

related genes in specific addictive diseases would be of interest. Studies from our laboratory<sup>12</sup> have identified a functional polymorphism of MOR (mu opioid receptor); we then hypothesized, and other laboratories subsequently have identified, that one copy of this SNP alters critical hypothalamic-pituitary-adrenal (HPA) responsiveness to stress. Much earlier, our group and others have shown that the MOR plays a major role in the HPA axis, which is normally under circadian control. We have recently shown a very significant association of this A118G variant of the MOR with both heroin addiction and alcoholism (reviewed in Kreek *et al*, 2005).<sup>13</sup> Therefore, it would be of great interest to determine if polymorphisms of one or more of the time-keeper genes are associated with specific addictive diseases, and possibly with alterations in the stress-responsive circadian HPA axis. This axis has been shown, in laboratory and human studies, to contribute to the acquisition, continuation and relapse to specific addictions ■

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## Research Network

# EuroGentest – a European Network of Excellence aimed at harmonizing genetic testing services

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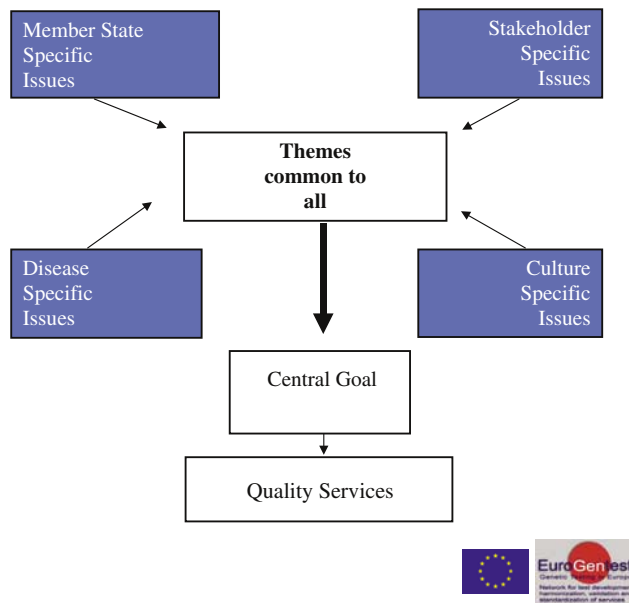
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Genetic services in Europe are based on world-leading scientific expertise. Furthermore, there has been rapid progress from research findings to the many diagnostic genetic tests currently offered in clinics.

However, for all these genetic tests scientists, counsellors and doctors have a special responsibility to provide services of the highest quality and to ensure that all the citizens of Europe benefit from the same high standards of genetic

care.<sup>1,2</sup> Poor testing and counselling can cause great anxiety among patients and their families. In addition, the annual growth of testing within the EU continues to grow at a staggering rate – between 100 and 300%.<sup>3</sup> An estimated 30 million people now suffer from a genetic disease within the enlarged community. Both new and existing member states find genetics causing an increasing burden upon their healthcare systems, by the latest estimates 500 million Euros. EuroGentest is an EU funded project over 5 years that aims to address these challenges through the creation of a European Network of Excellence (NoE) in genetic testing.

The overall EuroGentest philosophy is summarised in Figure 1. In effect a network of networks, this model works by encouraging a continuous cycle of critical self-examination among the genetic testing community in its widest sense. By involving leading experts from across Europe, EuroGentest will develop the



**Figure 1** Overall philosophy of the EUROGENEST network.

necessary infrastructure, tools, resources, guidelines and procedures that will structure, harmonize and improve the overall quality of all EU genetic services – molecular, cytogenetic, biochemical and clinical. This wide-ranging project will also encompass all the relevant issues associated with testing, including legal issues, health policies and health economic impact, Intellectual Property Rights ethical and social questions, such as confidentiality and informed consent.

From this overall aim, the following key objectives have already been identified:

- Establish a network of quality across Europe.
- Promote research, proper utilisation, quality control and assurance and adequate management of genetic services.
- Harmonize the accreditation of genetic testing laboratories and the certification of EQA schemes for cytogenetics, biochemical and molecular genetics at a European, regional and national level throughout Europe.
- Establish procedures and guidelines for the validation of methods and technologies.
- Identify present and future needs for Reference Measurement, Procedures and Materials for genetic testing.

