



# MD-TEC

Medical Devices Testing and Evaluation Centre

**Enabling life science SMEs to bring products to market quickly, at less cost and with reduced risk**

Sian Dunning  
MD-TEC Programme Manager

[mdtec@uhb.nhs.uk](mailto:mdtec@uhb.nhs.uk)

0121 371 8540

# Medical Technologies Testing & Evaluation Centre (MD-TEC)

- Situated on the 3<sup>rd</sup> floor of the Institute of Translational Medicine.
- Builds on the City Deal investment into the ITM.
- £7 million project supported through European Regional Development Funds 2014-2020 and forms part of the European Structural Investment Funding programme (ESIF).
- Project lead – University Hospitals Birmingham and partnered by University of Birmingham and Aston University.
- Designed to support Life Sciences small to medium enterprises in the Greater Birmingham and Solihull Local Enterprise partnership.



UNIVERSITY OF  
BIRMINGHAM

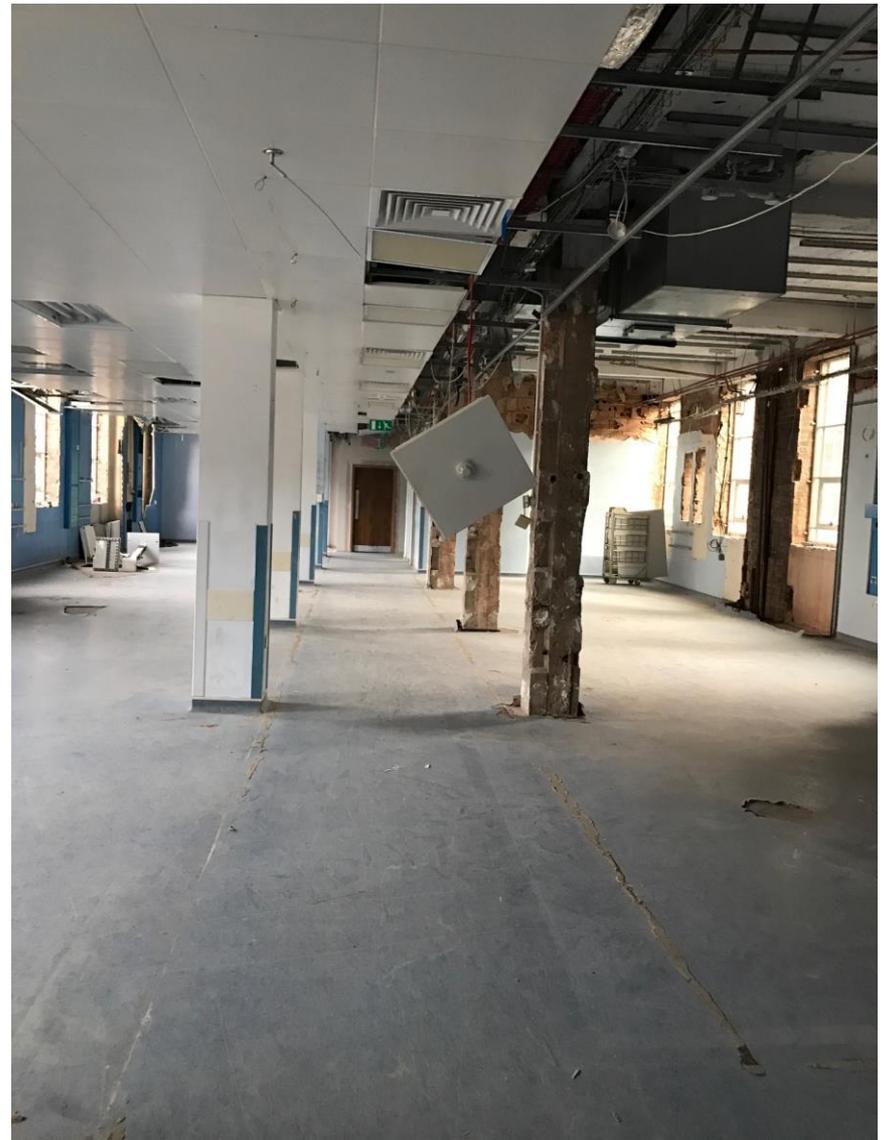


# MD-TEC ERDF project

- Accelerates the translation of medical technology innovations from the laboratory through to clinical and commercial exploitation.
- Develops existing markets and stimulates new ones for Life Sciences companies, enabling them to bring products to market quickly, at less cost and with reduced risk.
- The facility encompasses 1048 sq. metres of dedicated medical technology simulation laboratory and collaborative healthcare technology laboratory space.
- Strengthens collaboration between SMEs and the research base, encouraging greater investment in Research & Development.
- Assist regional growth and wealth creation

# The Challenges

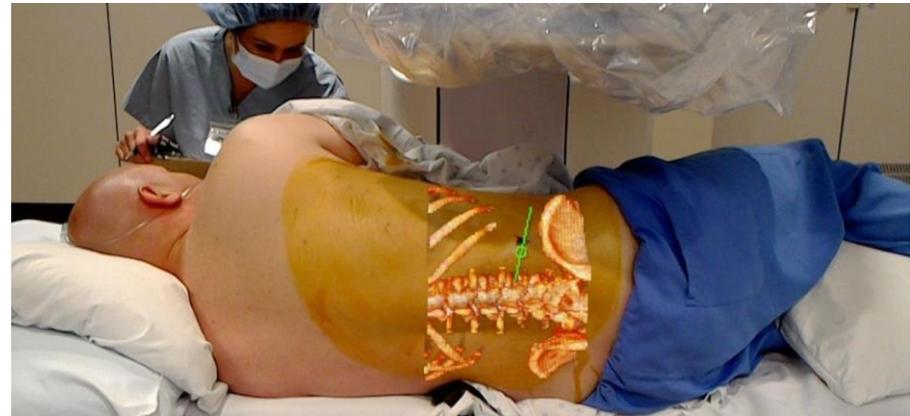
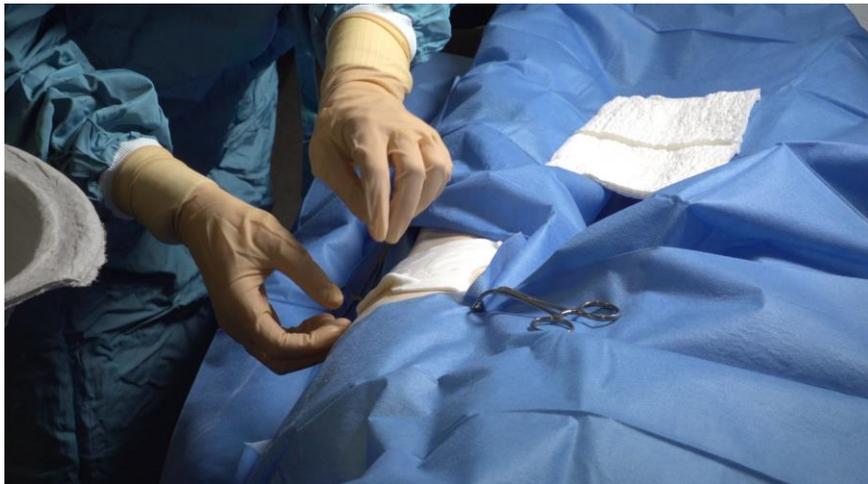
- **Capital build project**
  - NHS frameworks & infrastructure v ERDF guidelines
  - Timeframe
  - Contingency





