Summary report on a survey of the Clinical Informatics Workforce in NHS Trusts in England 2022
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Executive Summary

Key findings

Out of the 213 Trusts in England

55% of Trusts who responded had a clinical informatics workforce smaller than the Health Education England baseline level.

28% responded to the survey

Of the 60 Trusts who responded, these were proportionally larger Trusts (in terms of patient bed numbers), with almost half (27/60) having previously received funding for digitisation.

The clinical safety function is poorly resourced and clinical safety is not well embedded in governance. This presents a considerable risk to individual organisations and the NHS as a whole.

Funding matters

Organisations which received Government funding are more likely to have implemented an electronic patient record system (EPR).

Conclusions

The clinical safety function is poorly resourced, and clinical safety is not well embedded in governance. This presents a considerable risk to individual organisations and the NHS as a whole.

Funding matters. Those organisations which have received Government funding are more likely to have implemented an electronic patient record system (EPR) and are more likely to be focusing on integration of EPRs and linking with neighbouring organisations.

Recommendations

The baseline levels for the informatics workforce established in 2020 by Health Education England appear inaccurate and further work should be done to set an accurate baseline.

An annual review of clinical informatics and the wider digital workforce should be implemented as part of monitoring Government investment and the progression of digitisation within NHS organisations in England.
Introduction
A survey was carried out to explore the makeup of the clinical informatics workforce currently working in the NHS in the UK. This report is focused on the findings in English NHS Trusts only, to inform an Expert Panel. A further UK-wide report is planned. Developing an understanding of this workforce and how it is developing is of particular importance given the current prioritisation of digitalisation across the NHS, not only to improve care processes, but also in improving patient access to healthcare information, and improving clinical care decisions.

Methods
While all informaticians and organisations were asked to respond, the survey had a particular focus on clinical informatics teams within NHS Trusts. (See Appendix 1 for survey questions).

In November 2022, the survey was emailed to all FCI members and they were asked for their support in completing it. Further prompts were also placed in the FCI newsletter, website and social media. Two weeks later a further email was sent to members reminding them of the survey. FCI membership is UK wide and therefore responses received covered the whole of the UK and multiple organisation types, including NHS Trusts, private providers, GPs, Integrated Care Boards and national arms-length bodies. For the purpose of this report, only data from England was processed with a focus on NHS Trusts. Responses were accepted between 23 November 2022 and 3 January 2023.

Some duplicate responses (i.e. multiple responses from the same organisation) were received and these were reviewed to select a single best response. The responses regarding the numbers of different clinical informatics roles were of primary interest and so were taken into account. The number and completeness of answers against each clinical informatics role were counted and the respondent with the most complete answer was chosen as the primary response.

The survey was developed by members of the Faculty of Clinical Informatics (FCI) Professionalism Standing Committee and was aimed at being simple to access and quick to complete (average response time of 5 minutes), in order to encourage as wide a take-up as possible.

For this report, responses originating from outside England were excluded, as were partially completed responses and duplicates. Only the resulting cleanse responses from English trusts were subjected to further analysis which included:

- Size of organisation was determined by looking at bed numbers for acute and mental health trusts and staffing levels for community trusts. Acute and mental health trusts could not be directly compared as, overall, mental health trusts had smaller bed sizes.
- Breakdown of the size ranges for mental health and acute trusts, based on bed numbers, are as follows:

  **Acute Providers**
  - Large ≥1,000
  - Medium 600-999
  - Small <600

  **Mental Health**
  - Large ≥250
  - Medium 350-599
  - Small <350

  Community care trusts were classified using staffing levels, as follows:

  **Community Care**
  - Large ≥1,750
  - Medium 1,750-3,499
  - Small <3,500

  Staffing time has been expressed as Whole Time Equivalents (WTE) which is defined as a unit that indicates the workload of an employed person (or student) in a way that makes workloads or class loads comparable across various contexts. One WTE would be the equivalent of one person working a 37.5 hour working week.

  Health Education England's ‘Data Driven Healthcare in 2030: Transformation Requirements of the NHS Digital Technology and Health Informatics Workforce’ published in 2020 set a baseline for the clinical informatics workforce, based on an average sized trust with 6,500 staff. It was estimated that within an average sized trust there would be 227 WTE IT and digital staff, with 9 WTE of these being clinical informatics roles. This represents 0.14% of the workforce.

Results
A total of 135 responses were received, 113 of which were from NHS Trusts in England. Following data cleansing, responses from 60 NHS Trusts in England remained, representing 28% out of a possible 213 trusts in England.

