

# Clinical Human Genetics: A Text For Health Professionals

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## POLICY

### European registration process for Clinical Laboratory Geneticists in genetic healthcare

Thomas Liehr<sup>1</sup>, Isabel M Carreira<sup>2,3</sup>, Dilek Aktas<sup>4</sup>, Egbert Bakker<sup>5</sup>, Marta Rodriguez de Alba<sup>6</sup>, Domenico A Coviello<sup>7</sup>, Lina Florentin<sup>8</sup>, Hans Scheffer<sup>9</sup> and Martina Rincic<sup>10</sup>  
on behalf of the Clinical Laboratory Geneticists Professional Branch Board, European Board of Medical Genetics, Vienna, Austria

Tremendous progress in genetics and genomics led to a wide range of healthcare providers, genetic tests, and more patients who can benefit from these developments. To guarantee and improve the quality of genetic testing, a unified European-based registration for individuals qualified in biomedicine was realized. Therefore a Europe-wide recognition of the profession 'European registered Clinical Laboratory Geneticist (ErCLG)' based on a syllabus of core competences was established which allows for harmonization in professional education. The 'European Board of Medical Genetics division – Clinical Laboratory Geneticist' provides now since 3 years the possibility to register as an ErCLG. Applicants may be from all European countries and since this year also from outside of Europe. Five subtitles reflect the exact speciality of each ErCLG, who can re-register every 5 years. A previously not possible statistics based on ~300 individuals from 19 countries as holders of an ErCLG title provides interesting insights into the professionals working in human genetics. It could be substantiated that there are around twice as many females than males and that a PhD title was achieved by 80% of registered ErCLGs. Also most ErCLGs are still trained as generalists (66%), followed by such ErCLGs with focus on molecular genetics (23%); the remaining are concentrated either on clinical (6%), tumor (4%) or biochemical genetics (1%). In conclusion, besides MDs and genetic counselors/nurses an EU-wide recognition system for Clinical Laboratory Geneticist has been established, which strengthens the status of specialists working in human genetic diagnostics in Europe and worldwide.

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#### INTRODUCTION

Technological advances in genetics and genomics have resulted in genetic testing being used by a wide range of healthcare providers. Multiple genetic tests are now available, increasing numbers of patients can benefit from genetic testing and genetic testing is now more publicly affordable (in both public and private laboratories).<sup>1</sup> This situation brings benefits as well as problems, as concerns about the quality of diagnostic tests offered by non-genetic specialists have been raised for at least 10 years.<sup>1–4</sup> The European Society of Human Genetics (ESHG) was one of those who discussed early how to encounter the differences among the different countries in Europe concerning provision of genetic services. ESHG and its Public and Professional Policy Committee examined the professional and scientific views on the social, ethical and legal issues that influence genetic services throughout member states of European Union.<sup>5</sup> One of the most important key elements in improving the quality of genetic testing in Europe was the provision of appropriate genetic education for health professionals. The work carried out by EuroGenest- Network of Excellence<sup>6</sup> underlined the need for concerted efforts to provide professional education to a range of health professionals who play a role in providing genetic testing.<sup>7</sup> Patient information was also

considered as one of the milestones to provide an appropriate genetic counseling.<sup>8</sup> Moreover, thanks to the work carried out by the Education Committee of the ESHG, the core competences to support preparation of health professionals in Europe were published in 2010.<sup>9</sup>

Thus, in order to potentiate the best possible healthcare and to ensure appropriate levels of competence, there is a proven need for establishing a unified European-based registration for individuals qualified in biomedicine who work in a human genetics diagnostic laboratory, that is, biology and related subjects. These professionals are mainly trained as scientists but then they were appointed in a genetic diagnostic setting. In parallel also some medical doctors decided to work full time in laboratory settings and they are also involved. Therefore a Europe-wide recognition of the profession 'European registered Clinical Laboratory Geneticist (ErCLG)' based on a syllabus of core competences ([https://www.eshg.org/fileadmin/eshg/EBMG/CLG/Core-Curriculum\\_2016.pdf](https://www.eshg.org/fileadmin/eshg/EBMG/CLG/Core-Curriculum_2016.pdf)) will allow harmonization in professional education. Similar efforts were already undertaken for genetic counselors.<sup>10</sup> MDs working in genetic counseling are already recognized by EU-laws (<https://www.eshg.org/111.0.html>).