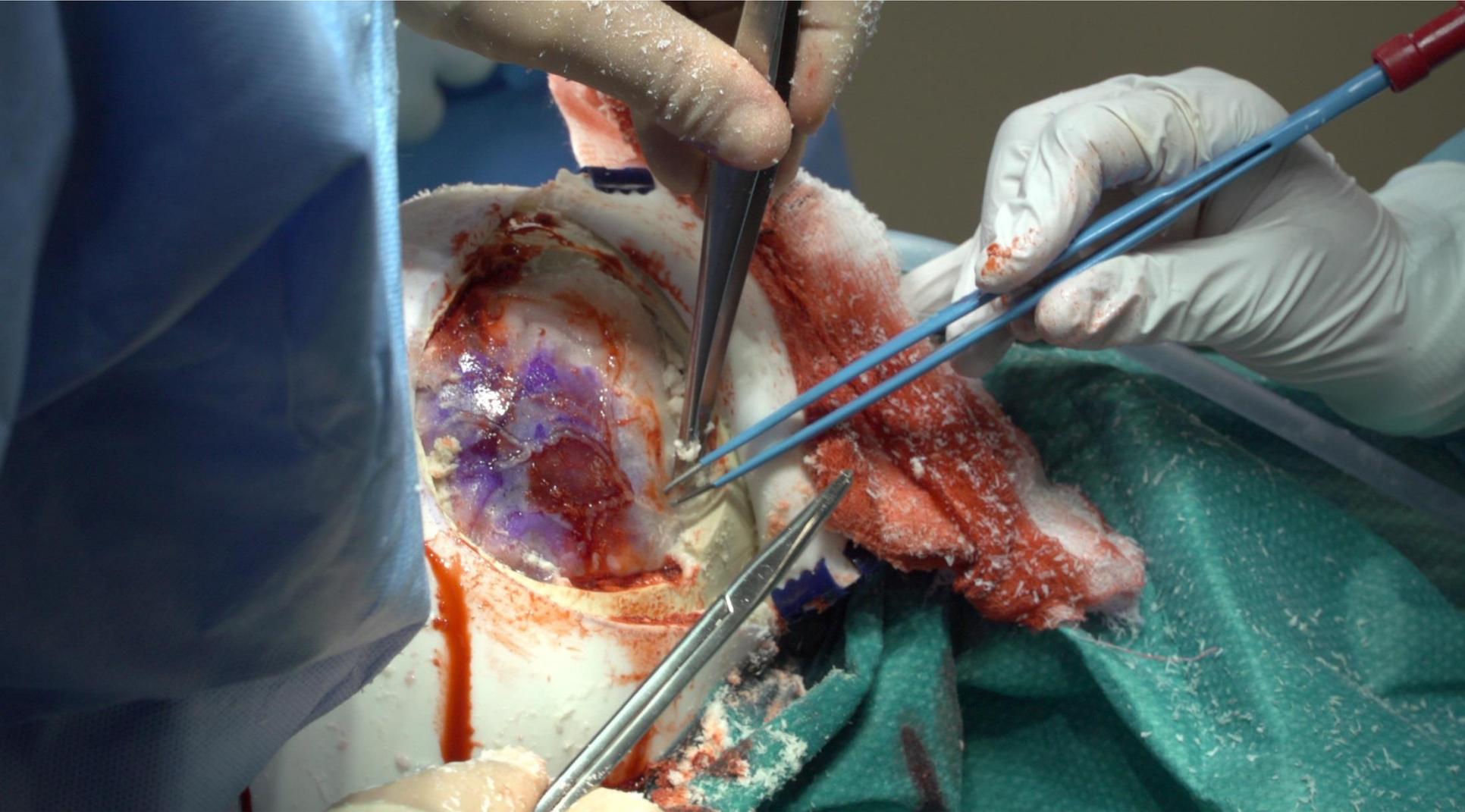
# The Challenges

- **Ambitious targets + restrictive eligibility criteria**
  - 135 SME Assists
  - 45 Clinical/academic collaborations
  - 20 New products to market
  - 75 Business transformations
  - 25 new jobs
- **Short Delivery time**
  - Impact of build issues
- **Partnership Working**
  - Academic research outputs v ERDF outputs
  - Engaging clinical staff



# The solutions

- **Partnership Working**
  - ESIF/ERDF expertise
- **Timely project change requests**
  - Achieved over 85% - 100% across all but 1 output – new jobs
- **Unique offer**
  - Supporting SMEs embrace changes to the medical device regulations
  - Access state-of-the-art facilities
    - Cost of this environment in the commercial marketplace would make it prohibitive to many companies.
  - Collaborations with universities & hospitals through funded support.
  - Value of the expertise – 46 usability studies
  - Added value
    - reduction in risk to companies and potential investors/funders



# MDTEC - 2020 onwards

## Post ERDF

- Subject to article 61 until 2025

## Diverse funding model

- Closely aligned with NIHR Trauma Med Tech Co-operative
- Supporting successful Innovate UK applications

## Digital & AI

- 5G
- UoB – Demand Hub application
  - Black Country LEP GBSLEP, Cov& War LEP
  - Continues support for SMEs

## BHP

- Life Sciences Eco-system
- Infrastructure

# Thank you

[mdtec@uhb.nhs.uk](mailto:mdtec@uhb.nhs.uk)

0121 371 8540

UNIVERSITY OF  
BIRMINGHAM



CENTRE FOR PATIENT REPORTED OUTCOMES RESEARCH

**Patient Reported Outcomes and placing the patient perspective  
at the heart of health research and NHS decision-making**

**Ameeta Retzer, Research Fellow**

**(Funding: Innovate UK #104777)**

**Centre for Patient Reported Outcomes Research**



# Centre for Patient-Reported Outcomes Research (CPROR)

## Aims to:

- Optimize the use of PROs in clinical trials and routine care, to improve service delivery, enhance patient care and outcomes and ensure that the patient is at the heart of healthcare decision-making.



# Centre for Patient-Reported Outcomes Research (CPROR)

Multidisciplinary team comprising members from:

- Birmingham Health Partners

Global collaboration with:

- Patient partners
- Clinicians
- Journal editors
- Funders
- Charities
- Trials Units
- Health economists
- Regulators
- Ethicists
- Methodologists
- International Societies



# Embedding high quality PROs research across major infrastructure:



# International Collaborators



Government of Canada

Gouvernement du Canada



THE LANCET

BMJ

INVOLVE

National Institutes of Health



PROS IN PRACTICE



International Diabetes Federation



# What are Patient Reported Outcomes (PROs)?

‘A PRO is any report of the status of a patient’s health condition that comes directly from the patient, without interpretation of the patient’s response by a clinician or anyone else.’

FDA guidance: Guidance for Industry, Patient-Reported Outcome Measures: Use in Medical Product Development to Support Labeling Claims. 2009

# Why assess PROs in clinical trials?

- ❖ Assess efficacy or effectiveness
- ❖ Discriminate between therapies in a crowded market.
- ❖ Inform future patient choice and consent.
- ❖ Prognostic significance.
- ❖ Safety endpoints.
- ❖ Inform labelling claims and health policy.



