CLICS
Clinical Computer Systems Survey

Learning about Health Information Technology in its Context of Use

Valentina Lichtner, Tony Cornford, Ela Klecun
Overview

1. CLICS – Clinical Computer Systems Survey
   - The survey tool
   - Method
   - Findings

2. Brief reflections and some questions on administrative medicine, opening a debate
CLICS • Clinical Computer Systems Survey

- A sociotechnical frame of reference

- A survey tool gain insight into overall usage of and utility found in HIT, by all roles involved in patient care, before/after implementation

- Not-application specific; nor task specific; targeting personal use and team/ward use
CLICS • Clinical Computer Systems Survey
A survey for all clinical staff across different NHS services

This survey asks about the use of clinical computer systems. It is also an opportunity for you to provide feedback on these systems. Participation in this survey is anonymous.

The survey should take you approximately 10 minutes to complete.

Other NHS services and Trusts are or will also be participating in this survey.

The use of this survey in [NHS trust name] has been approved by [NHS and role].

How to complete this survey:

- You have been asked to participate in this survey as you are involved in patient care at [NHS trust name]. Please answer all questions in this survey with respect to this [NHS service site].
- We understand not all questions may be applicable to all clinical or professional roles at all NHS services and Trusts; please feel free to select ‘Not applicable’ or ‘I don’t use it’ if a question does not relate to your role or job.
- Please also feel free to write additional comments at any point.
- You can either complete the survey online at [https://www.Trust-customised-link.com] or print out this questionnaire and return it by post to the address below.

This survey is part of a wider project investigating the adoption of the NHS Care Record Service in England. More information on the project can be found at [https://www.medsoc.org.uk]. If you have any questions about this survey, please feel free to contact the research team at the London School of Economics.

Anthony Carneaux, Ilia Kojouri, Valerie Linkman
Information Systems and Innovations Group, Department of Management
London School of Economics and Political Science
Houghton Street, London, WC2A 2AE.
Tel: (020) 7955 5219 - anthony.carneaux@lse.ac.uk

--- Full text, please in a window envelope and return to the address below ---

Anthony Carneaux
Information Systems and Innovation Group
Department of Management
London School of Economics and Political Science
Houghton Street, London, WC2A 2AE.
CLICS • Clinical Computer Systems Survey

- Four analytical dimensions

- Addressing the Clinical 5 *:

The 5 core elements of strategic HIT:
1) **A Patient Administration System** with integration with other systems and sophisticated reporting
2) **Order Communications and Diagnostics Reporting** (including all pathology and radiology tests and tests ordered in primary care)
3) **Letters with coding** (discharge summaries, clinic and Accident and Emergency letters);
4) **Scheduling** (for beds, tests, theatres etc.)
5) **e-Prescribing** including ‘To Take Out’ (discharge) medicines

- Customisation to local setting

<table>
<thead>
<tr>
<th>Analytical Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Computerisation</strong></td>
<td>The availability (or absence) of specific functionalities and the computerisation of otherwise manual or paper-based tasks and processes</td>
</tr>
<tr>
<td><strong>Usability and safety</strong></td>
<td>How safe, usable, efficient and effective systems are perceived to be</td>
</tr>
<tr>
<td><strong>Clinical and Organisational Management</strong></td>
<td>The use made of information and IT for clinical and organisational reasons, the quality of care, the adherence to standards.</td>
</tr>
<tr>
<td><strong>Patient Journey</strong></td>
<td>Information flows between settings and the consequences of using IT along the entire patient case</td>
</tr>
</tbody>
</table>

CLICS • Aims

- Part of the Evaluation of the NHS Care Records Service in secondary care in England
- Involving wider group of a hospital stakeholders
- Part of the local hospital management evaluation of system implementation, asking users to provide feedback on a NHS CRS system 18 months into deployment
CLICS • Method

- Distribution in a major London hospital
- 3 distribution channels, to capture widest audience + team work at ward level
  - link to online version sent via email to general distribution list (ca. 4,000 recipients)
  - on paper, distributed by researchers outside of the hospital canteen over 2 days
  - distributed to 2 wards (one medical, one surgical), with self-addressed return envelopes
- Responses were anonymous. Survey open for two weeks
- Paper questionnaires and envelopes were colour coded to inform response rates for each of the distribution methods
CLICS • Results

