1) How data is transforming the 21st century healthcare landscape:
• The wealth of NHS data could be a real advantage for the UK.
• But insufficient collection and storage currently impacts its usefulness.
• There is a real need for standardised, connected, accessible data – this should then be analysed and fed back to clinicians in an actionable format.
• To support this we need better incentives for Trusts to share and use data – there could be a role for Monitor here.
• Patients could play a key role advocating use of data in research, we need to ensure they are updated on the benefits.
• Questions over the ownership of data challenge innovation.

Example: In Estonia patients have control over their own health records and can control access by ‘locking’ it to particular people / organisations if they do not wish to share their data.

2) 21st Century Discovery and Development
• There should be greater integration through the system - NICE, MHRA and NHS England need to be engaged at the earliest stages of research.
• It is people that drive R&D; there is a need for a research-active clinical workforce and training to enable this.
• Incentives are needed at all levels, from the Chief Executive to nurses.
• A flexible but rigorous regulatory regime and NHS linking trials to populations in real time would enhance the UK’s capability in experimental medicine and ensure treatments are given to patients at the earliest opportunity.
• There needs to be more support in navigating the regulatory system - either the system needs to be simplified or more guidance provided for SMEs/charities.
• Innovation hubs and adoptions hubs are both needed – these should not be conflated.
3) **Uptake of innovation**

- We need to create the right incentives and environment for AHSNs to prosper.
- Adoption is not incentivised by the current NHS procurement system; in a cash-strapped NHS it is difficult to justify extra spend up-front despite it generating long-term gain.
- The complex tariff system, silo budgeting present barriers to uptake of innovative products.
- The fragmented commissioning system means it is difficult to ensure return on investment to the right place.
- The NHS should consider moving to **outcomes based payments**.
- Some of the funding for NHS innovation initiatives might be better invested in **adoption hubs** that would be receptive to evaluating new innovations and that could be used as a test-bed.
- **Repurposing parts of the current system** rather than creating new adoption hubs would prevent unnecessary complication.
- More information is needed about the **behavioural drivers for the uptake of innovation**.
- We need a mechanism to **encourage CCGs to commission for prevention of disease**, even if this means spending more money upfront.

**Example:** There are a couple of companies developing diagnostics to distinguish between viral and bacterial infections, which would allow a reduction in the use of antibiotics. However there is no incentive for GPs to use new diagnostics compared to continued use of antibiotics.