Many names for one concept or many concepts in one name?

With this programme, the PHG Foundation is aiming to end ambiguity and create shared understanding and usage for this increasingly important concept.

Stratified, personalised, precision, individualised, P4 medicine or personalised healthcare – all are terms in use to describe notions often referred to as the future of medicine and healthcare. But what exactly is it all about, and are we all talking about the same thing?

Among the many different concepts and emerging ideas in the last decade, the name and notion of stratified medicine has been present with a particular strength and consistency. Stratified medicine has many definitions, but most significantly there are differences in scope and outputs for different audiences.

In the first stage of this new programme, we have been investigating the myriad definitions for 'stratified medicine', and analysing the historical context for each term, its explanations and ideas.

Anything new?

We began by questioning the extent to which the whole concept is new and examining how it differs from the traditional definition and scope of the medical discipline. Also, we are exploring in detail the role and place of genomics in the development and implementation of this 'new medicine'.

From an initial literature review, our early conclusions suggest that 'personalised medicine' is not new. Good medical practice has long involved consideration of the individual patient's family history and past medical history, linking it with specific clinical symptoms to inform individualised diagnosis and treatment protocol.

What is new is the unprecedented availability of tools to improve individualised approaches to health and disease management. These tools are emerging from the evolving information, technology and socio-political contexts in which medicine and healthcare operate today.
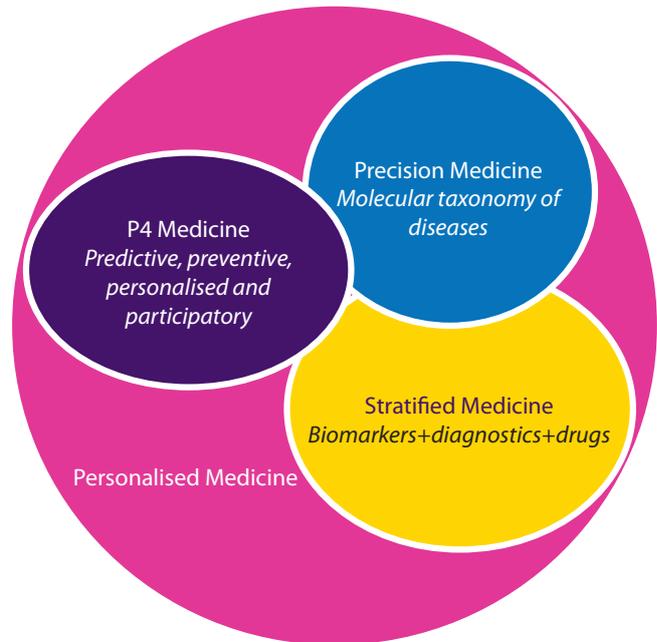
Some definitions

We have made some initial attempts to define the scope of different terms and then to analyse the overlaps and differences between them.

Stratified medicine Matching therapies with specific patient population characteristics using clinical biomarkers. (Trusheim *et al*, 2007)

Precision medicine Integration of molecular research with clinical data from individual patients to develop a more accurate molecular taxonomy of diseases that enhances diagnosis and treatment and tailors disease management to the individual characteristics of each patient. (US Nat Acad of Sciences report, 2011)

P4 medicine Clinical application of the tools and strategies of systems biology and medicine to quantify wellness and demystify disease for the well-being of an individual. (Hood, 2008)

Personalised medicine "Genomics+medical information technology+patient empowerment" (Millenson et al, 2006)

Precision Medicine
Molecular taxonomy of diseases

P4 Medicine
Predictive, preventive, personalised and participatory

Stratified Medicine
Biomarkers+diagnostics+drugs

Personalised Medicine

Finding the right words

We have concluded so far that most terms have very specific meanings and have been coined for very specific contexts. They have subsequently been used inappropriately or with lack of precision to describe different aspects of the personalised medicine phenomenon. We have also looked at the place of genetics and genomic medicine and how often and why it is directly substituted by the term 'personalised medicine'.

Next steps

We are now conducting a deep analysis of selected papers and additional, newly sourced material. Out of this analysis we aim to formulate recommendations on the use of terms and clarity of definitions, and to suggest preferred use of terminology and its scope as focus for policy initiatives at a national level.

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