

# Do you want to know more?

This newsletter is part of our plan to let you know what is going on in DIRECT. We want to let you know what is going on in the project in between your visits to your local research centre, so you can see how the project is progressing, and how important your contribution is to helping the research.

Some of our centres have invited their participants for an open day to hear more about the project directly from the researchers involved.

In November 2014 the Lund University Diabetes Centre in Sweden welcomed 94 DIRECT participants to meet the research team, to learn about the project and ask some questions. This was a great opportunity for participants to meet and talk to each other about their experiences.

On February 14th 2015, the University of Lille, France, opened its doors to 140 participants, including those involved in the DIRECT project — and had some

great discussions throughout the morning, with questions about how research is organised and how samples and data are used.

In total there are 26 different partners in DIRECT, spread across 10 countries in Europe. Many of the centres have been responsible for inviting people from their local area to take part in the project, organising the appointments and follow-up meetings. Not all the research teams have been recruiting participants; some are contributing their skills and knowledge in certain types of research to help analyse all the data and samples and understand more about Type 2 diabetes.

As the map of Europe shows, we have research centres all the way from Spain to Finland—some are universities, and some are industry partners. It is really important in a project like this to have people from industry and academia working together, as they bring different skills and experience to

the project, and by learning from each other and working together we can find out more about the disease much quicker than if we were all working on our own.

DIRECT is funded by the European Commission, through the Innovative Medicines Initiative (IMI) which specifically gives money to teams that have this mixture of university and industry partners.

We are trying to develop new strategies to engage with our participants, and let you know more about the work that we are doing. If you have any suggestions or questions please get in touch with your local research team, as we would be delighted to hear from you!



#### Coordination Team:

- Sanofi-Aventis Deutschland GmbH
- Eli Lilly and Company Ltd.
- University of Dundee

#### Participants:

- University of Bath
- Boehringer Ingelheim
- Consiglio Nazionale delle Ricerche
- Technical University of Denmark
- Eberhard Karls Universität Tübingen
- Helmholtz Zentrum München - Deutsches Forschungszentrum für Gesundheit und Umwelt GmbH
- Consorci Institut D'Investigacions Biomèdiques August Pi i Sunyer
- Imperial College London
- Kungliga Tekniska Högskolan
- University of Lille – CNRS
- Leiden University Medical Center
- University of Copenhagen
- University of Eastern Finland
- Lunds Universitet
- University of Newcastle upon Tyne
- University of Exeter
- University of Genève
- University of Oxford
- Universität Ulm
- VU University Medical Center Amsterdam
- Novo Nordisk A/S
- Servier
- Lille University Hospital



You can also receive updates or talk to us directly using our Facebook page:



'The Direct Project', via twitter @DIRECTdiabetes or the

participant section of our website:  
[www.direct-diabetes.org/information](http://www.direct-diabetes.org/information)



# DIRECT

## DIABETES RESEARCH ON PATIENT STRATIFICATION

DIRECT Project newsletter. Issue 1 SPRING/SUMMER 2015

[www.direct-diabetes.org/](http://www.direct-diabetes.org/)

Participants and researchers at the Lille open day in February



Thank you for taking part in DIRECT

More people are getting type-2 diabetes across Europe, causing significant pressure on healthcare services. Finding ways to improve diagnosis and treatment of the condition is hugely important and relies on people volunteering to take part in medical research.

**Type-2 diabetes** is usually diagnosed as a result of high blood sugar levels. However the condition can vary greatly from patient to patient and relying on blood sugar readings does not necessarily help doctors to tailor treatment to meet individual patient needs.

For example, some people's blood sugar levels will get worse over time and some people's blood sugar levels will remain the same. Some people experience side effects with common drugs used to treat Type 2 diabetes, while others don't. Also some people will respond very well to certain treatments but other people respond badly.

The DIRECT project is exploring some of these differences, to work out why people don't react in the same way. We are looking at whether people with Type 2 diabetes are similar and if they have the same experience or not. This will help predict how other people might respond.

The project is made up of several different studies

that are hoping to identify if there are signals, called 'biomarkers', which might flag whether particular patients belong to different sub-groups. These sub-groups are based on each patient's

We have recruited  
**7264 people**  
into the DIRECT  
project!

experience of Type 2 diabetes. The first stage of the project is split into two areas:

1. Studying the way that Type 2 diabetes progresses in some patients.
2. Studying the way that different patients respond to different treatments.

The biomarkers found in these studies, will be tested further in the second stage of the project. In

the second stage we want to see whether these biomarkers really are helpful in diagnosing people with Type 2 diabetes and in developing better treatments in the future.