# Case Study in Cancer - Evidence of Research Waste

- Systematic evaluation of 1,141 cancer trials recruiting across 72 countries including a primary/secondary PRO (2001-2014).<sup>8</sup>
- Findings:
  - PRO protocol content frequently inadequate.
  - 38% (95% CI 31% to 46%) of published trials failed to publish PRO data. These trials included **49 568 participants**.
  - Even where PRO data were published, often considerable delay and reporting quality suboptimal.

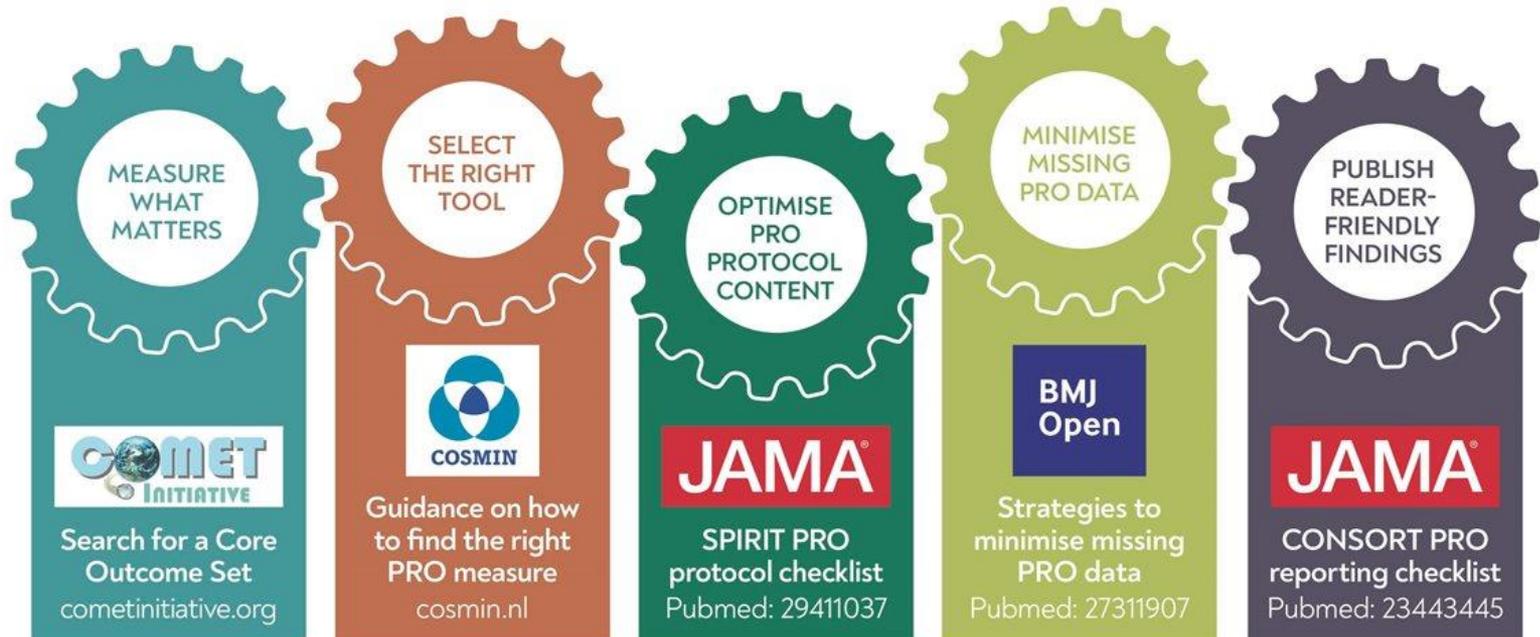


# Minimising research waste & improving patient care

UNIVERSITY OF  
BIRMINGHAM

CPROR   
CENTRE FOR PATIENT REPORTED OUTCOMES RESEARCH

## GETTING PROs RIGHT – TRIALS



ADDITIONAL RESOURCES:  Quality of Life Research Journal Special Edition: Measuring what matters [tinyurl.com/y5xo8q4m](http://tinyurl.com/y5xo8q4m)  Quality of Life Research Journal: ISOQOL minimum PRO standards Pubmed: 23288613  SISAQOL PRO analysis guidelines [qol.eortc.org](http://qol.eortc.org)  Quality of Life Research Journal: Graphically displaying PRO data Pubmed: 30306533 // Mayo Clinic Proceedings: Clinician's checklist for reading PRO articles Pubmed: 24702734

 **NCRI**  
National Cancer  
Research Institute

 **PROTEUS**  
Patient-Reported Outcomes Tools:  
Engaging Users & Stakeholders

FIND OUT MORE: [www.birmingham.ac.uk/prolearn](http://www.birmingham.ac.uk/prolearn)

Funded by

 **MACMILLAN  
CANCER SUPPORT**

# Maximising impact of PRO trial results

 [Browse](#) | [Publish](#) | [About](#)  [advanced search](#)

 OPEN ACCESS  PEER REVIEWED

RESEARCH ARTICLE

## Assessing the impact of healthcare research: A systematic review of methodological frameworks

Samantha Cruz Rivera, Derek G. Kyte  Olalekan Lee Aiyegbusi, Thomas J. Keeley, Melanie J. Calvert

Published: August 9, 2017 • <https://doi.org/10.1371/journal.pmed.1002370>

|                |               |
|----------------|---------------|
| 15<br>Save     | 0<br>Citation |
| 18,767<br>View | 287<br>Share  |

## Health and Quality of Life Outcomes

[Home](#) | [About](#) | [Articles](#) | [Submission Guidelines](#)

Research | [Open Access](#) | [Published: 16 October 2019](#)

## The impact of patient-reported outcome (PRO) data from clinical trials: a systematic review and critical analysis

[Samantha Cruz Rivera](#), [Derek G. Kyte](#), [Olalekan Lee Aiyegbusi](#), [Anita L. Slade](#), [Christel McMullan](#) & [Melanie J. Calvert](#) 

[Health and Quality of Life Outcomes](#) 17, Article number: 156 (2019) | [Cite this article](#)

# CPROR: contributing to health policy



European Heart Journal (2014) 35, 2001–2009  
doi:10.1093/eurheartj/ehu205

REVIEW

Translational medicine

## The importance of patient-reported outcomes: a call for their comprehensive integration in cardiovascular clinical trials

Stefan D. Anker<sup>1,2\*</sup>, Stefan Agewall<sup>3</sup>, Martin Borggrefe<sup>4,5</sup>, Melanie Calvert<sup>6</sup>, J. Jaime Caro<sup>7</sup>, Martin R. Cowie<sup>8</sup>, Ian Ford<sup>9</sup>, Jean A. Paty<sup>10</sup>, Jillian P. Rilely<sup>11</sup>, Karl Swedberg<sup>12,13</sup>, Luigi Tavazzi<sup>14</sup>, Ingela Wiklund<sup>15</sup>, and Paulus Kirchhof<sup>16</sup>



Suppl (2014) 14, 37–50  
doi:10.1093/eurheartj/ehu394

EHRA CONSENSUS STATEMENT

## A roadmap to improve the quality of atrial fibrillation management: proceedings from the fifth Atrial Fibrillation Network/European Heart Rhythm Association consensus conference

