ePathGen - a new e-learning package in pathogen genomics

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Citation style for this article:

Jefferies J, McCulloch J. ePathGen - a new e-learning package in pathogen genomics. *Euro Surveill.* 2014;19(21):pii=20813. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20813>

Article submitted on 29 January 2014 / published on 29 May 2014

The public health application of pathogen genomics is a rapidly expanding field as evident in the Eurosurveillance 'Special issue on molecular epidemiology of human pathogens' [1, 2]. Within Public Health England (PHE), staff training and the development of training resources have been identified as urgent requirements to facilitate the translation of this work from research to public health practice.

'ePathGen - Pathogen Genomics for Epidemiology' is an e-learning package that has been developed by a multi-disciplinary team from PHE working with collaborating academics as a beginners guide to using genomic sequencing by public health microbiologists and epidemiologists and is now publicly available at <http://public-health-genomics.phe.org.uk>

It is intended to support public health workers who need to develop a basic understanding of the evolving field of whole genome sequencing (WGS), pathogen genomics and its application to epidemiology and public health. e-PathGen allows users to proceed step by step through epidemiological investigations using, interpreting and combining genomic data in combination with more familiar information. It includes videos, a collection of introductory tutorials and illustrated case studies.

After completing the e-learning, users should be able to:

- explain the basic principles of genomic sequencing important to health protection and epidemiology practice;
- critically evaluate the benefits and limitations of genomics to health protection and epidemiology practice;
- apply the principles of genomics and key genomics resources to solving a problem in health protection and epidemiology practice;
- communicate effectively and work collaboratively with microbiology and bioinformatics experts in PHE and partner organisations to investigate and solve problems in health protection and epidemiology practice, and
- reflect on how genomics may be integrated with and applied to health protection and epidemiology in own working context.

We would welcome feedback to support future developments. For further information or contributions to the development of future case studies please contact janet.mcculloch@phe.gov.uk

References

1. Carriço JA, Sabat AJ, Friedrich AW, Ramirez M, on behalf of the ESCMID Study Group for Epidemiological Markers (ESGEM). Bioinformatics in bacterial molecular epidemiology and public health: databases, tools and the next-generation sequencing revolution. *Euro Surveill.* 2013;18(4):pii=20382..
2. Struelens MJ, Brisse S. From molecular to genomic epidemiology: transforming surveillance and control of infectious diseases. *Euro Surveill.* 2013;18(4):pii=20386.