Totals"

Summarising calculations over all records
Show the Totals row
Group by one field
Choose an aggregate function for every column

Σ Totals



Calculation columns in a query

Add further columns to query design grid

Expressions using + - * /
Joined-up text using &

Label text :
Formats in the Property Sheet

Property Sheet

More help with databases

Other related courses

Next steps:

- Databases: Concepts of database design
- Databases: Building a database
- Databases: User-friendly database design
- Databases: Queries and data analysis

- see the schedule online

Lynda.com videos about databases and other topics

Databases: Using a clinical trials database

Look at Learning Objective Eight

Finish at 12:15 please

pamela.stanworth@it.ox.ac.uk