Paulus Kirchhof<sup>1,2\*</sup>, Günter Breithardt<sup>3</sup>, Jeroen Bax<sup>4</sup>, Gerlinde Benninger<sup>5</sup>, Carina Blomstrom-Lundqvist<sup>6</sup>, Giuseppe Boriani<sup>6</sup>, Axel Brandes<sup>7</sup>, Helen Brow Martina Brueckmann<sup>8,10</sup>, Hugh Calkins<sup>11</sup>, Melanie Calvert<sup>1</sup>, Vincent Christoffel Harry Crijns<sup>13</sup>, Dobromir Dobrev<sup>14</sup>, Patrick Ellinor<sup>15</sup>, Larissa Fabritz<sup>1,2</sup>, Thomas Fetsch<sup>16</sup>, S. Ben Freedman<sup>17</sup>, Andrea Gerth<sup>3,18</sup>, Andreas Goette<sup>1,19</sup>, Eduard Guasch<sup>20</sup>, Guido Hack<sup>21</sup>, Laurent Haeghele<sup>22</sup>, Stephane Hatem<sup>23</sup>, Karl Georg Haueiser<sup>24</sup>, Hein Heidbüchel<sup>25</sup>, Jutta Heinrich-Nols<sup>26</sup>, Francoise Hidden-Luceat<sup>26</sup>, Gerd Hindricks<sup>27</sup>, Steen Juul-Möller<sup>28</sup>, Stefan Käb<sup>1</sup>, Lukas Kappenberger<sup>30</sup>, Stefanie Kespohl<sup>31</sup>, Dipak Kotecha<sup>1</sup>, Deirdre A. Lane<sup>1</sup>, Angelika Leute<sup>3</sup>, Thorsten Lewalter<sup>3,32</sup>, Ralf Meyer<sup>33</sup>, Lluís Mont<sup>30</sup>, Felix Münz Michael Nabauer<sup>3,18</sup>, Jens C. Nielsen<sup>35</sup>, Michael Oeff<sup>3,36</sup>, Jonas Oldgren<sup>5,37</sup>, Ali Jonathan P. Piccini<sup>39</sup>, Art Pilmeyer<sup>40</sup>, Tatjana Potpara<sup>41</sup>, Ursula Ravens<sup>1,42</sup>, Holger Reinecke<sup>2</sup>, Thomas Rostock<sup>2,43</sup>, Joerg Rustige<sup>28</sup>, Irene Savelieva<sup>44</sup>, Renate Schnabel<sup>45</sup>, Ulrich Schotten<sup>3,12</sup>, Lars Schwichtenberg<sup>31</sup>, Moritz F. Sinne Gerhard Steinbeck<sup>3,46</sup>, Monika Stoll<sup>47,48</sup>, Luigi Tavazzi<sup>49</sup>, Sakis Themistoclakis<sup>5</sup>, Hung Fat Tse<sup>51</sup>, Isabelle C. Van Gelder<sup>52</sup>, Panagiotis E. Vardas<sup>53</sup>, Timo Yarpuz Alphon Vincent<sup>54</sup>, David Werrington<sup>55</sup>, Stephan Willems<sup>45</sup>, André Ziegler<sup>56</sup>, Gregory Y.H. Lip<sup>1</sup>, and A. John Camm<sup>44</sup>

## NICE National Institute for Health and Care Excellence

U.S. FOOD & DRUG ADMINISTRATION

CDER Patient-Focused Drug Development

### CDER Patient-Focused Drug Development

Development & Approval Process (DAP)

Drug Development Tools (DDT)

Guidance Documents for Drug Applications

Law, Regulations, Policies and Procedures for Drug Applications

Drug Development Tool (DDT) Qualification Programs

CDER Small Business & Industry Assistance (SBIA)



Patient-focused drug development (PFDD) is a systematic approach to help ensure that patients' experiences, perspectives, needs, and priorities are captured and meaningfully incorporated into drug development and evaluation. As experts in what it is like to live with their condition, patients are uniquely positioned to inform the understanding of the therapeutic context for drug development and evaluation.

The primary goal of patient-focused drug development is to better incorporate the patient's voice in drug development and evaluation, including but not limited to:

- Facilitating and advancing use of systematic approaches to collecting and utilizing robust and meaningful patient and caregiver input to more consistently inform drug development and regulatory decision-making.
- Encouraging identification and use of approaches and best practices to facilitate



EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

1 April 2016  
EMA/CHMP/292464/2014  
Committee for Medicinal Products for Human Use (CHMP)

## Appendix 2 to the guideline on the evaluation of anticancer medicinal products in man

The use of patient-reported outcome (PRO) measures in oncology studies



IRDiRC

# PROs in routine clinical practice

## ePRO system development

- Trials
- EAMs
- RWE

## Role of PROs in RWE generation



BMJ 2019;364:k5267 doi: 10.1136/bmj.k5267 (Published 24 January 2019)

Page 1 of 8



ANALYSIS

### Maximising the impact of patient reported outcome assessment for patients and society

Patient reported outcome measures can help drive global patient centred healthcare reform, but we need a more efficient coordinated approach to assessment if we are to fully realise benefits for patients and society, say **Melanie Calvert and colleagues**

Melanie Calvert *professor of outcomes methodology*<sup>1</sup>, Derek Kyte *lecturer in health research methods and NIHR fellow*<sup>1</sup>, Gary Price *patient partner, member of CPROR executive*<sup>1</sup>, José M Valderas *professor of health services and policy research*<sup>2</sup>, Niels Henrik Hjollund *clinical professor*<sup>3</sup>

<sup>1</sup>Centre for Patient Reported Outcomes Research (CPROR), Institute of Applied Health Research, and NIHR, Birmingham Biomedical Research Centre, University of Birmingham B15 2TT UK; <sup>2</sup>NIHR PenCLARIC and Institute for Health Services Research, University of Exeter Medical School, St Luke's Campus, St Leonards, Exeter EX1 2LU, UK; <sup>3</sup>AmbuFlex/WestChronic, Regional Hospital West Jutland, Herning, Denmark, and Department of Clinical Epidemiology, Aarhus University Hospital, Aarhus, Denmark

#### Key messages

Patient reported outcome data are increasingly being used by a range of stakeholders in healthcare. These data may offer major benefits to patients and society, but current use is fragmented and suboptimal. We propose an integrated evidence based approach to data collection to meet multiple stakeholder needs.

