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To:
- NHS England regions:
  - regional directors of digital transformation
  - regional directors
  - regional directors of finance

cc.
- ICS:
  - chief information officers

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Dear Colleagues,

Implementing NHS secure data environments to enable research and development and associated funding opportunity

As key stakeholders with responsibilities for data and digital in regions and integrated care systems (ICSs), we are writing to update you on national policy and funding activities and to seek your support and ongoing involvement to help deliver these ambitions.

Health and social care data has significant value beyond the direct care of patients. It accelerates the discovery of new treatments from industry and academia, and helps the NHS to plan better services.

In the Data saves lives strategy, we committed to implementing secure data environments (SDEs) as the default way to access NHS health and social care data for research and analysis. Moving to a system built on data access will allow for greater privacy, security and transparency, as well as meet core recommendations of the Goldacre Review and the Life Sciences Vision.

A range of different users will benefit from improved access to NHS health and social care data. These users have different data requirements and skill sets, and need to access data to produce different outputs. Broadly we categorise these differences into two groups:

- SDEs for planning and population health management, such as the NHS COVID-19 data store and the planned ‘federated data platform’. The primary use is internal planning and management, for instance by NHS analysts.
- SDEs to support research and development, such as the platforms created by NHS Digital and OpenSafely. The primary use is to support medical research

and development, for instance by academic, NHS and industry researchers with a specific research question.[1]

However, we recognise these two groups do not account for every potential combination of ‘use case’ and ‘user’, so further guidance will be provided in due course to developers and users of these systems.

Introduction to SDEs for research and development

NHS England’s Data for research and development (R&D) programme will, subject to final HMT approval, invest £200 million over three years (2022-25) to help deliver the vision of a world leading, NHS-wide, health data research infrastructure that enhances patient care, sustains the NHS and supports innovation.

This includes investments in SDEs to support research at a national and sub-national level, as well as services to better enable large-scale data-driven clinical trials. This will be underpinned by critical work related to information governance policy, commercial principles for data access, and public patient and professional involvement and engagement, related directly to the programme and the wider data saves lives strategy implementation.

SDEs are expected to:

- enable NHS organisations to maximise the use of their data for research and innovation and increase opportunities for a wider range of health and care teams and populations to become involved in research, with a particular focus on reducing health inequalities
- improve understanding of diseases, interventions and pathways, which will translate to improved patient care locally and nationally
- increase public confidence in health data research activities and related benefits to the NHS
- make it easier for researchers to understand which data assets are available, whether they meet their requirements, and create a more streamlined and timely mechanism for obtaining approvals to access data
- improve efficiency and value for money by enabling data curation at scale and creation of research-ready data assets, sharing learning and avoiding duplicative data curation-related processes.

[1] Often termed ‘TREs’, ‘sub-national trusted research environments’ or ‘SNTREs’ in the past.

Vision for sub-national SDEs for R&D

Up to around £100 million of the Data for R&D programme investment will be used to support the development and operation of a network of sub-national SDEs for R&D.[1] These will provide researchers with access to multimodal, real world data under the operational oversight and governance of NHS organisations working across multiple ICSs and linked to regional geographies.

Our vision for this network follows several key principles:

1. In support of the SDE policy described above, this investment will provide the infrastructure to ensure that SDEs become the default route for researchers to access NHS data (with limited exceptions that are being formally defined.)

2. Over time, allow users to conduct approved research on de-identified, linked, longitudinal, multi-modal data from locally-held primary, secondary, tertiary NHS care, plus social care providers and citizen-generated data, where appropriate.

3. Provide a quicker and clearer process for nationally-held datasets to be made available to local teams for research purposes through a reviewed set of agreements and processes with NHS Digital for flow-back of data (eg from secondary uses service [SUS] and hospital episode statistics [HES]).

4. There should be as few sub-national SDEs for R&D as possible, each meeting minimum target populations, fostering collaboration and aligning to patient flows, avoiding duplicative investments in very similar infrastructure and ensuring services offered are at least comparative to international centres of excellence.

5. The development and deployment of this network is not purely a technology endeavour. It is a programme of transformation with technology, operations, information governance, financial and workforce elements that will need to be delivered together across ICS, regional and national teams to achieve success.