Table 1 Type of healthcare provider responding to survey

<table>
<thead>
<tr>
<th>Type of Trust</th>
<th>Total Number of Trusts</th>
<th>Number of responses</th>
<th>% Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Acute</td>
<td>123</td>
<td>41</td>
<td>33</td>
</tr>
<tr>
<td>Mental Health</td>
<td>47</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>Community</td>
<td>16</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Specialist*</td>
<td>17</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>213</strong></td>
<td><strong>60</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

*E.g. Women’s, Children’s Trusts

1 Average daily number of available and occupied beds open overnight by sector. April to June 2022 NHS England. Published August 2022.
2 Staff in NHS Trusts and other care organisations, July 2022 monthly data. NHS England.
4 One of these responses was rejected because most of the questions had not been answered. A further 49 were removed as duplicate responses from the same trust, and these further responses were also removed as they provided no information on the amount of time individuals spent within roles.
Table 2 Type and size of responding organisations

<table>
<thead>
<tr>
<th>Type of Trust</th>
<th>Large Trusts</th>
<th>Medium Trusts</th>
<th>Small Trusts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance</td>
<td>0% (0/0)</td>
<td>0% (0/0)</td>
<td>0% (0/0)</td>
</tr>
<tr>
<td>Acute</td>
<td>56% (23/41)</td>
<td>27% (11/41)</td>
<td>17% (7/41)</td>
</tr>
<tr>
<td>Mental Health</td>
<td>36% (5/14)</td>
<td>43% (6/14)</td>
<td>21% (3/14)</td>
</tr>
<tr>
<td>Community</td>
<td>100% (2/2)</td>
<td>0% (0/0)</td>
<td>0% (0/0)</td>
</tr>
<tr>
<td>Specialist</td>
<td>0% (0/0)</td>
<td>0% (0/0)</td>
<td>100% (1/1)</td>
</tr>
<tr>
<td>Total</td>
<td>50% (30/60)</td>
<td>28% (17/60)</td>
<td>22% (13/60)</td>
</tr>
</tbody>
</table>

Table 1 shows type of organisations and table 2 shows size of organisations. 50% of the responding organisations were large Trusts.

Government funding for digitisation
Sites were categorised based on whether they had received funding as a Global Digital Exemplar, Fast Follower or Phase 1 or 2 of Digital Aspirants. Of the total of 68 trusts in England that had received funding through one of these schemes, survey responses were received from 40% (27/68).

Overall, 45% (27/60) of responding organisations had received funding for digitisation (two responses were excluded as there was no workforce data available). Of these organisations, 70% (19/27) were acute care providers.

Breakdown by type of funding follows.

Table 3 Responding organisations in receipt of Government funding for digitisation, compared to all organisations in receipt of funding

<table>
<thead>
<tr>
<th>Funding streams for digitisation</th>
<th>% Percentage of respondents who received each type of funding</th>
<th>% Percentage of respondents with funding, out of all funded organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Digital Exemplars (GDE)</td>
<td>20% (12/60)</td>
<td>48% (12/25)</td>
</tr>
<tr>
<td>Fast Followers</td>
<td>7% (4/60)</td>
<td>27% (4/15)</td>
</tr>
<tr>
<td>Digital Aspirants (Wave 1)</td>
<td>15% (9/60)</td>
<td>43% (9/21)</td>
</tr>
<tr>
<td>Digital Aspirants (Wave 2)</td>
<td>3% (2/60)</td>
<td>29% (2/7)</td>
</tr>
</tbody>
</table>

Table 4 Size of responding organisations in receipt of Government funding for digitisation, broken down by type of funding

<table>
<thead>
<tr>
<th>Type of funding</th>
<th>Large Trusts</th>
<th>Medium Trusts</th>
<th>Small Trusts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Digital Exemplars (GDE)</td>
<td>83% (10/12)</td>
<td>17% (2/12)</td>
<td>0% (0/12)</td>
</tr>
<tr>
<td>Fast Followers</td>
<td>0% (0/4)</td>
<td>50% (2/4)</td>
<td>50% (2/4)</td>
</tr>
<tr>
<td>Digital Aspirants (Wave 1)</td>
<td>56% (5/9)</td>
<td>11% (1/9)</td>
<td>33% (3/9)</td>
</tr>
<tr>
<td>Digital Aspirants (Wave 2)</td>
<td>50% (1/2)</td>
<td>50% (1/2)</td>
<td>0% (0/2)</td>
</tr>
<tr>
<td>Total</td>
<td>59% (16/27)</td>
<td>22% (6/27)</td>
<td>18% (5/27)</td>
</tr>
</tbody>
</table>

Table 4 looks at the size of organisations that received Government funding.

