

## 3<sup>rd</sup> AC21 International Research Festival

From Genes to Patients: New Perspectives on Personalised Medicines

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### Poster Abstracts:

#### 11. Health Technology Assessment (HTA) of Non-Invasive RhD Testing

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The Special Non-Invasive Advances in Fetal and Neonatal Evaluation Network (SAFE) is a Network of Excellence established under the European Commission Sixth Framework Programme which aims to implement routine, cost-effective non-invasive prenatal diagnosis and neonatal screening through the creation of long-term partnerships between scientists, clinicians and social scientists.

The discovery of free fetal DNA in maternal plasma is expected to have a great impact on non-invasive prenatal diagnosis (NIPD). Fetal RhD genotyping, the first technology in the final stages of development, aims to improve targeting of routine antenatal prophylaxis (anti-D) currently administered to all RhD negative women (ca 15% of the white Caucasian population). Only women carrying an RhD-positive fetus benefit from such prophylaxis.

The RhD NIPD test has demonstrated high accuracy rates in a number of laboratory trials and is the first test which is being evaluated by the SAFE socio-economics group. We have initiated a number of studies internationally to undertake socio-economic assessments of this technology with the aim of designing informed policies for technology dissemination worldwide. The countries participating include the UK, Germany, Netherlands and India. The experience gained from early health technology assessment (HTA) of this test used to target therapy will help us assess other technologies which will be developed by the SAFE network in the future.

In the first phase of the HTA process, we conducted a comprehensive literature review of RhD NIPD technology and collected primary data through interviews, surveys, etc. The results of an international Delphi exercise, covering 24 countries, have helped us identify a HTA framework for the evaluation of NIPD technologies. In the second phase of the HTA process we are undertaking economic modelling of technology implementation in selected countries. Next we plan to develop a system dynamics simulation model to assess the potential of RhD NIPD technology in other countries.