6. It is closely linked to other investments in NHS data infrastructure, to ensure efficiency and value for money.

7. Each sub-national SDE for R&D should comprise four key ‘pillars’: technology; data; operational; and public engagement

8. Sub-national SDEs for R&D will form part of an interoperable network, adhering to common core technology, governance, and operational process standards. This is to ensure users can conduct analysis within and across SDEs. To enable this, some

functions will be coordinated by a central ‘hub’. Further details on the central hub will be provided shortly (see next steps below).

9. Local teams will be responsible for most delivery and management. The national team will focus on unblocking common challenges faced across the network, for example, related to IG and commercial challenges.

Investment plans and funding opportunities

We know many NHS teams are running, or looking to run, SDEs as part of their digital and research strategies. There are numerous examples of excellent work underway across England that provide the foundations for the planned sub-national SDE network. It is critical the plans are co-created with local and regional priorities to ensure a set of investments that supports needs across the system.

We plan to invest in a small number of sub-national SDEs for R&D. We recognise there are multiple factors to consider, and trade-offs to make, when determining what the exact number should be. These include:

- An ambition for data assets to cover population sizes of 5 million+ (to meet the needs of academic and life science researchers), while recognising that many of the existing health and care networks and digital collaboratives operate across smaller geographies.
- Improving the timeliness of access to data, and reducing the number of data access approval committees that researchers need to navigate; while ensuring data controllers remain involved in decision making and can retain the trust of their local populations and health and care stakeholders.
- Aligning where possible with existing investment in SDE infrastructure by NHS trusts and ICSs; while incentivising collaboration to maximise return on investment and ensure services established are comparable to international exemplars.
- Encouraging localities who are more digitally mature to progress at pace, while ensuring that those who are less ready to progress can still contribute to key design and governance decisions.

Through close working with NHS teams and research stakeholders over the last nine months, and considering international examples, our analysis suggests there should be approximately 10 sub-national SDEs across England that provide high levels of population coverage.

Each sub-national SDE would provide an analytical environment (where researchers conduct analysis on de-identified data), a research data warehouse (where data is stored and managed before being made available for use in the analytical environment), and an associated data access committee, (where decisions would be made as to which researchers/projects should be granted access, subject to appropriate data protection requirements).

This should encourage access decisions to be made more rapidly, consistently, at a larger scale than is often currently the case. Further details on each of these will be provided in due course.

Alignment to federated data platform

Our engagement with local and regional NHS teams has highlighted the importance of explaining how this programme aligns to the federated data platform (FDP) work also being led by NHS England.

The FDP has five use cases:

- Population health and person insight
- Care co-ordination (ICS)
- Elective recovery (trust)
- Vaccines and immunisation
- Supply chain.

The national FDP programme does not include a research use case, and is not funded to do so. However, ICS/regional teams may choose to utilise local FDP instances and capabilities to provide data warehousing or other capabilities that support their SDE infrastructure, as long as data is available in the right formats and timeliness to support diverse local, regional, national and international research needs.

Next steps

We will shortly share further information setting out how the funding for this work will be structured and allocated. While the details are being finalised, we expect this to involve three work packages (planning and design, building, and demonstrating interoperability), which teams can move through at different speeds depending on their readiness. We will hold a webinar to describe and launch this process in the coming month.

In the meantime, we ask that you discuss these ambitions with key stakeholders across your region, with a particular focus on exploring how ICS teams (in collaboration with their local academic partners, academic health science networks [AHSNs], clinical

research networks [CRNs], applied research collaborations [ARCs] and others), could work together at the largest scale possible to implement a sub-national SDE for R&D, and associated services.

We would also welcome feedback on the key challenges you see to achieving this, what steps would help unlock them, and how the national team can support this. Please email feedback directly to the Data for R&D team, via england.cidc@nhs.net.

We appreciate this is an additional request to already stretched teams, who are under significant pressure, but these SDEs (developed with local and regional expertise) are a key investment into the long-term future of the NHS. We appreciate your continued support and involvement in this important work.

Yours sincerely,

Dr Tim Ferris
National Director of Transformation
NHS England