Informatics Workforce
Please see table on next page.
### Table 5 Clinical informatics workforce across all Trusts and comparing those that received Government funding with those that did not

<table>
<thead>
<tr>
<th>Clinical Informatics roles</th>
<th>ALL Trusts (Total=60)</th>
<th>Trusts that received Government funding (Total=27)</th>
<th>Trusts that did not receive Govt. funding (Total =33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior clinical lead for informatics or digital (any professional group) e.g., chief clinical information officer (CCIO) or digital lead</td>
<td>93% (57/60) 0.2 3.0 0.9</td>
<td>93% (25/27) 0.2 3.0 1.0</td>
<td>94% (31/33) 0.2 2.0 0.7</td>
</tr>
<tr>
<td>Deputy senior clinical lead e.g., deputy CCIO or digital lead for service</td>
<td>45% (28/60) 0.2 3.0 1.0</td>
<td>37% (10/27) 0.4 3.0 1.0</td>
<td>52% (17/33) 0.2 3.0 1.0</td>
</tr>
<tr>
<td>Senior nursing lead for informatics or digital e.g., chief nursing information officer (CNIO)</td>
<td>73% (44/60) 0.1 4.0 1.0</td>
<td>78% (21/27) 0.1 1.0 1.0</td>
<td>70% (23/33) 0.4 4.0 1.0</td>
</tr>
<tr>
<td>Deputy senior nursing lead e.g., deputy CNIO or digital lead for service</td>
<td>25% (15/60) 1.0 3.0 1.0</td>
<td>22% (6/27) 1.0 3.0 1.5</td>
<td>27% (9/33) 1.0 2.0 1.0</td>
</tr>
<tr>
<td>Clinical safety officer (CSO)</td>
<td>80% (48/60) 0.1 40.0 1.0</td>
<td>81% (22/27) 0.2 8.0 1.0</td>
<td>79% (26/33) 0.1 40.0 1.0</td>
</tr>
<tr>
<td>Senior allied health lead for informatics or digital e.g., chief allied health professional information officer (CAHPIO)</td>
<td>8% (5/60) 1.0 1.0 1.0</td>
<td>4% (1/27) 1.0 1.0 n/a</td>
<td>12% (4/33) 1.0 1.0 1.0</td>
</tr>
<tr>
<td>Senior pharmacy lead for informatics or digital e.g., chief pharmacy information officer</td>
<td>42% (25/60) 0.1 2.0 1.0</td>
<td>48% (13/27) 0.1 1.0 1.0</td>
<td>36% (12/33) 0.2 2.0 1.0</td>
</tr>
</tbody>
</table>

**Legend:**
- LL - Lower limit whole time equivalent
- UL - Upper limit whole time equivalent

**Notes:**
- Percentages indicate the proportion of Trusts with the role.
- WTE values indicate the range of whole time equivalents for the role.

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**FACULTY OF CLINICAL INFORMATICS**
Table 5 Clinical informatics workforce across all Trusts and comparing those that received Government funding with those that did not