For this project to be successful, we need to use information given to us by patients and participants with high risk of developing diabetes. Without your help we would not have the vital data we need to learn more about Type-2 diabetes and to try and find new biomarkers. By inviting you to several different appointments spread over time we are able to monitor whether there are any changes in the information you give us, and how this has affected your experience of diabetes.

So far we have recruited 7264 people to take part in DIRECT, spread over 10 countries in Europe. We are hugely grateful to you all for taking part, and can't wait to share our results with you!

*Hartmut Ruetten and Ewan Pearson*

*DIRECT project leaders*

## So what happens now?

Everyone that has volunteered to take part in DIRECT has now had their first appointments with their local research teams. Samples are on the way to the University of Exeter / Royal Devon and Exeter Blood Sciences, in the UK, to be stored until they are needed, or shipped onto the research teams that will run tests on them. Data are being uploaded onto the database, and researchers are starting to analyse it, for the next part of the project.

This first round of results gives us what's called the 'baseline' data—the starting point for our research. When you come in for a follow up appointment, we will be able to compare these initial results with the more recent ones, and see whether anything has changed since the first visit. This is vital for us to understand more about Type 2 diabetes, to see how the disease progresses and to look

closely at what is happening in patients when it progresses rapidly, and how this differs for patients who progress slowly.

Researchers from across the project met together in Paris on the 3rd March 2015, to discuss the baseline data, to get an overview of what had been gathered, and to carefully plan how to start sorting through the data, and analysing them to find patterns, or differences across the patient groups. By working together, and sharing different expertise and skills, it is possible to build the best plan for future research.

But It's when participants return for their follow-up appointments, and researchers start analysing these data that the research will get really exciting, as we'll be able to use this data to find differences, to test our ideas, and to find out more about Type 2 diabetes.