- 130 questionnaires returned
- 29 Doctors, 23 nurses and 3 pharmacists + (49%) ‘Other’ professionals
- Relatively senior (15 consultants, 30 Band7-8, 57% had worked for the Hospital for more than 5 years), majority >35 years of age, with relatively high IT skills
- A variety of clinical and administrative areas

<table>
<thead>
<tr>
<th>Distribution mode</th>
<th>Sample</th>
<th>Responses</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online survey distributed via email</td>
<td>4000 email addresses on mail list</td>
<td>76</td>
<td>1.9%</td>
</tr>
<tr>
<td>A Ward</td>
<td>68 named envelopes</td>
<td>4</td>
<td>5.9%</td>
</tr>
<tr>
<td>B Ward</td>
<td>37 named envelopes</td>
<td>13</td>
<td>35.1%</td>
</tr>
<tr>
<td>Canteen – Day 1</td>
<td>148 distributed</td>
<td>31</td>
<td>20.9%</td>
</tr>
<tr>
<td>Canteen – Day 2</td>
<td>39 distributed</td>
<td>6</td>
<td>15.4%</td>
</tr>
</tbody>
</table>
CLICS • Findings

- Small sample – descriptive analysis of aggregate data
- Thematic analysis, with a bottom-up inductive approach, informed by the original 4 analytical dimensions
- Computerisation and Usability/Safety (reported in the paper)
- Coss-Theme of *administrative medicine*
CLICS • Findings

What available computer systems are actually used (non-used) and by what professional role?

- A variety of functionalities used by a variety of professionals.

- E.g. apart from ePrescribing, nurses use to various degrees all functionalities also used by doctors and vice-versa

![Nurses' use of available functionalities](image)

![Doctors' use of available functionalities](image)
CLICS • Findings

- Use of HIT beyond narrow clinical roles and tasks
- Use of administrative functionalities not only by administrative staff but also nurses and doctors
- Clinical data used for clerical purpose, leading to further patient care

“...poor training of junior medical staff [entering data in the system], leads to clerical staff having incorrect information on the system. This complicates patient care and causes delay to treatment”. [Senior nurse, Q2.id26]
CLICS • Findings

- cross over between clinical and admin roles:
  - ‘part of the job’,
  - or because of usability issues (a ‘difficult’ ‘unforgiving’ system)

“Within my role I retrieve results and reports for doctors, order radiographs and blood tests/swab tests (with verbal or written permission/instruction). I look up outpatient appointments, book patients in and out of clinics. I use scheduling/appointment book (see what clinics are on) to complete the nursing staff rota for my dept.”

[Senior nurse, Q11.id16]

A nurse lamented that she “also had to take over a lot of the admin work previously done by clerical staff, such as booking beds for daycase patients, because they find it too difficult, or [they] order incorrectly despite training being given” [Q23.id4].
Is HIT supporting decision making?

- It emerged that patient information and alerts are seen as useful not only for clinical tasks but also for other patient-centred care related arrangements such as for transport or arrangements for interpreters.

  “The clinical systems are usually helpful, even if all the data is not always accurate […]. I have already suggested that more alerts should be included – e.g. transport, interpreter or any other special arrangements. It would be great if admin/clerical staff could insert these as well.”

  [Q4.id27]
Conclusions

- The administrative dimensions of patient care intertwined with clinical tasks

- A reminder of the wider range of administrative tasks, and the multiple staff roles who make use of HIT
Conclusions

- The study open questions as to the boundaries between administrative tasks and medicine, the field we call *administrative medicine*.

- Should we distinguish between clinical and administrative systems? (as is done in practice – for example with role-based access control)

- If *all* roles in practice use *all* systems, what makes a system (or a role!) clinical or administrative? E.g. is it the purpose of the activity that makes the distinction? Does it matter?
You are welcome to use CLICS and customise it to your needs and settings.

Let us know if you use it.

CLICS • Clinical Computer Systems Survey

http://personal.lse.ac.uk/cornford/CLICS/CLICS-forPublication0313/

Creative Commons Attribution-Non Commercial-ShareAlike 3.0 Unported License