<table>
<thead>
<tr>
<th>Clinical Informatics roles</th>
<th>ALL Trusts (Total=60)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes, they did</td>
<td>LL WTE</td>
<td>UL WTE</td>
<td>Median WTE</td>
<td>Yes, they did</td>
<td>LL WTE</td>
<td>UL WTE</td>
<td>Median WTE</td>
<td>Yes, they did</td>
<td>LL WTE</td>
<td>UL WTE</td>
</tr>
<tr>
<td></td>
<td>have this role</td>
<td></td>
<td></td>
<td></td>
<td>have this role</td>
<td></td>
<td></td>
<td></td>
<td>have this role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital (or IT) midwife (Band 7 or above)</td>
<td>47% (28/60)</td>
<td>0.6</td>
<td>4.0</td>
<td>1.0</td>
<td>44% (12/27)</td>
<td>0.8</td>
<td>4.0</td>
<td>1.0</td>
<td>48% (16/33)</td>
<td>0.6</td>
<td>2.0</td>
</tr>
<tr>
<td>Digital (or IT) nurse (Band 7 or above)</td>
<td>53% (32/60)</td>
<td>0.8</td>
<td>7.0</td>
<td>1.2</td>
<td>41% (11/27)</td>
<td>0.8</td>
<td>6.0</td>
<td>3.0</td>
<td>64% (21/33)</td>
<td>1.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Digital (or IT) nurse or midwife (Bands 5 and 6)</td>
<td>30% (18/60)</td>
<td>0.2</td>
<td>5.0</td>
<td>1.9</td>
<td>19% (5/27)</td>
<td>1.0</td>
<td>5.0</td>
<td>2.0</td>
<td>39% (13/33)</td>
<td>0.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Digital (or IT) medical lead (consultant level) *</td>
<td>14% (6/44)</td>
<td>0.1</td>
<td>3.0</td>
<td>1.1</td>
<td>15% (3/20)</td>
<td>1.0</td>
<td>3.0</td>
<td>2.0</td>
<td>13% (3/24)</td>
<td>0.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Digital (or IT) medical (non-consultant) *</td>
<td>7% (3/44)</td>
<td>0.2</td>
<td>1.0</td>
<td>1.0</td>
<td>5% (1/20)</td>
<td>0.2</td>
<td>0.2</td>
<td>n/a</td>
<td>8% (2/24)</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Digital (or IT) AHP (Band 7 or above)</td>
<td>17% (10/60)</td>
<td>0.1</td>
<td>7.0</td>
<td>1.0</td>
<td>15% (4/27)</td>
<td>0.6</td>
<td>2.5</td>
<td>1.0</td>
<td>18% (6/33)</td>
<td>0.1</td>
<td>7.0</td>
</tr>
<tr>
<td>Digital (or IT) AHP (Band 5 or 6)</td>
<td>13% (8/60)</td>
<td>0.2</td>
<td>2.0</td>
<td>0.75</td>
<td>4% (1/27)</td>
<td>0.8</td>
<td>0.8</td>
<td>n/a</td>
<td>21% (7/33)</td>
<td>0.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Digital (or IT) ePMA) pharmacist (Band 7 or above)</td>
<td>47% (28/60)</td>
<td>0.6</td>
<td>3.0</td>
<td>1.5</td>
<td>44% (12/27)</td>
<td>0.6</td>
<td>3.0</td>
<td>2.0</td>
<td>48% (16/33)</td>
<td>1.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Digital (or IT) ePMA) pharmacist (Band 6)</td>
<td>8% (5/60)</td>
<td>0.5</td>
<td>2.0</td>
<td>1.0</td>
<td>4% (1/27)</td>
<td>0.8</td>
<td>0.8</td>
<td>n/a</td>
<td>12% (4/30)</td>
<td>0.5</td>
<td>2.0</td>
</tr>
</tbody>
</table>

LL - Lower limit whole time equivalent | UL - Upper limit whole time equivalent
Table 5 Clinical informatics workforce across all Trusts and comparing those that received Government funding with those that did not

<table>
<thead>
<tr>
<th>Clinical Informatics roles</th>
<th>ALL Trusts (Total=60)</th>
<th></th>
<th></th>
<th>Trusts that received Government funding (Total=27)</th>
<th></th>
<th></th>
<th>Trusts that did not receive Govt. funding (Total=33)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes, they did have this role</td>
<td>LL WTE</td>
<td>UL WTE</td>
<td>Median WTE</td>
<td>Yes, they did have this role</td>
<td>LL WTE</td>
<td>UL WTE</td>
<td>Median WTE</td>
</tr>
<tr>
<td>Digital pharmacy technician (Band 7 or above)</td>
<td>12% (7/60)</td>
<td>0.8</td>
<td>3.0</td>
<td>1.0</td>
<td>7% (2/27)</td>
<td>0.8</td>
<td>1.0</td>
<td>n/a</td>
</tr>
<tr>
<td>Digital pharmacy technician (Band 5 or 6)</td>
<td>25% (15/60)</td>
<td>0.8</td>
<td>4.0</td>
<td>2.0</td>
<td>22% (6/27)</td>
<td>1.0</td>
<td>4.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Digital (or IT) change agent or champion</td>
<td>17% (10/60)</td>
<td>2.0</td>
<td>6.0</td>
<td>5.0</td>
<td>26% (7/27)</td>
<td>3.0</td>
<td>6.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Bioinformatician or healthcare scientist</td>
<td>10% (6/60)</td>
<td>1.0</td>
<td>4.0</td>
<td>1.0</td>
<td>11% (3/27)</td>
<td>1.0</td>
<td>4.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Social care digital (or IT) role</td>
<td>5% (3/60)</td>
<td>0.2</td>
<td>1.0</td>
<td>0.3</td>
<td>4% (1/27)</td>
<td>0.3</td>
<td>0.3</td>
<td>n/a</td>
</tr>
</tbody>
</table>

LL - Lower limit whole time equivalent | UL - Upper limit whole time equivalent

* This question was added after the survey was started and so the denominator is less than 60.