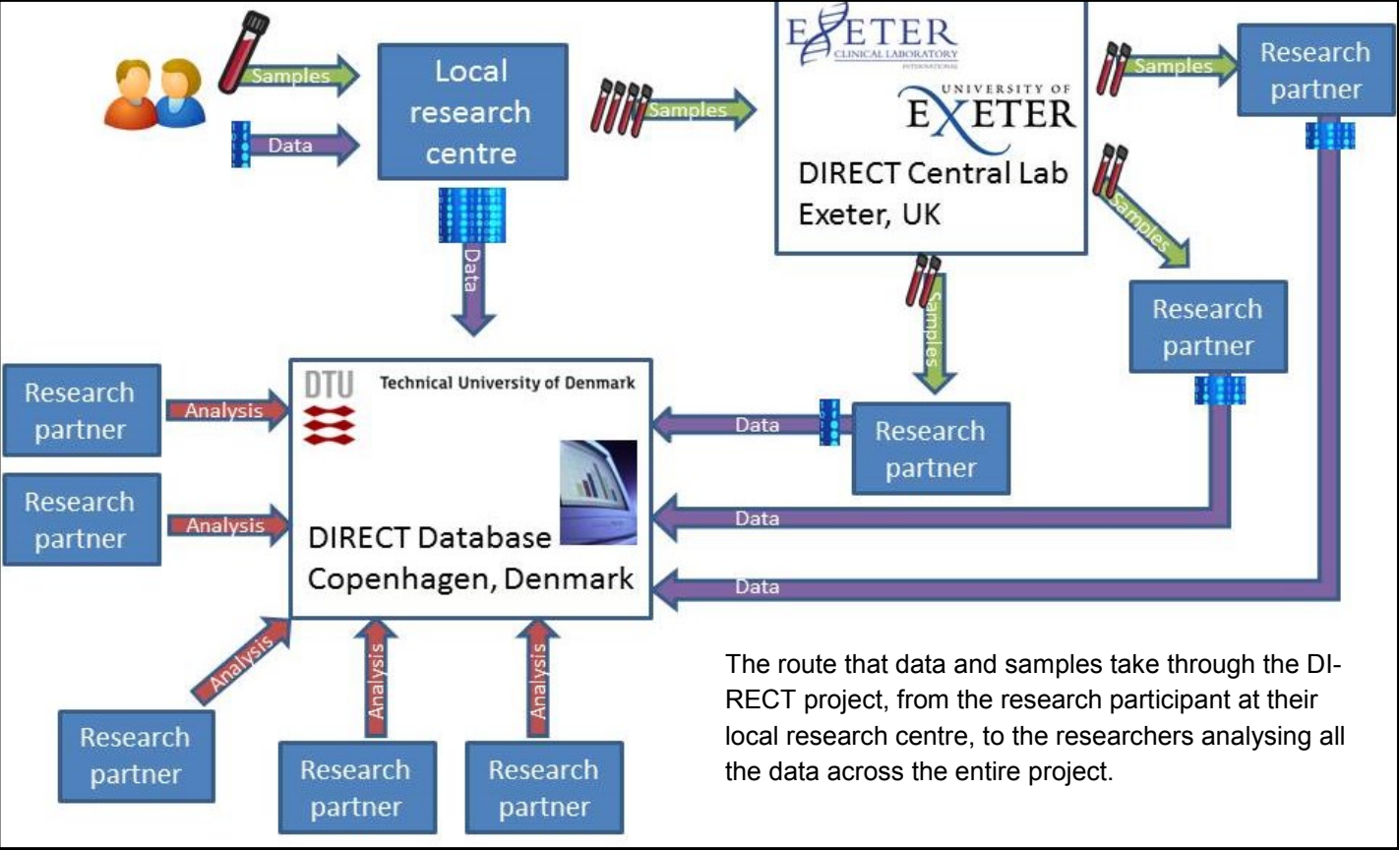


# What happens to your samples and data?

Just in case you were wondering what happened to all the data and samples you have contributed to the project, here is a brief tour of DIRECT!

You will have by now attended an appointment at your local research centre, where they will have talked you through the project, asked if you had any questions, and given you a consent form to sign. This was to confirm that you understood what the project would involve and were happy to take part. They will then perhaps have asked you to complete a questionnaire, taken some samples, for example blood, urine and even toe nails, and may have given you a bracelet to wear to measure your physical activity (if not, see below for a description of what has been going on in the study looking into lifestyle factors and how they affect diabetes).

The research team at the centre will have collected your samples, having removed any information that linked them to you (such as your name or date of birth), and along with all the other samples, will have sent them to the team at Exeter University / Royal Devon and Exeter Blood Sciences, in the UK to store them all, along with the samples from other participants from other centres all over Europe. To deliver them safely they will have been stored in boxes



cooled to -78 °C and transported by special couriers to. The reason they were sent to Exeter is that the tests and research that will be carried out on the samples (so we can learn more from them) will be performed by teams at other research centres. The central lab in Exeter plays a vital role in making sure that all the samples are kept safely, and tracked as they make their journey from your centre to Exeter, and then are distributed to the researchers that need them.

Similarly the information you provide, and the results of the tests

database, researchers involved in DIRECT have to complete a request form that includes a research question they want to ask, and how they plan to use the data to answer it. This plan for analysing the data shows that they have thought about the research very carefully, and that the questions that they are asking fits with the overall aim of DIRECT—which is to understand more about why different patients have different experiences of Type 2 diabetes, and why some people react differently to the different treatments available.

that have been carried out on your samples also need to be gathered together so that researchers can use this data in their studies. To help with this, a secure database has been built by a team at the Technical University of Denmark. All the information gathered across the project is uploaded onto the database, and kept on a secure server, that is only accessible to researchers involved in DIRECT, and then only when they are given permission to do so. The data is stored without any identifiable information, for example names and addresses are removed, so it is not possible to link any of this information back to you.

