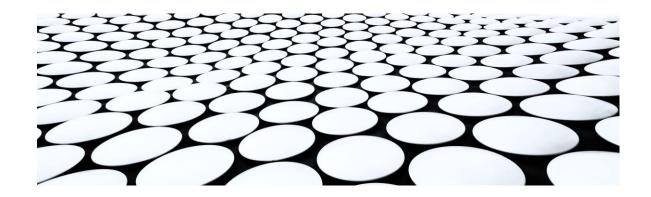
SOCIAL PARTNERSHIP FORUM LONDON CONFERENCE

Pivot to the Future – Workforce Implications of the Big Investments



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"PEAK DEATH" Strategic Problems to Address

- Cancer, Cardiac and Stroke Care.
- Mental Healthcare and Elderly Failing Memory and Fragility Issues.
- Patient Numbers and Capacity Issues.
- Projected Poverty and Inequality Issues.
- Underlying Financial and Debt Management Issues.



Delivering the NHS Long Term and Social Care Plan

- Reducing Morbidity and Mortality Government Priorities.
- Going Digital and Embedding Big Data and Big Science.
- Reducing Inequalities and Improving Life Chances.
- Moving to Integrated Care Systems and Operating "at scale".
- Strategic Investment Programme in Estates, Science and Technology.



Strategic Investment Programme 5-10 Years

- Targeted Prevention (Epigenomics and Predictive Analytics).
- Rapid Diagnosis (New Technologies and Superfast BB).
- Rapid Emergency and Urgent Care (Differential Analytics)
- Personalised Medicine and Therapeutics (Pharmaco Genomics and Predictive Analytics).
- Personalised Support and ongoing Care (Functional Recovery and Predictive Analytics).

Big Science Has Arrived



Genetic Profiling and Therapeutic Targeting



Proton Beam Therapy and Novel Treatments



High-speed informatics and cooling technology

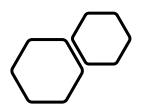


Stem-cell based research and new science



Prosthetics, regeneration & bio-engineering developments





BIG SCIENCE NEXT WAVE Science and Technology-driven Improvements



Laser 3D-printed porcelain teeth, hearing aid, implants.



Laser 3D-printed cartilage, valves, prosthetics.



Personalised Medicine based on Genomics & Predictive Analytics



Personalised Poly-Pharmacy Unit Dose Medicines.



Biosimilars, mABs, stem-cell stimulated Corneas & Intestinal Villae.



Going Digital and Embedding Big Data and Big Science

An Integrated Data Strategy

- Develop Digital Lakes (Amazon 50 Exabytes).
- Bring data from multiple databases to computers.
- Develop search engines and Analytical Platforms.
- Enrich the data from multiple sources.
- Create a Data Service incorporating machine learning.



Reducing Inequalities and

Improving Life Chances

Data Lake

Epidemiology and PH data sets

- · Genomics data sets
- Epi-genomics data sets
- ONS data sets
- Education data sets
- EPR and ETP data sets
- Cohort data sets (4)
- PACS data sets

Specific algorithms to find the patterns in the

data

ICS Level Planning and **Investment Priorities**

- Children's Services (inc. education).
- Cardiovascular and Cancer Services.
- Mental Health Services.
- Failing Memory Services.
- End Stage and Death Services.



Enriched

data from

other

sources

Large voluminous data sets converted to insightful knowledge that supports clinical policy development and focused investment priorities.



STRATEGIC INVESTMENT PROGRAMME Primary and Community Care @ Scale

- £5bn Community Asset and Technology Investment Programme – more care centres and technology.
- Migration from GP 10k list to Primary and Community Care Service Organisations with up to 1m list.
- Rapid Diagnostic and Imaging "high street" Services.
- Different Skill Mixes and Deployment Patterns.
- Big Bizz and Private Equity Investment Funds.





Strategic Workforce Implications

- Rolling programmes of CPD, post-basic and post-graduate education and training, especially for key specialities – intensivists, cardio, diabetes and cancer.
- Organisational development programmes in new ways of working – Al and predictive analytics.
- Role development programmes for care assistants as care coordinators/navigators/ personal assistants.
- Care community development programmes for family, volunteers, neighbours.
- Robust supply and demand side workforce modelling and investment planning.

Thank You

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