Table 5: Shows the number of respondents that indicated they employ clinical informatics roles within their organisation, with the range and median whole time equivalent (WTE)s for these roles, for all Trusts, those Trusts that received Government funding and those that did not receive Government funding. The data shows that Trusts that received funding tended to have a higher median WTE across all professions and also tended to employ staff at a higher grade.
Table 6 Responding organisations and staffing levels based on HEE baseline of 0.14% clinical informatics workforce

<table>
<thead>
<tr>
<th>% of all respondents</th>
<th>LL WTE</th>
<th>UL WTE</th>
<th>Median WTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall WTE of clinical informatics staff was at least 0.14% of their total workforce</td>
<td>45% (27/60)</td>
<td>3.3</td>
<td>52</td>
</tr>
<tr>
<td>Overall WTE of clinical informatics staff was less than 0.14% of their total workforce</td>
<td>55% (33/60)</td>
<td>0.2</td>
<td>16</td>
</tr>
</tbody>
</table>

LL - Lower limit whole time equivalent | UL - Upper limit whole time equivalent

Table 6 shows the responding organisations and their staffing levels when assessed against the HEE baseline established in 2020, as well as the spread of WTE and median WTE for those who did meet this baseline level and those that fell below this level.

**Governance**

Please see table on next page.
<table>
<thead>
<tr>
<th>Aspects of Governance</th>
<th>ALL Trusts (Total=60)</th>
<th>Trusts that received Government funding (Total=27)</th>
<th>Trusts that did not receive Govt. funding (Total =33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have a digital health/ clinical informatics team or service (with clinically trained professionals working on digital, data or other informatics work)?</td>
<td>82% (49/60)</td>
<td>78% (21/27)</td>
<td>85% (28/33)</td>
</tr>
<tr>
<td>Does the digital health/ clinical informatics service have representation at Board level?</td>
<td>40% (24/60)</td>
<td>33% (9/27)</td>
<td>45% (15/33)</td>
</tr>
<tr>
<td>Is there an organisational digital strategy?</td>
<td>90% (54/60)</td>
<td>89% (24/27)</td>
<td>91% (30/33)</td>
</tr>
<tr>
<td>Is there a Board level sponsor for the digital strategy?</td>
<td>73% (44/60)</td>
<td>81% (22/27)</td>
<td>67% (22/33)</td>
</tr>
<tr>
<td>Is there a financial strategy for digital technology investment?</td>
<td>52% (31/60)</td>
<td>52% (14/27)</td>
<td>52% (17/33)</td>
</tr>
<tr>
<td>Is there a Board or Committee that plans digital and informatics work, chaired by a senior person such as chief information officer (CIO), digital lead, chief clinical information officer (CCIO) or chief nursing information officer (CNIO)?</td>
<td>73% (44/60)</td>
<td>78% (21/27)</td>
<td>70% (20/30)</td>
</tr>
<tr>
<td>Is there representation from IT/digital team on this Board/Committee?</td>
<td>72% (43/60)</td>
<td>70% (19/27)</td>
<td>73% (24/33)</td>
</tr>
<tr>
<td>Do all informatics or digital plans need to be signed off by the CCIO/digital lead?</td>
<td>43% (26/60)</td>
<td>44% (10/27)</td>
<td>42% (14/33)</td>
</tr>
</tbody>
</table>
Table 7: Responses from Trusts regarding governance of digital work with their organisation, comparing Government funded & non-funded Trusts

<table>
<thead>
<tr>
<th>Area of Governance</th>
<th>All Trusts (Total=60)</th>
<th>Trusts that received Government funding (Total=27)</th>
<th>Trusts that did not receive Gov't funding (Total=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there regular meetings for clinical digital informatics roles across the organisation to share information and ways of working?</td>
<td>55% (33/60)</td>
<td>53% (14/27)</td>
<td>55% (19/33)</td>
</tr>
<tr>
<td>Are clinical digital informatics staff employed by individual services have the opportunity to contribute to or learn from informatics work in other services or departments?</td>
<td>45% (27/60)</td>
<td>42% (11/27)</td>
<td>52% (16/33)</td>
</tr>
<tr>
<td>Do clinical digital informatics have board level representation?</td>
<td>65% (39/60)</td>
<td>63% (17/27)</td>
<td>67% (22/33)</td>
</tr>
<tr>
<td>Is there clinical digital informatics/digital representation on key committees such as risk, clinical safety and quality committees?</td>
<td>55% (33/60)</td>
<td>52% (12/27)</td>
<td>53% (11/33)</td>
</tr>
</tbody>
</table>

Note: Please see table on next page.
### Table 8 Digital work carried out by responding Trusts in the last five years