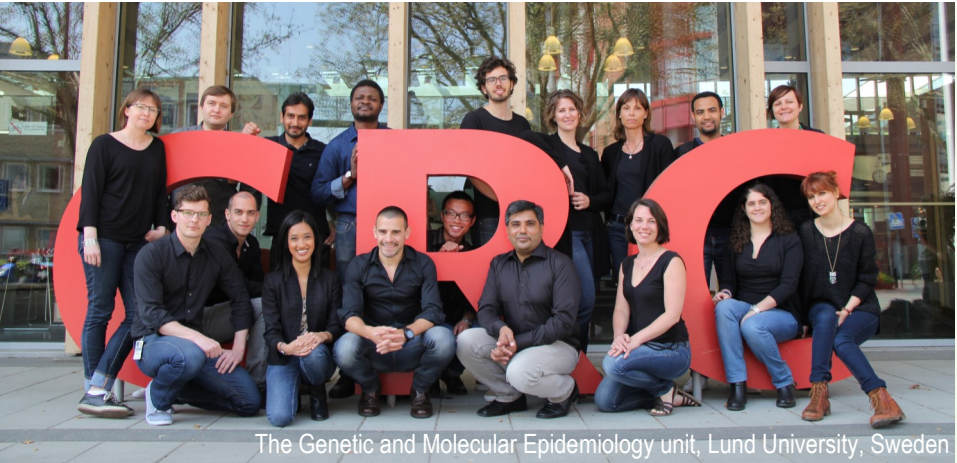
In order to access the data on the

## How diabetes progresses

One of the studies in DIRECT is hoping to find out more about how diabetes progresses, and why some patients progress very quickly from being at high risk to having the disease, or from the early stages of diabetes to insulin dependence, while other patients will only experience slow gradual changes over a much longer time. As part of this study it is important for us to measure what you eat and how much physical activity you do, as these can have an impact on your diabetes (or blood sugar levels), but may affect different people in different ways. For example two people who have Type 2 diabetes, and are being treated using the same drug at the same dose, might eat different foods and have very different levels of physical activity. This would suggest that there were different things that the research team would need to look for to figure out what was happening for each participant.

To help participants report on how active they are, they have been asked to wear an accelerometer—a bracelet that measures their movement, and can tell how physically active they are compared with the other participants in the study. Participants wear the bracelet for 10 days, to provide the research team with a really accurate picture of how active they have been during this time, which is a great help when trying to determine what the influence of physical activity might be.

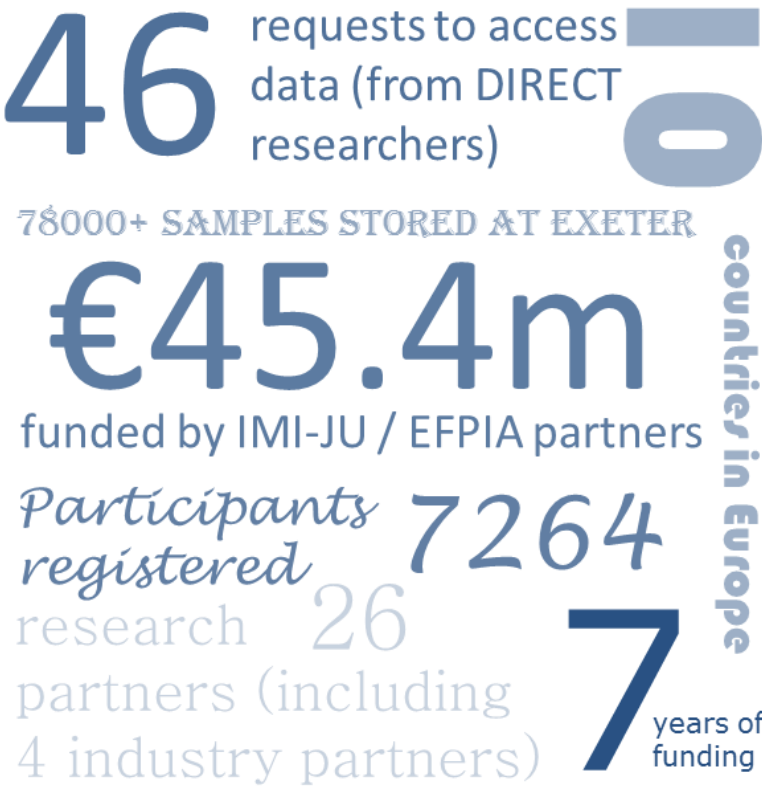
This area of research is led by Professor Paul Franks, at the Lund University, and also involves participants recruited through the University of Eastern Finland, University Medical Centre in Amster-



The Genetic and Molecular Epidemiology unit, Lund University, Sweden

dam, University of Copenhagen, University of Exeter, University of Dundee, and Newcastle University. Several other researchers from centres across the project will help with the analysis and research of the data (see the map on page 4 for a full list of industry and university partners that contribute to DIRECT).

## DIRECT in numbers



## Tell us what you think!

DIRECT relies on input from you all—our research participants—in order to gather the data and samples needed to find out more about Type 2 diabetes. Using this information we hope to develop a better understanding of how to treat patients successfully, and develop new drugs and therapies.

We are also really interested to hear what you think about DIRECT, and what it is like to take part. We are putting together a short survey in order to find out more about what you think of the DIRECT project. The survey will include questions about what it has been like to take part, what you hope we will achieve through the project, and what you want to hear about in the future.

Vicky Coathup, who works at the University of Oxford, and helps researchers across the DIRECT project if they have any questions about ethics, law and regulation, will use your answers from the survey to think about how to engage with you all in the future, and to help us answer any questions or thoughts you have about the work we are doing. The surveys will be available either when you visit the clinic for an appointment, or will be posted to you. (but don't worry you don't have to fill them in if you don't want to!) So keep an eye out for them coming soon!

Vicky Coathup, University of Oxford, UK