Over the past decade we have seen a global rise in the involvement of patients in coproducing research and decisions about their health and care. "Measuring what matters to patients"

#### Current use and benefits

PROM assessment in research and routine clinical practice offers a range of potential benefits for individual patient care and for clinicians, regulators, healthcare management teams, commissioners, and policy makers (table 1). The use of PROMs in research, particularly in clinical trials and observational studies, is well established and can provide valuable evidence on the burden of disease and the efficacy, effectiveness, and cost effectiveness of interventions from a patient perspective.<sup>20-23</sup> PROM data are increasingly being used to provide evidence for drug and device approval. Feedback



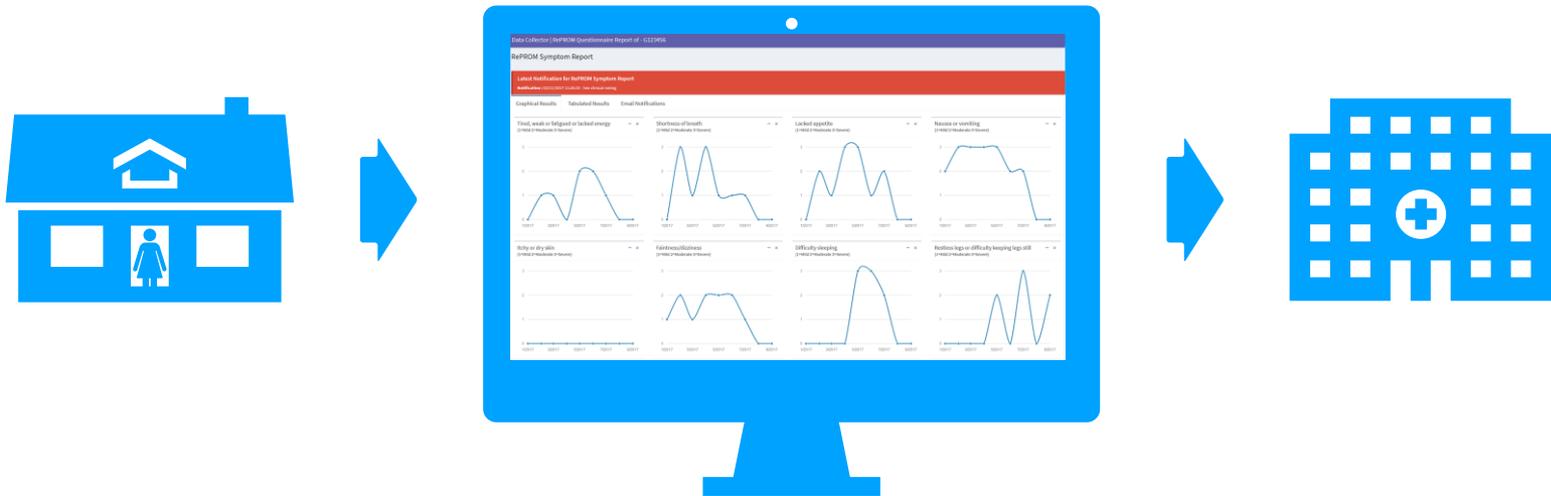
COMMENT · 15 MAY 2019

## Harnessing the patient voice in real-world evidence: the essential role of patient-reported outcomes

Real-world evidence is increasingly valued by regulators and payers. Central to this evidence base is patient-reported outcome data describing the impact of drugs on quality of life, daily activities and symptoms. Here, we highlight key challenges with current real-world, patient-reported outcome data and describe collaborative next steps for international stakeholders to overcome these issues.

Melanie J. Calvert<sup>1</sup>, Daniel J. O'Connor & Ethan M. Basch

# ePROM SYSTEM - myHealth@QEHB



Use of an electronic Patient-Reported Outcome Measure in the Management of Patients with Advanced Chronic Kidney Disease (Dr Derek Kyte, CPROR)



@CPROR\_UoB

**NHS**  
National Institute for  
Health Research

**RePROM**  
Renal Electronic Patient  
Reported Outcome Measures

UNIVERSITY OF  
BIRMINGHAM | **CPROR**  
CENTRE FOR PATIENT REPORTED OUTCOMES RESEARCH

# Industry collaboration

## Ground-breaking research launches into patient experience of cell therapies

Posted on 04 Dec 2018

Share this page



University of Birmingham researchers, with industry partners including health technology companies Dignio and Datatrial, have been awarded £1.1 million by UK Research & Innovation (UKRI)'s Innovate UK, to investigate patients' experience of cell and gene therapies.

The funding has been provided as part of the Industrial Strategy Challenge Fund's Medicines Manufacturing programme.

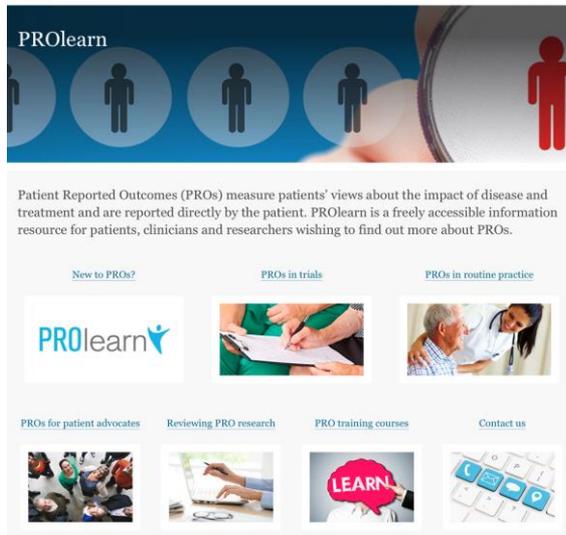
Cell and gene therapies offer ground-breaking opportunities for the



# Capacity building, training and education

- NIHR Postdoctoral Fellows
- Doctoral researchers
- CPD courses – face to face and online training
- PROlearn

[www.birmingham.ac.uk/prolearn](http://www.birmingham.ac.uk/prolearn)



## Find out more:

[birmingham.ac.uk/cpror](http://birmingham.ac.uk/cpror)

## Keep in touch:

[CPROR@contacts.bham.ac.uk](mailto:CPROR@contacts.bham.ac.uk)



[@CPROR\\_UoB](https://twitter.com/CPROR_UoB)

## Training:

[birmingham.ac.uk/prolearn](http://birmingham.ac.uk/prolearn)



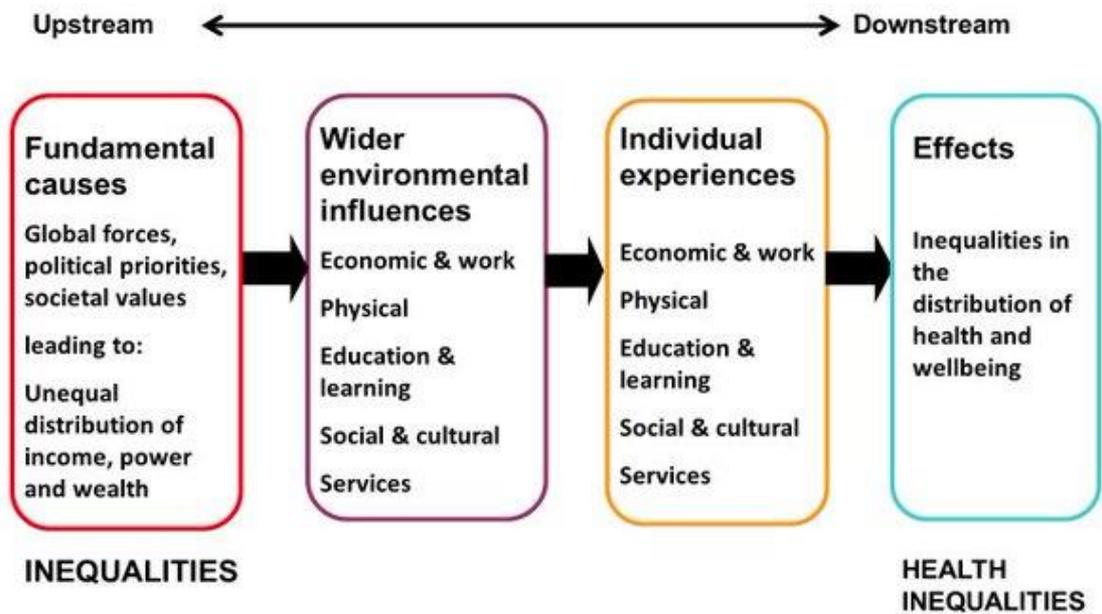
**Any questions?**



What is innovation in Public Health terms? What innovation would help improve the public's health?