<table>
<thead>
<tr>
<th>Activity</th>
<th>ALL Trusts (Total=60)</th>
<th>Trusts that received Government funding (Total=27)</th>
<th>Trusts that did not receive Govt. funding (Total =33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a digital or digital technology strategy for your organisation</td>
<td>83% (50/60)</td>
<td>85% (23/27)</td>
<td>82% (27/33)</td>
</tr>
<tr>
<td>Implementing a digital or digital technology strategy for your organisation</td>
<td>62% (37/60)</td>
<td>67% (18/27)</td>
<td>64% (21/33)</td>
</tr>
<tr>
<td>Planning a digital strategy and or projects within your region, health board or integrated care system</td>
<td>67% (40/60)</td>
<td>74% (20/27)</td>
<td>61% (20/33)</td>
</tr>
<tr>
<td>Formal safety assessments on all new informatics or digital projects</td>
<td>68% (41/60)</td>
<td>70% (19/27)</td>
<td>67% (22/33)</td>
</tr>
<tr>
<td>Planning and delivery of new EPR systems</td>
<td>62% (37/60)</td>
<td>48% (13/27)</td>
<td>73% (25/33)</td>
</tr>
<tr>
<td>Integration of EPR systems or other IT systems within your organisation</td>
<td>73% (44/60)</td>
<td>70% (19/27)</td>
<td>76% (22/33)</td>
</tr>
<tr>
<td>Integration of EPRs or similar systems with neighbouring organisations</td>
<td>55% (33/60)</td>
<td>63% (17/27)</td>
<td>48% (16/33)</td>
</tr>
<tr>
<td>Supporting clinical decision making within one or more departments</td>
<td>57% (34/60)</td>
<td>63% (17/27)</td>
<td>52% (17/33)</td>
</tr>
<tr>
<td>Regular involvement in local data analysis or audits</td>
<td>43% (26/60)</td>
<td>52% (14/27)</td>
<td>36% (12/33)</td>
</tr>
<tr>
<td>Configuration and rollout of electronic prescribing</td>
<td>67% (40/60)</td>
<td>67% (18/27)</td>
<td>67% (22/33)</td>
</tr>
</tbody>
</table>
Table 8 Digital work carried out by responding Trusts in the last five years

<table>
<thead>
<tr>
<th>Digital Work</th>
<th>ALL Trusts (Total=60)</th>
<th>Trusts that received Government funding (Total=27)</th>
<th>Trusts that did not receive Govt. funding (Total =33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance and ongoing development of electronic prescribing</td>
<td>60% (36/60)</td>
<td>70% (19/27)</td>
<td>52% (17/33)</td>
</tr>
<tr>
<td>Training of staff on new Electronic Patient Records or other digital applications</td>
<td>60% (36/60)</td>
<td>63% (17/27)</td>
<td>58% (19/33)</td>
</tr>
<tr>
<td>Development of clinical software*</td>
<td>38% (16/49)</td>
<td>32% (7/22)</td>
<td>27% (9/33)</td>
</tr>
<tr>
<td>Working on terminology or SNOMED implementation*</td>
<td>47% (23/49)</td>
<td>50% (11/22)</td>
<td>36% (12/33)</td>
</tr>
</tbody>
</table>

* Indicates questions that were added after the survey was started, which had fewer responses

Table 8: Responses from question 10 of the survey on digital work that had been carried out in the last FIVE years, with comparison of Trusts that received Government funding and those without Government funding. The Trusts that were not funded tended to still be planning EPR implementation and were less likely to be integrating at a regional level.
Discussion
The survey recruited a convenience sample largely based on the membership of the Faculty of Clinical Informatics. So, although the responses covered 28% of English Trusts, the sample is likely to have been biased, and so should not be taken as representative of the NHS as a whole. The findings may represent a more positive picture than is the case more generally. Compared with English Trusts as a whole, there was a greater proportion of responses from larger Trusts, and from those that had received Government funding for digitisation.

Overall, those organisations that received Government funding had progressed further in their digitisation, had a more senior workforce, and were more likely to have Board level sponsorship and a committee structure to oversee digital change.

The clinical informatics workforce
Key message: In 55% of the Trusts which responded to the survey, the clinical informatics workforce is lower than the Health Education England baseline level.

When looking at the overall clinical informatics workforce, the median whole time equivalent (WTE) of all clinical informatics (CI) roles was 8.9 WTE and ranged from 0.5 to 32.7 WTE.

When reviewing staffing against the Health Education England baseline (0.14%), only 45% (277/60) responding organisations achieved this level of staffing. See Table 6.

The median WTE of clinical informatics workforce was 0.13% of overall staff and there was a very wide range from 0.01% to 0.44%.

Senior leadership
Key message: Those Trusts who had received Government funding had more senior clinical informatics resource and a broader spread across professional disciplines.

The role of Chief Clinical Information Officer (CCIO) is well established with over 90% of responding organisations employing this role.

However, there was considerable variation in the amount of time allocated for this role (0.2 to 3 WTE) with the median being 0.9 WTE. There were also definite differences in the median WTE for this role between those Trusts that were funded versus non-funded, with a median WTE of 1.0 in funded to 0.7 in non-funded sites (See table 5).

