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Realising the benefits of pathogen genomics: policy recommendations for the Department of Health

To be read in conjunction with the Executive Summary and recommendation list of the *Pathogen Genomics Into Practice* report*.

Pathogen genomics could transform the management of infectious diseases in England. Achieving the full potential of this technology requires commitment, investment, and strategic coordination between all organisations involved in managing infectious diseases. The Department of Health has a vital role in supporting its agencies and public bodies to deliver the coordinated and effective implementation of genomics-informed infectious disease services in the short term and driving their innovation and expansion in the long term. Key actions the Department should take are outlined overleaf.

*The report can be downloaded at www.phgfoundation.org/reports/16857

- **Support operational coordination among stakeholders:** Realisation of the strategic public health benefits of the implementation of pathogen genomics services will require coordinated action amongst providers and users to develop policies and procedures that support cooperation and interoperation of services. These efforts should be led by Public Health England but be explicitly supported by all relevant health service and policy making organisations, specifically the Department of Health.

Relevant recommendation: 12

- **Support the development of the catalyst:** work with partner organisations and agencies to ensure the catalyst is built, and to enable its key functions, for example by providing overarching strategic leadership for the catalyst's repository function and supporting the establishment of infrastructure and policies that will facilitate the aggregation and integration of all pathogen genomic and clinical data.

Recommendations within 'Develop Catalyst' pathway

- **Establish and oversee a cross-organisational strategic leadership group:** this is to ensure that the genomics strategies of individual organisations are aligned or possibly co-developed and that service delivery and development are appropriately integrated and coordinated. Such a group can also provide a unified point of interaction with international governmental and non-governmental organisations involved in the deployment of genomics as a tool for managing transnational infectious disease threats.

Relevant recommendations: 11, 16

- **Work with wider stakeholders to realise the 'One Health' approach:** this group includes governmental departments and their agencies who are involved in managing or monitoring infectious disease in other contexts to ensure synergy in the development of their genomics programmes. A strong interface between these organisations will be vital to exploit the potential of pathogen genomics in managing infectious diseases that can be transmitted or spread between humans, animals, food sources, and the environment.

Relevant recommendation: 15

- **Prepare for the future:** investment will be required, above that envisaged for the development of individual pathogen genomics services, to build the service infrastructure and provide resources for the research and development required to realise the broader and longer term public health benefits of pathogen genomics for disease surveillance, treatment and prevention.

Relevant recommendations: 14, 28