INTRODUCTION
EU-RO-WABB is a 3 year project, initiated on 1st January 2011 and co-funded by the EU within the Health Programme. The general objective of the project is to support efficient diagnosis, treatment and research for Wolfram, Alström and Bardet-Biedl (WABB) syndromes and other rare diabetes syndromes in Europe (Wolcott-Rallison syndrome-WR, and Thiamine-responsive megaloblastic anaemia-TRMA). These conditions affect less than 1:100,000 people, are poorly recognised and often diagnosed late. The main partner and the funded project partners (8 Associate Partners) include clinicians, scientists and patient groups, with representation from 6 EU countries. This project is further supported by 15 Collaborating Partners and also benefits from input from a diverse group of stakeholders.

A key element of the project is the development of an EU registry for WABB syndromes, which will provide invaluable insights into the diseases and their causes, enabling the development of international guidelines on management of the diseases and ultimately leading to improvements in quality of care.

ABOUT WABB SYNDROMES...
WABB syndromes constitute a group of rare, heritable disorders linked by the presence of diabetes, blindness and deafness.

1. Wolfram syndrome, known also by the acronym DIDMOAD (Diabetes Insipidus, Diabetes Mellitus, Optic Atrophy, Deafness), is characterized by the concomitance of these traits, but can also be related to psychiatric and neurological disorders, urinary tract atony, cardiomyopathy and anaemia. It was first described in 1938 and it is mainly due to a gene called WFS1, which codes for wolframin, an ER transmembrane protein.

2. Alström syndrome, is characterized by early obesity and blindness, progressive deafness, cardiomyopathy, insulin resistance and diabetes mellitus, dyslipidaemia, endocrine disorders and generalized fibrosis (kidney, lung, liver). It was first described in 1959 and is related to the gene ALMS1, which codes for a protein that seems to be involved in cilary function and intracellular signaling.

3. Bardet-Biedl syndrome, is a ciliopathy with multisystemic manifestations. It is characterized by the association of obesity, retinal dystrophy and polydactyly. Moreover patients can present with polycystic kidney, hypogonadism, renal insufficiency, mental delay, urological problems, insulin resistance, diabetes mellitus and Hirschprung's disease. A total of 15 genes are involved in this syndrome, which is characterized by a wide clinical spectrum. The first description dates from 1920.

SPECIFICATION OF THE PROJECT
The project is divided into 6 work packages (WP) including 3 horizontal WPs concerned with project management, evaluation and dissemination; and 3 project specific core WPs concerned with the infrastructure (Virtual Research and Information Environment-VRIE), the datasets and pathways and the genetic bases of these rare diseases.

The purpose of the virtual registry is:
1. The establishment of the natural history of these diseases (their characteristics, management and outcomes)
2. The assessment of clinical effectiveness on management and quality of care
3. The development of a register of patients for recruitment to intervention studies
4. The establishment of genotype-phenotype correlation

The EU-RO-WABB project will recruit a minimum of 300 affected individuals into the registry. Recruitment began on August 2011 and to date 81 patients have given written consent for their details to be part of the registry.

As far as Dissemination is concerned an 8 language website (www.euro-wabb.org) is the principle communication tool for the project.

The Core Dataset includes 44 data fields of which 5 relate to referring physician and consent data; 18 define the clinical and molecular genetic features and differentiate between syndromes and 10 relate to age of onset of symptoms, and optional free text.

The Extended Dataset comprises 370 fields of detailed phenotyping information. Where possible, the datasets are standardised using ICD-10 and ESPE Classification Coding Systems.

Following comprehensive searching of published mutations, the EU-RO-WABB mutation database currently lists 1417 variants, of which 634 are unique variants. The database utilises the Leiden Open Variation Database (LOVD) software. This means that the database is publicly available and also includes the facility for clinicians to submit unlisted mutations for inclusion in the database. The databases are updated on a monthly basis to include any new published mutations. Nine laboratories have been identified across the EU who are able to accept and test project samples. Funding will be used to fund testing where costs aren’t met by a participant’s national healthcare infrastructure.

The Virtual Registry and Information Environment (VRIE) has been developed and is hosted by the NeSc. The primary activities for the first 12 months have been the development of the registry. The core dataset area of the Registry was launched at the end of December 2011. The registry website is www.registry.euro-wabb.org and it stores anonymised data, with each record having a unique identifier. This identifier is linked to the recruiting site, and the site retains a master list of all patients taking part. Access to the registry is password controlled with the Project Coordinator reviewing all username requests. Design of the database for the extended dataset element of the registry is underway and will be launched soon (April/May 2012).

CONCLUSIONS
The majority of the targets for the first year of the project have been met, and the recruitment to the registry is ahead of target. Overall this project is beginning to bring patient groups and researchers together. In the second year the goals are to see the first publications directly resulting from this project, on the mutation database, the research protocol, and preparation of patient information and management guidelines.