The role of Chief Nursing Information Officer (CNIO) was less well established with only 73% (44/60) of organisations employing this role, although Trusts who had received funding had a higher percentage of CNIOs in post. Just 8% (5/60) of responding organisations employed any allied health professionals (e.g. dieticians, occupational therapists, physiotherapists, etc.) in senior informatics roles.

Senior pharmacists were similarly under-represented with only 42% (25/60) of organisations having a senior pharmacy ‘IO’ role, despite 62% of organisations stating they were implementing electronic prescribing.

Overall, those Trusts that indicated they employ senior leadership roles were more likely to have Board level sponsorship for their digital strategy (81% that did, versus 67% that did not) and were more likely to have a Board or committee that planned digital and informatics work, chaired by a senior person (78% that did, versus 70% that did not), such as:

- Chief Information Officer (CIO)
- Digital lead
- CCIO
- CNIO
Workforce in non-funded Trusts

Key message: Those Trusts that have not had Government funding have a lower level of senior leadership resource and lower graded staff carrying out clinical informatics work.

It appears that those Trusts that have been developing their digitisation without access to Government funding were more likely to have employed staff at lower grades. This could be important in digitisation projects which require clinical informatics with leadership and change management experience and skills, associated with higher banding.

Safety

Key message: The clinical safety function is poorly resourced, and clinical safety is not well embedded in governance. This presents a considerable risk to individual organisations and the NHS as a whole.

Despite the requirement to have a clinical safety officer (CSO) function within all healthcare organisations, only 80% (48/60) of responding organisations had staff in this role.

It was difficult to calculate a range of WTE for this role as very few 16% (10/60) indicated that they employed a separate CSO function. Many of the organisations had this role covered as a part of a senior leadership role or had trained multiple staff to be able to do safety assessments.

This lack of resource is further demonstrated by only 55% (33/60) of responding Trusts indicating they had any clinical informatics/digital representation on safety committees such as risk boards, safety, and quality committees and only 68% (41/60) indicated they did formal safety assessments on all new informatics or digital projects (see tables 7 and 8).

Impact of centralised funding on digitisation and digital maturity

Key message: Funding matters. Those organisations which have received Government funding are more likely to have implemented an electronic patient record system and more likely to be focussing on integration of EPRs linking with neighbouring organisations.

Trusts were categorised based on whether they had received funding as a Global Digital Exemplar, Fast Follower or Phase 1 or 2 of Digital Aspirant. Of the total 68 Trusts in England that had received funding through one of these schemes, we had survey responses from 40% (27/68) of them.

Funding matters. Those organisations which have received Government funding are more likely to have implemented an electronic patient record system.

Overall, 45% (27/60) of responding organisations had received funding for digitisation, 70% (19/27) of which were acute care providers.

Trusts that had received Government funding were further along in digitisation, were less likely to be currently planning new EPR implementation and were more likely to be working at integration of digital systems at a regional level that non-funded Trusts.

Trusts that had received Government funding were less likely to indicate that they were planning or implementing new EPR systems (48% compared to 73% of non-funded Trusts) and were more likely to be focussing on a regional digital strategy or projects across an Integrated Care System (74% compared to 61%) and integration of EPR systems with neighbouring organisations [63% versus 48%]. See table 8 for further details.
Appendix 1: Survey questions

Faculty of Clinical Informatics survey of the current clinical informatics workforce in the UK

We are asking our members for help with an important issue. At present there is little data available on the clinical informatics workforce across the UK. The Faculty of Clinical Informatics (FCI) as the membership body for health and care professionals working in digital health/informatics is seeking to establish a UK-wide baseline of the clinical informatics/digital workforce. We will use this information to advocate for and drive the further development of these roles and the profession.

Please help us by completing this short questionnaire on clinical informatics/digital teams within your organisation. The FCi strategy: Digital Resilient Healthcare by 2030 predicts a sixfold increase in the clinical informatics workforce by 2030, but to monitor this, we need a baseline from which to work.

Clinical informatics teams are defined as any group of professionals involved in the application of data and information technology to improve patient and population health, care and wellbeing outcomes and to advance treatment and the delivery of personalised, coordinated support from health and social care. They may work closely or be integrated within Digital or IT services.

Your responses will be anonymous, and the survey should take approximately 5 minutes to complete.