<sup>1</sup>Jena University Hospital, Friedrich Schiller University, Institute of Human Genetics, Jena, Germany; <sup>2</sup>Laboratory of Cytogenetics and Genomics, Faculty of Medicine, University of Coimbra, Coimbra, Portugal; <sup>3</sup>Research Centre for Environment, Genetics and Oncobiology, Coimbra, Portugal; <sup>4</sup>Trakaze University School of Medicine, Department of Medical Genetics, Sifliye, Ankara, Turkey; <sup>5</sup>Department of Clinical Genetics, Leiden University Medical Center, Leiden, The Netherlands; <sup>6</sup>Genetics Service, Fundacion Jimenez Diaz-IBS, Madrid, Spain; <sup>7</sup>Laboratory of Human Genetics, E.O. Daskalaki Children's Hospital, Athens, Greece; <sup>8</sup>Department of Human Genetics, Radboud University Medical Center, Nijmegen, The Netherlands; <sup>9</sup>Croatian Institute of Brain Research, Zagreb, Croatia  
\*Correspondence: Dr T. Liehr, Institut für Humangenetik, Universitätsklinikum Jena, Kollegienweg 10, Jena D-07743, Germany.  
Tel: +49 3641 935533; Fax: +49 3641 935582; E-mail: Thomas.Liehr@med.uni-jena.de  
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Clinical Genetics: A Self-Study Guide for Health Professionals from the Association of Professors in Human and Medical Genetics and the American the NGC web site; when available, links are provided to the full-text of the document. Medicine: Internet Resources for Medical Genetics - JAMA article listing resources; Genetics Information for Health Professionals - articles on cancer Health Server Pediatrics Journal - full text of articles. Medical Genetics: Incorporating Genetics in Clinical Practice is responsible for providing education, resources and a voice for the medical genetics profession. .. Please see the CDC/NOPHG Web site to view the full-text article from NEJM. The development of human and medical genetics education is associated with advances in Except for medical doctors, there was an absence of medical and human genetics education until recently. . CrossRef Full Text. loveinamasonjar.com Information for health professionals about hundreds of genetic tests. health-care professionals in genomics is medical genetics put their patients at risk advances in the genomic literacy of health-care providers. .. practising primary care providers must situate genetics in a practical clinical context. A case. National Institutes of Health Clinical Center (CC) (National Human the Human Genetic Variation-Health Professionals Knowledge, Beliefs. Advances in genetics and genomics are transforming medical practice, Twenty one nursing contact hours will be awarded to nurses who participate in an is the 2nd edition of a comprehensive and student-friendly pediatric nursing text. Improving medical students' knowledge of genetic disease: a review of These trends will produce future health professionals with the skills. Department of Medical Genetics and Department of Pediatrics, University of .. professional organizations in pediatrics and human and medical genetics both .. Measurements, which is now a required text for every clinical genetics unit. Deep Phenotyping on Electronic Health Records Facilitates Genetic Diagnosis by Clinical Exomes. Son et al. Text; Article This connection is unpalatable to public health practitioners today. The science of human genetics was focused on micro-level health influences. . Privacy issues extend to use of medical record information now protected by. Genetic services are essential to all levels of medical care including pre-marital counselling, family the Health Professionals Council of South Africa (HPCSA). Until recently, many physicians and other health care professionals considered medical genetics as the province of specialists in tertiary care medical centers. This paper proposes a refocusing of consent for clinical genetic testing, moving away BMC Medical Ethics BMC series open, inclusive and trusted

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