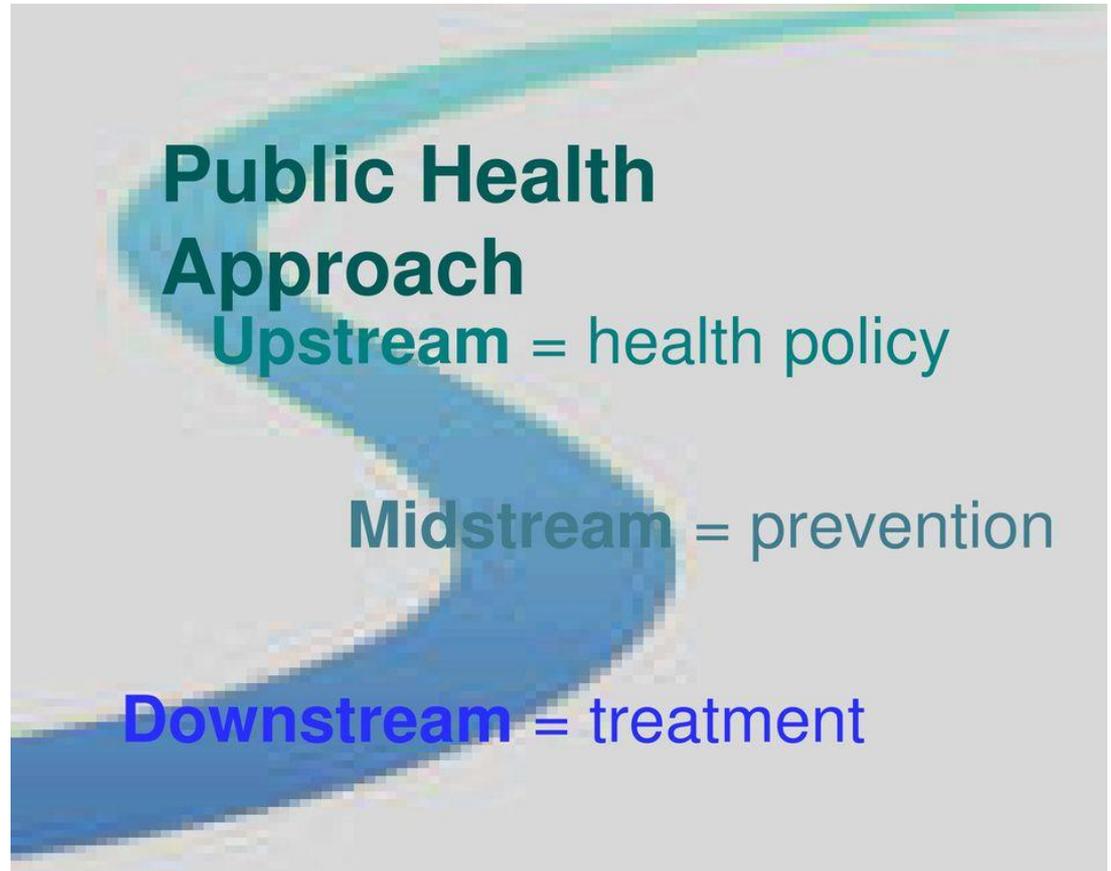
David Kidney, Chief Executive, UK Public Health Register  
Innovative Healthcare Working Group 26 February 2020

Health inequalities : theory of causation



# Going upstream

The main influences  
on health across a  
lifetime are not  
health service  
based.





A public  
health  
workforce

Defining what they do:

**“the art and science of preventing disease, prolonging life and promoting health through the organized efforts of society”**

(Sir Donald Acheson, 1988)

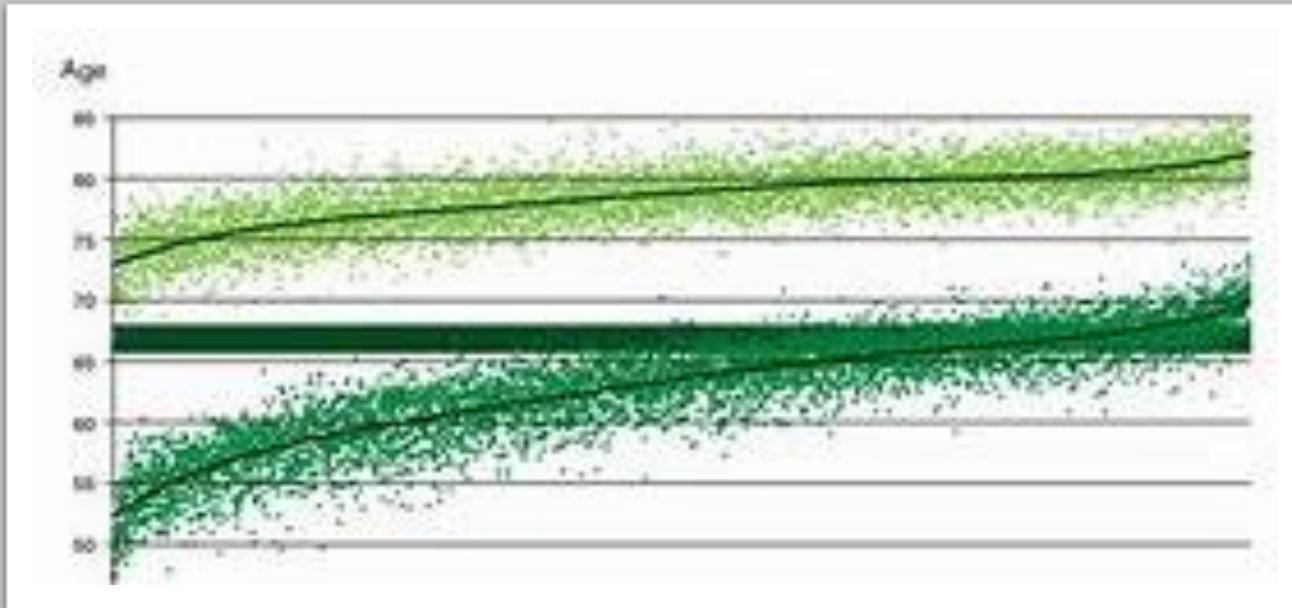
---

# The three domains of Public Health





<http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review> (2010)



## **Professor Sir Michael Marmot**

*Marmot has become synonymous with evidencing the “health gap”*

# What is proportionate universalism?

Proportionate universalism is the resourcing and delivering of universal services at a scale and intensity proportionate to the degree of need. Services are therefore universally available, not only for the most disadvantaged, and are able to respond to the level of presenting need.

Approaches to addressing health inequalities have fallen into three broad categories:<sup>2</sup>

1. A focus on improving the health of the most disadvantaged groups.
2. A focus on reducing the gap between the best and the worst off.
3. A focus on reducing the entire social gradient.