- Provide genetic healthcare workers, the end-users and healthcare authorities with a portfolio of quality-assured information sources and informatic tools that are subject to validation and quality procedures.
- Improve the quality of genetic testing counselling services in different European countries.
- Prepare a directory of organisations that provide and produce educational material for the public.
- Define quality criteria for institutional courses and education in genetic testing (eg Masters degree) and evaluate such courses.

In addition, EuroGenest intends to become a model for similar initiatives in developing countries and will provide appropriate support for their development.

The EuroGenest project has been carefully constructed to ensure the above objectives are achieved. The overall co-ordination of the project receives the assistance from a deputy and an operational management group. A steering committee is responsible for the operation and development of the project and consists of Unit leaders, their coleaders and the coordinator of the project, while an advisory board composed of represen-

tatives of National Human Genetic societies, of the industry, of policy agencies and of representatives of US organisations similarly involved in genetic testing, watches over the efficient progression of the NoE towards its goals.

There are six units within the EuroGenest network (Table 1). Each unit is subdivided into work groups and their respective work packages. The leaders of the units and coordinators of the work packages include representatives from most European countries (the full list of participants is available on [www.EuroGenest.org](http://www.EuroGenest.org)). There are 22 work packages within the EuroGenest project. Each work package has a coordinator and consists of objectives, description of the work, milestones and deliverables.

Within the context of EU policy, EuroGenest contributes to the goals included in the 6th Framework Programme in thematic priority 'Life Sciences, Genomics and Biotechnology for Health,' specifically in Section 1, Advanced Genomics and its application for health, subsection b, Application of knowledge and technologies in the field of genomics and biotechnology for health; Development of new diagnostics, LSH-2003-1.2.2.1: Development of genetic tests allowing for harmonisation, validation and standardisation. The actual project was initiated by former commissioner and MEP Philippe Busquin who remains a staunch supporter. EuroGenest has also set-up active collaboration with existing projects or networks such as Orphanet, EMQN, Crmgen, CF Network, ERNDIM, SAFE, as well as with the Spanish genetic networks INERGEN and RECGEN and is supported by the ESHG and the ECA.

Since commencing in January 2005, EuroGenest has made significant progress. Recruitment into the various units has been completed, work packages devised and the first review meetings held. Different training sessions, expert meetings and international symposia have already taken place. More will come. The SMEs involved in the design of the website, in technological aspects and in training aspects have become actively involved in the NoE. A comprehensive central European laboratory database is being developed in collaboration with Orphanet and substantial progress has

**Table 1** The six EuroGentest units, their activities and the responsible unit leaders

Unit 1	Quality management and accreditation of genetic testing	Elisabeth Dequeker (Belgium), Michael Morris (Switzerland)
Unit 2	Information sources and bio-informatics tools	Segolene Ayme (France), Bruno Dallapiccola (Italy)
Unit 3	Clinical genetics, community genetics and public health	Ulf Kristoffersson (Sweden), Joerg Schmidtke (Germany), Helena Kääriäinen (Finland), Jorge Sequeiros (Portugal)
Unit 4	Ethical, legal and social issues	Herman Nys, Kris Dierickx (Belgium)
Unit 5	Research and emerging technologies and IPR	Bert Bakker (Netherland), Milan Macek Jr (Czech Rep), Gert Matthijs (Belgium)
Unit 6	Education and communication	Alastair Kent (GIG, UK), Domenico Coviello (Italy)

already been made on the identification of available educational materials for patients and their families. A meeting with the national representatives of the Human Genetic societies in Europe will be the start of a more close involvement of the members of these societies in the Network.

The challenge is the sheer diversity of practice throughout the European Union. However, this is tempered by the enthusiasm being shown by the participants. Far too often at national level genetic testing has been low on the list of political priorities compared to say cancer, STD and cardiovascular testing. For this as well as the obvious scientific reasons of volume of testing required for devising mean-

ingful standards, it is only possible to achieve results through a project of this scale and scope.

Geneticists who wish to find out more about the project are invited in the first instance to visit the website [www.EuroGentest.org](http://www.EuroGentest.org) where they can register as professional users. This gives also access to information about the Units and their working parties. The coordinator also welcomes enquiries from those centres or individuals wishing to become involved in EuroGentest at different levels ■

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