Public Health in an Age of Genomics

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Findings from an OECD / Genomics Network study of:

- “the drivers and criteria shaping application of genomics to public health in different national settings, and the barriers to implementation nationally and internationally”

- Looking at:
  - Stratified medicine
  - Infectious disease control
Methods

• A small qualitative study of seven self-selected countries:
  • China
  • Finland
  • Israel
  • Luxembourg
  • Mexico
  • South Africa
  • United Kingdom
Methods ctd.

- **Country case studies, not comparative survey**

- **Questionnaires distributed by “country coordinators”: WPB members or invited experts**

- **Respondents: “individuals well placed to comment on national strategies for promoting genomics for public health”**
Findings: stratified medicine

• All countries except South Africa

• Primarily research-led

• Driven by expectations of increased clinical and cost-efficiency of medical interventions, especially for chronic diseases
Findings: stratified medicine ctd.

• European countries see few barriers to research; other countries cite research funding and access to international research networks as barriers
• *All* countries see barriers to translation and implementation
  • Including lack of funding for translational research, healthcare reimbursement regimes, and lack of understanding among policy makers
Findings: stratified medicine ctd.

- Implementation seen to be principally a local / national matter, that depends on:
  - national health care systems
  - knowledge of local populations – especially national biobanks

- Some concern about international matters, e.g. regulatory and IP regimes – but this is surprisingly muted
Findings: stratified medicine ctd.

• Pursuit of stratified medicine is tending to orient public health concern towards *national*, not international contexts and actions
Findings: genomics for infectious disease control

• Scarcely discussed by Finland, Luxembourg – discussed in the UK chiefly in terms of assistance for the developing world

• China, Mexico, Israel: infectious disease control is a major concern – and for South Africa is the *only* focus of genomics for public health

Findings: genomics for infectious disease control ctd.

• These countries carry the heaviest burden of infectious disease – and controlling these is a national priority

• These countries are also the most concerned about infectious diseases that pose not just a national but a global threat
  • especially SARS and influenza
Findings: genomics for infectious disease control ctd.

- These countries also stress the importance of international collaboration for infectious disease control, both national and global, including:
  - research
  - data sharing
  - surveillance
Findings: genomics for infectious disease control ctd.

- Pursuit of genomics for infectious disease control is tending to orient public health concern towards *international* as well as national contexts and actions
Conclusions

• There is a divergence between

  • stratified medicine, with a primarily national focus

  • infectious disease control, including global diseases, which depends heavily on international collaboration
Conclusions ctd.

- and between
  - those countries that concentrate primarily on stratified medicine
  - those countries that also emphasise infectious disease control
- (though our data on this point need to be approached with caution)
Conclusions ctd.

• International action to promote global public health might most usefully focus on infectious disease control, rather than stratified medicine
Acknowledgements

- David Castle (Innogen)
- Adam Hedgecoe (Cesagen)
- Susan Kelly (Egenis)
- Rachael Ritchie (OECD/University of British Columbia)
- Country coordinators: Mark Bale, Avi Israeli, Gerardo Jimenez Sanchez, Françoise Meisch, Moleleki Ntsane, Kimmo Pitkänen, Wang Wei