

Rothamsted Repository Download

G - Articles in popular magazines and other technical publications

Theodoulou, F. L. 2016. *Raising a glass to personalized medicine*.
Portland Press Ltd. doi:BIO03801002

The publisher's version can be accessed at:

- <https://dx.doi.org/BIO03801002>

The output can be accessed at: <https://repository.rothamsted.ac.uk/item/96z4x/raising-a-glass-to-personalized-medicine>.

© 1 February 2016, Portland Press Ltd.



Downloaded from <https://portlandpress.com/biochemist/article-pdf/38/1/2/852578/bio038010002.pdf> by UK user on 25 November 2019

Biochemical Society membership

Discover the benefits including:

- Generous grants and bursaries to attend international conferences
- Reduced registration at Biochemical Society conferences and workshops – over 30% discount
- Chance to participate in debates on policy, professional and educational issues
- Access to FEBS Fellowships
- FREE personal online access to the *Biochemical Journal* and *Biochemical Society Transactions*

Sign up to direct debit online and receive 5% discount on your membership fees*

To find out more www.biochemistry.org

* Only available if you have a UK bank account



BIOCHEMICAL
SOCIETY



For advertising and inserts contact:

Marketing Department
 Biochemical Society
 Charles Darwin House
 12 Roger Street
 London WC1N 2JU
 tel.: +44 (0) 20 7685 2411; fax: +44 (0) 20 7685 2469
 email: marketing@biochemistry.org

Production by Portland Press Limited

Editor: Helen Albert

Publishing Operations Manager: Michael Cunningham

Typesetting and layout: Rowena Weedon

Design by Peter Jones

Printed by Cambrian Printers Ltd, Aberystwyth

Published by Portland Press Limited six times a year
 (February, April, June, August, October and December).

©2015 Biochemical Society

ISSN 0954-982X (Print); ISSN 1740-1194 (Online)

Charles Darwin House
 12 Roger Street
 London WC1N 2JU
 tel.: 020 7685 2410; fax: 020 7685 2469
 email: biochemist@biochemistry.org
 website: <http://www.biochemist.org>
 Registered charity no. 253894

Subscriptions

email: sales@portlandpress.com
 website: <http://www.portlandpress.com>

Science Editor: Freddie Theodoulou (Rothamsted)

Editorial Panel: Rob Beynon, Nicola Gray,
 Graeme Horne, Fraser MacMillan, Philip Newsholme,
 Anne Osterreider, Clare Sansom and Chris Willmott
*The Editors are pleased to consider items submitted by
 Society members for publication. Opinions expressed in
 signed articles are not necessarily those of the Society.*

US agent: Air Business Ltd, c/o Worldnet Shipping Inc.,
 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11431, USA

Periodicals postage paid at Jamaica, NY 11431, USA.
 Postmaster: address corrections to The Biochemist,
 Air Business Ltd, c/o Worldnet Shipping Inc., 156-15,
 146th Avenue, 2nd Floor, Jamaica, NY 11431, USA



Find us on Facebook at [Biochemical Society](#)



Follow us on Twitter [@The_Biochemist](#)

Raising a glass to personalized medicine

by Freddie Theodoulou, Science Editor



It's a little late to wish you a Happy New Year but as this is the first issue of 2016, it seems appropriate to reflect on the making and breaking of New Year's resolutions. As I write, the UK is coming to the end of "Dry January" - a seasonal antidote to festive drinking excesses, encouraged no doubt by various scaremongering articles in the national press. I tend not to believe much that

I read in the tabloids and confess that my January was not as dry as it might have been (unless the enjoyment of an astringent Bourgogne Aligoté counts on the "dry" front). However, when Nature editorials discuss reducing alcohol consumption in the context of evidence-based policy¹ then it's time to take note. The UK Chief Medical Officers recently issued a new set of guidelines for safe alcohol consumption². Perhaps the most striking recommendation is that men should not be drinking more than women (the recommended weekly limit is 14 units for both sexes), challenging the tacit assumption that men, with their larger livers, can tolerate more booze.

Whilst these blanket recommendations have in some quarters been celebrated as a triumph for evidence-based policymaking, it did occur to me that they appear to neglect an important consideration: individual variation. I have an acquaintance who is rendered almost insensible by a small glass of wine and yet others who appear to be able to consume industrial quantities of beer without apparent loss of social function. A plethora of biochemical, physiological and behavioural differences underpin these extreme levels of tolerance. This fact is not ignored in the Chief Medical Officers' longer report, which remarks, somewhat soberly: "People vary in how they metabolize or react to alcohol, so people can be affected differently by drinking similar amounts." However, there is little room for nuance when issuing a clear set of health guidelines and an unequivocal message needs to be communicated.

Personalized medicine offers an almost infinite potential for nuance in diagnosis and treatment. Although not a new idea (Hippocrates, it seems was first on record to advocate the benefits of tailoring therapy to the individual), advances in all types of 'omics and importantly, dramatic reduction in the cost of DNA sequencing now offer unparalleled opportunities to understand the causes of disease and customise interventions for different patients. As the articles in this issue attest, several conditions already benefit from targeted therapies, but much more is in the pipeline as increasing numbers of genomes are scrutinised. Announcing its first diagnoses of rare diseases in children at the start of 2016, the 100,000 Genomes Project also targets cancer and has been hailed as the "beginning of the end of chemotherapy". Personalized medicine is not without its challenges: ethical, social, economic, as well as intellectual, but it offers superb promise in transforming healthcare. I'll raise a glass to that ■

1. Solving the drink problem. Nature Jan 13, p27

2. <http://www.cpwy.org/doc/1128.pdf>