



Annual report 2020

EUPHA <Public health genomics> section (EUPHA-xxx)

Report on the activities of the EUPHA Public Health Genomics Section, 2019/2020

Professor Stefania Boccia, Vice-President of the PHG Section, was appointed as President of the Epidemiology Section and was replaced in her role of Vice-President of PHG section by Roberta Pastorino, Section of Hygiene Institute of Public Health; Università Cattolica del Sacro Cuore Rome, Italy.

Since 2019, Roberta Pastorino is also member of the public health genomics working group of The Italian Society of Hygiene, Preventive Medicine and Public Health (SItI).

Goals for 2021

The main goal of the section is to further implement public health genomics in Europe by providing guidance in this challenger field. To reach this goal, the main aims of the EUPHA section on Public Health genomics are:

- ✓ to promote and strengthen research in the field of Public Health Genomics
- ✓ to encourage joint activities in the field of Public Health Genomics and collaborations with other EUPHA sections (EPI Section, Digital and Health Promotion Sections). The integration of genomic knowledge and technologies into healthcare, in fact, is revolutionizing the way we approach clinical and public health practice
- ✓ to develop and promote strategies to influence national, European and global policy-making in the field of Public Health Genomics

Activities at the EPH conference and Collaboration with section members

Concerning collaborating activities that were carried out with other sections:

Preparation of the workshop proposal for the EPH conference of Rome

Harnessing the digital transformation of disease prevention: a focus on m-health and genomics
(Organiser: EPI Section together with PHG, Digital and Health Promotion Sections)

A specific focus will be given to m-health and genomics. In fact, digital technologies brings the potential to improve adherence to health promotion and prevention at population level. Polygenic risk score, in particular, might increase the effectiveness and reducing the costs of available preventive interventions



Other activities

The PHG section will be involved in the activities of the “European network staff eXchange for integrAting precision health in the health Care sysTems” consortium (ExACT) <http://www.exactproject.net/> . ExACT is aimed at building a community of academic and non-academic institutions that generates high quality, multidisciplinary collaboration by exchanging knowledge in research and training activities on precision health. EUPHA is partner of the project.

Papers on the genomic screening were published by the participation of PHG Section’s members:

Delatycki MB, Alkuraya F, Archibald A, Castellani C, Cornel M, Grody WW, Henneman L, Ioannides AS, Kirk E, Laing N, Lucassen A, Massie J, Schuurmans J, Thong MK, van Langen I, Zlotogora J.

International perspectives on the implementation of reproductive carrier screening. *Prenat Diagn.* 2020 Feb;40(3):301-310. doi: 10.1002/pd.5611. Epub 2019 Nov 29. PMID: 31774570.

Dombrádi V, Pitini E, van El CG, Jani A, Cornel M, Villari P, Gray M, Bíró K. Value-based genomic screening: exploring genomic screening for chronic diseases using triple value principles. *BMC Health Serv Res.* 2019 Nov 11;19(1):823. doi: 10.1186/s12913-019-4703-z. PMID: 31711483; PMCID: PMC6849239.

Annual meeting

The Section meeting in 2020 will be held during the Conference via Zoom - only registered participants will have access (with a maximum number of participants is 100).

General communications with section members

It is managed via the EUPHA office. Interactions among members are regular via email and skype. A consensus paper on the integration of personalized medicine into prevention was written by the involvement of the PHG Section’s members and published in the *Journal of Public Health Genomics*:

Boccia S, Pastorino R, Ricciardi W, Ádány R, Barnhoorn F, Boffetta P, Cornel MC, De Vito C, Gray M, Jani A, Lang M, Roldan J, Rosso A, Sánchez JM, Van Dujin CM, Van El CG, Villari P, Zawati MH. How to Integrate Personalized Medicine into Prevention? Recommendations from the Personalized Prevention of Chronic Diseases (PRECeDI) Consortium. *Public Health Genomics.* 2019;22(5-6):208-214. doi: 10.1159/000504652. Epub 2019 Dec 5. PMID: 31805565.

International participation in events on behalf of EUPHA

A meeting on COVID 19 pandemic was organized by the EUPHA member Hungarian Association of Public Health Training and Research Institutes (HAPHI) was held in Budapest on 31 August, 2020 on which the opening lecture was given by the Deputy Director-General of the WHO, Zsuzsanna Jakab.



Results of the Hungarian survey carried out in the first half of May, 2020 on the prevalence of COVID infection and post-infection conditions (i.e. the frequency of PCR and serological positivity) in the Hungarian population were also introduced. Blood samples are stored from the survey that is available for genomic studies if they appear justified.

Survey

Public health genomic findings obtained in a complex (health and health behavior) survey carried out in Hungary, as well as results from the Moli-family study (Italy) were published:

Soltész B, Pikó P, Sándor J, Kósa Z, Ádány R, Fialat S. The genetic risk for hypertension is lower among the Hungarian Roma population compared to the general population. *PLoS One*. 2020 Jun 17;15(6):e0234547. doi: 10.1371/journal.pone.0234547. PMID: 32555714; PMCID: PMC7299387.

Pikó P, Fialat S, Werissa NA, Bekele BB, Racz G, Kósa Z, Sándor J, Ádány R. The Effect of Haplotypes in the CETP and LIPC Genes on the Triglycerides to HDL-C Ratio and Its Components in the Roma and Hungarian General Populations. *Genes (Basel)*. 2020 Jan 3;11(1):56. doi: 10.3390/genes11010056. PMID: 31947886; PMCID: PMC7016864.

Diószegi J, Llanaj E, Ádány R. Genetic Background of Taste Perception, Taste Preferences, and Its Nutritional Implications: A Systematic Review. *Front Genet*. 2019 Dec 19;10:1272. doi: 10.3389/fgene.2019.01272. PMID: 31921309; PMCID: PMC6930899.

Izzi B, Gianfagna F, Yang WY, Cludts K, De Curtis A, Verhamme P, Di Castelnuovo A, Cerletti C, Donati MB, de Gaetano G, Staessen JA, Hoylaerts MF, Iacoviello L; Moli-family Investigators. Variation of PEAR1 DNA methylation influences platelet and leukocyte function. *Clin Epigenetics*. 2019 Oct 29;11(1):151. doi: 10.1186/s13148-019-0744-8. PMID: 31665082; PMCID: PMC6820903.