

---

Sheth H, Northwood E, Elliott F, Jackson M, Koref MS, Tyson J, Daly A, O'Halloran J, Sheth J, Sheth F, Parikh K, Bishop DT, Burn J. [Point of care testing for improving risk- benefit ratio of aspirin and warfarin](#). *Molecular Cytogenetics* 2014, 7(Suppl 1:154).

**Copyright:**

© Sheth et al; licensee BioMed Central Ltd. 2014

This article is published under license to BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/2.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.

**DOI link to article:**

<http://dx.doi.org/10.1186/1755-8166-7-S1-I54>

**Date deposited:**

21/04/2016



This work is licensed under a [Creative Commons Attribution 2.0 Generic License](http://creativecommons.org/licenses/by/2.0)

SPEAKER PRESENTATION

Open Access

# Point of care testing for improving risk- benefit ratio of aspirin and warfarin

Harsh Sheth<sup>1\*</sup>, Emma Northwood<sup>2</sup>, Faye Elliott<sup>2</sup>, Michael Jackson<sup>1</sup>, Mauro Santibanez Koref<sup>1</sup>, John Tyson<sup>3</sup>, Ann Daly<sup>4</sup>, Jonathan O'Halloran<sup>3</sup>, Jayesh Sheth<sup>5</sup>, Frenny Sheth<sup>5</sup>, Keyur Parikh<sup>6</sup>, D Timothy Bishop<sup>2</sup>, John Burn<sup>1</sup>

From International Conference on Human Genetics and 39th Annual Meeting of the Indian Society of Human Genetics (ISHG)  
Ahmadabad, India. 23-25 January 2013

The increase in identification of putative biomarkers and opportunities to develop tailored treatments are due to emergence of *omics* technologies. Application of pharmacogenetic knowledge with the help of quick and cheap companion diagnostics in the primary care setting is expected to deliver improved treatment and reduced healthcare costs. Warfarin and aspirin are the two most widely prescribed drugs for preventing cardiovascular diseases. Long term aspirin use has also been shown to reduce risk, recurrence and mortality from colorectal cancer. However, they both have narrow therapeutic windows and several genetic polymorphisms have been noted to influence their dose and efficacy. We therefore have launched two collaborative projects: first, to study the genetics of warfarin safety in the Gujarati Indian population and second, to identify further polymorphisms that modulates aspirin's colorectal cancer chemopreventive efficacy. Understanding the impact of polymorphisms on dose and efficacy for these drugs would lead to development of a combined panel of markers that would predict accurate therapeutic dose with minimal risk for adverse reactions. These markers will be deployed at the point of care settings using a novel handheld genotyping device which will use disposable microfluidic cassettes and silicon nanowires currently developed by QuantuMDx. Results, future work, opportunities and barriers will be examined.

#### Authors' details

<sup>1</sup>Institute of Genetic Medicine, Newcastle University, International Centre for Life, Newcastle upon Tyne, UK. <sup>2</sup>Leeds Institute of Molecular Medicine, St. James Hospital, Beckett Street, Leeds, UK. <sup>3</sup>QuantuMDx Ltd., International Centre for Life, Newcastle upon Tyne, UK. <sup>4</sup>Institute of Cellular Medicine,

<sup>1</sup>Institute of Genetic Medicine, Newcastle University, International Centre for Life, Newcastle upon Tyne, UK  
Full list of author information is available at the end of the article

Medical School, Newcastle University, Newcastle upon Tyne, UK. <sup>5</sup>FRIGE's Institute of Human Genetics, FRIGE House, Satellite, Ahmedabad, India. <sup>6</sup>CIMS Hospital, Nr. Shakun Mall, Sola, Ahmedabad, India.

Published: 21 January 2014

doi:10.1186/1755-8166-7-S1-154

Cite this article as: Sheth *et al.*: Point of care testing for improving risk-benefit ratio of aspirin and warfarin. *Molecular Cytogenetics* 2014 7(Suppl 1):154.

#### Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at  
[www.biomedcentral.com/submit](http://www.biomedcentral.com/submit)