Proportionate universalism has been described as a hybrid approach which combines the first and third approaches above.<sup>3</sup>

The principles of proportionate universalism are already in existence. For example, the NHS Scotland Resource Allocation Committee (NRAC) formula for NHS funding seeks to weight funding towards territorial Health Boards with greater need (based on rurality, deprivation and the age profile of the population). This principle could be extended to the funding of other services. An alternative definition of progressive universalism is often used in relation to children's services.

'Progressive universalism – a universal service that is systematically planned and delivered to give a continuum of support according to need at neighbourhood and individual level in order to achieve greater equity of outcomes for all children'.<sup>4</sup>

**Proportionate universalism is the resourcing and delivering of universal services at a scale and intensity proportionate to the degree of need.**

<http://www.healthscotland.com/uploads/documents/24296-ProportionateUniversalismBriefing.pdf>

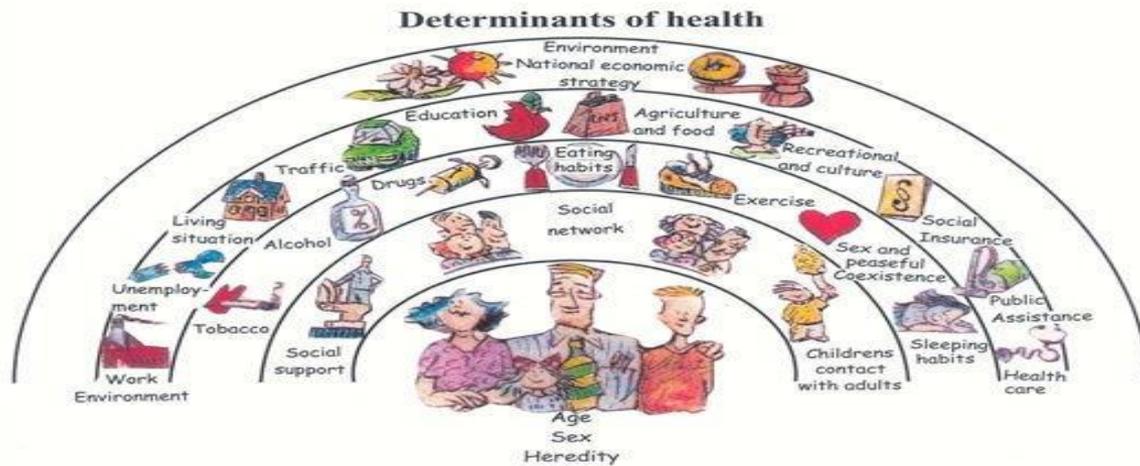
## Lifestyle drift

“The tendency for policy to start off recognizing the need for action on upstream social determinants of health inequalities only to drift downstream to focus largely on individual lifestyle factors”.

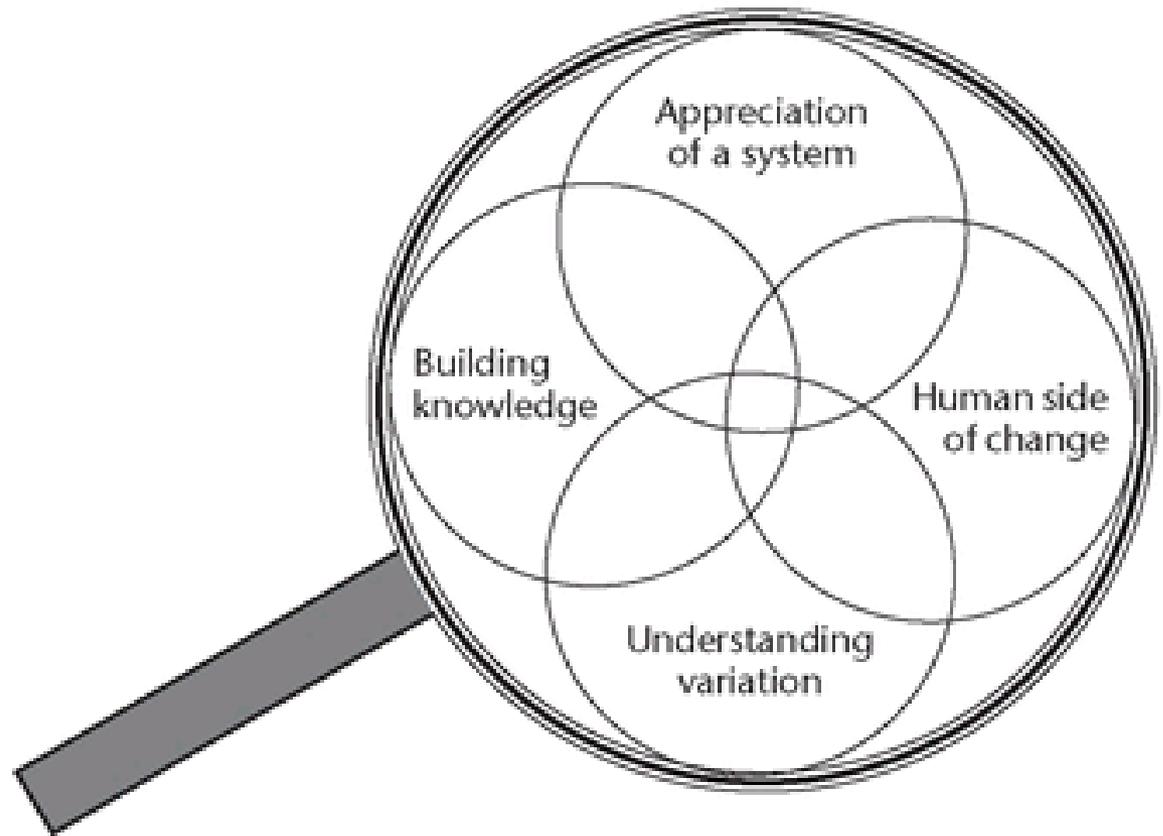
<https://academic.oup.com/jpubhealth/article/32/2/148/1610540/Injustice-is-killing-people-on-a-large-scale-but>