1. Please tell us what region you are in

2. What type of organisation do you work in?
   - GP practice
   - Primary Care Network
   - Trust
   - Industry
   - Integrated care system or health board
   - National organisation such as NHS Digital or NHS England
   - Other please describe below

3. If you indicated that you work in a Trust or Health Board, please can you tell us which organisation you work in

4. If you indicated, you work in an Integrated Care Board please choose below

5. If you do not work within a Trust or an ICB, please could you name your employer below

6. If you have an electronic health record system within your organisation, which type of EHR has your organisation invested in? (Please tick as many as apply)
   - Allscripts
   - Cerner
   - Epic
   - DXC (or Dedalus)
   - IMS Maxims
   - TPP SystmOne
   - Nervecentre
   - Meditech
   - EMIS
   - System C
   - Trakcare
   - Other (please specify)
   - My organisation does not have an EHR

7. Tell us about the clinical/health informatics roles you know of in your organisation (please add as WTEs for example, if there were 4 people employed as deputy CCIO but 2 were full-time and two half-time, you would enter 3 WTE. If someone carries out two separate roles e.g. CSO and CCIO, please estimate the percentage of time allocated for each role). We appreciate that these roles may have various titles in different places in the UK.
   - Senior clinical lead for informatics or digital (any professional group) eg Chief Clinical Information Officer (CCIO), Digital Lead
   - Deputy senior clinical lead eg deputy CCIO or Digital Lead for service
   - Senior nursing lead for informatics or digital eg Chief Nursing Information Officer (CNIO)
   - Deputy senior nursing lead eg deputy CNIO or Digital lead for service
   - Clinical Safety Officer (CSO)
   - Senior allied health lead for informatics or digital eg Chief Allied Health Professional Information Officer (CAHPIO)
   - Senior pharmacy lead for informatics or digital eg Chief Pharmacy Information Officer
   - Digital (or IT) midwife (Band 7 or above)
   - Digital (or IT) nurse (Band 7 or above)
   - Digital (or IT) nurse or midwife (Bands 5 and 6)
   - Digital (or IT) medical lead (consultant level)
   - Digital (or IT) medical (non-consultant)
   - Digital (or IT) AHP (Band 7 or above)
   - Digital (or IT) AHP (Band 5 or 6)
Appendix 1: Survey Questions

Digital (or IT/ ePMA) pharmacist (Band 7 and above)
Digital Pharmacy Technician (Band 7 or above)
Digital Pharmacy Technician (Band 5 or 6)
Digital (or IT) radiology role (Band 7 or above or equivalent)
Digital (or IT) radiology role (Band 5 or 6 or equivalent)
Digital (or IT) pathology role (Band 7 or above or equivalent)
Digital (or IT) pathology role (Band 5 or 6 or equivalent)
Digital (or IT) change agent or champion
Bioinformatician or healthcare scientist
Social care digital (or IT) role
Other, please state

8. Tell us about your organisation’s approach to planning informatics work

Do you have a digital health/ clinical informatics team or service (with clinically trained professionals working on digital, data or other informatics work)?
Does the digital health/ clinical informatics service have representation at Board level?
Is there an organisational digital strategy?
Is there a Board level sponsor for the digital strategy?
Is there a financial strategy for digital technology investment?
Is there a Board or Committee that plans digital and informatics work, chaired by a senior person such as Chief Information officer (CIO), Digital Lead, Chief Clinical Information Officer (CCIO) or Chief Nursing Information Officer (CNO)?
Is there representation from IT/ Digital team on this Board/ committee?
Do all informatics or digital plans need to be signed off by the CCIO/ Digital Lead?
Are there regular meetings between the clinical informatics team and IT/ Digital for planning and delivery of informatics work?
Are there regular meetings for clinical/ digital informatics roles across the organisation to share information and ways of working?
Do clinical informatics/ digital staff that are

employed by individual services have the opportunity to contribute to or learn from informatics work in other services or departments?
Is there clinical informatics/ digital representation at key committees such as risk board, safety and quality committees?

Please expand on any of your answers below

9. Please tell us about some of the work that your Clinical Informatics/ Digital team has been involved in the last FIVE years. Please tick any that apply to your organisation.

Developing a digital or digital technology strategy for your organisation
Implementing a digital or digital technology strategy for your organisation
Planning a digital strategy and or projects within your region, health board or integrated care system
Formal safety assessments on all new informatics or digital projects
Planning and delivery of new EPR systems
Integration of EPR systems or other IT systems within your organisation
Integration of EPRs or similar systems with neighbouring organisations
Supporting clinical decision making within one or more departments
Regular involvement in local data analysis or audits
Configuration and rollout of electronic prescribing
Maintenance and ongoing development of electronic prescribing
Training of staff on new Electronic Patient Records or other digital applications
Development of clinical software
Working on terminology or SNOMED implementation
Other (please specify)
None of the above

10. We are planning some more work to support organisations with their EPR Implementation. If you would like to be involved in supporting this work or would like to receive a copy of the survey report (once complete), please provide your contact details below.

Name
Your current role
Email Address
Phone Number

Thank you very much for completing this survey.