# Dahlgren and Whitehead's model of social determinants of health (updated)

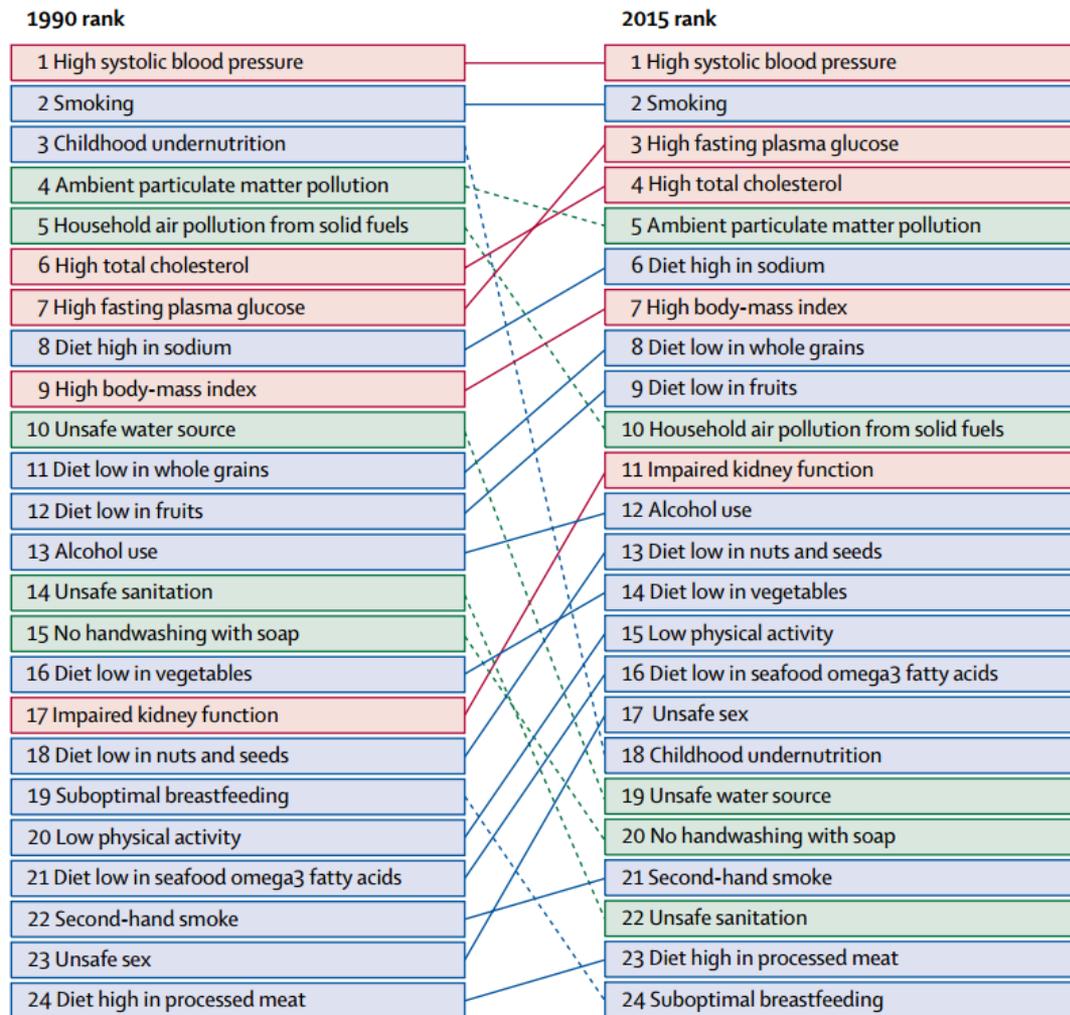
## Engage Across Boundaries



Edwards  
Deming's  
lens of  
profound  
knowledge



<http://ihub.scot/2020-framework-for-quality-efficiency-and-value/improve/deming-s-system-of-profound-knowledge/>

**A**

**Figure 3: Leading level 3 Global Burden of Diseases global risk factors for deaths (A) and disability-adjusted life-years (B), 1990 and 2015**  
 Risks are connected by lines between years; solid lines show risks that have stayed the same or moved higher in the ranking and dashed lines show risks that have moved lower.

---

# Four waves of public health practice

- 1) Great public works and other developments in response to the Industrial Revolution
- 2) Emergence of medicine as science
- 3) Re-design of our social institutions during the 20th Century, giving birth to the welfare state
- 4) Efforts to combat disease risk factors and the emergence of systems thinking

---

# A fifth wave

Integrating the **true** (science), the **good** (ethics) and the **beautiful** (aesthetics) to:

- 1) Maximise the value of health and incentives for healthy behaviour;
- 2) Promote healthy choices as default; and
- 3) Minimise factors that create cultures and environments which promote unhealthy behaviour.

# Example Weigh2GO Overview

## Background

- ▶ W2G **established since April 2016** - concept initially trialled in the council and was successful.
- ▶ Based on **Bandura's 'self-regulation theory'** - monitoring oneself against goals to reinforce behaviour.
- ▶ **Evidence based** – can be effective in prevention of weight gain and weight loss maintenance.

## Local prevalence

- ▶ **>2/3 of adults (>70%)** are overweight or obese in Sandwell, worse than England average.
- ▶ These people have an increased risk of chronic health conditions such as **type 2 diabetes, heart disease, stroke** and some **cancers**.
- ▶ Many people eligible for weight loss services **don't access a conventional weight loss programme**.

# Weigh2GO (W2G): Public Health are...

- **Inviting organisations/services** to partner with Sandwell council.
- **Working** with partners to roll out the **new version 'app'** to users.
- Currently **working in partnership** with a range of organisations/services across the borough (engaged >700 users so far).
- Working to **reach all** who are eligible incl. BAME groups, men, new mums, vulnerable groups.
- Continuing to **monitor** and **evaluate** effectiveness.
- Learning that a **community-led weight management approach works!** - its 'convenient', 'easy to access' and 'removes barriers'.

# W2G programme How does it work?

- It's a **free self-directed** weight management programme available through an online 'app' using smart scales.
- Designed for individuals who wish to regularly monitor their weight in order to **maintain or lose weight**.
- Participants can join by downloading the **Activ8rlives 'app'**, They will need a smart phone/device and must scan the QR code to join your group via the 'app'.
- **Weekly weigh ins** (using phone & 'app'). Weight data is **automatically synchronised** to the Activ8rlives dashboard, progress is trackable.
- **Weight loss support** is available via the 'app' One can set and work towards a realistic weight goal with support from a range of online weight loss plans.

\*Local libraries have smart scales! Participant who have joined a group will have access to smart scales in *local libraries across the borough!*

# I asked what “innovations” colleagues rated

- ❑ **Ban on smoking in enclosed public premises**  
Ireland, then Scotland then whole UK
- ❑ **Creation of *Moving Healthcare Professionals Programme***  
the first whole medical educational pathways approach to embedding brief advice on physical activity in England and internationally
- ❑ **Good Thinking in London**  
a web platform has the latest NHS approved apps and people are signposted there or the web finds them through their search and sends click through ads

---

## Innovations people rate (continued)

- Park Run <https://www.parkrun.org.uk/>
- Interventions to tackle inequalities  
UK Prevention Research Partnership (research project)
- Comprehensive approach to tackling childhood obesity in Amsterdam ( politician led)

---

# I asked what innovations colleagues need

- Compulsory open sourcing of commercial retail information by local geography

Compulsory disclosure by all retailers into open source platforms to revolutionise our approach to understanding behaviour change in real time and truly see if what we are doing is having an impact

- Stopping inappropriate / unethical? 'innovation' e.g. whole-body screening, using apps for random screening
- Shift from biomedically based to ecologically based model of practice

---

## Innovations people need (continued)

- Whole system approach to environment, farming and health
- Every child in the UK does the daily mile
- Legal Requirement for Health Impact Assessment for all legislation and policies (local and national)
- Molecular targets of interventions that extend the human health span and lifespan



# What is population health?

For more information about public health practice (sometimes called population health)

**The King's Fund** has produced a neat, short animation:

<https://www.kingsfund.org.uk/audio-video/population-health-animation>

---

## My contact details for follow-up

UK Public Health Register, 18c McLaren Building,  
46 Priory Queensway, Birmingham, B4 7LR

[d.kidney@ukphr.org](mailto:d.kidney@ukphr.org)

Tel. 0121 296 4370

Mob. 07966 378844

[www.ukphr.org](http://www.ukphr.org)