Collaborative for Health and Social Care Information Standards (CHASCIS) https://www.chascis.org

Barriers to standards adoption

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Introduction

The Collaborative for Health and Social Information Standards (CHASCIS) brings together Standard Development Organisations (SDOs) and key UK stakeholders to ensure coordinated, aligned, and patient-centred development and application of health and social care information standards across the UK nations. CHASCIS members have considerable experience and expertise in implementing standards and have identified a set of commonly encountered barriers to standards adoption.

The purpose of this paper is to assist and improve future standards adoption by highlighting some of these barriers. It is intended to serve as a resource for health and care professionals with an interest in or responsibility for driving adoption of standards.

Within this paper, barriers to standards adoption are considered under the following headings:

1. Consultation
2. Change readiness
3. Understanding dependencies
4. Requirements setting
5. Standard APIs
6. Lessons learnt
7. Skills, knowledge & understanding
8. Maintenance

1. Consultation

Thorough consultation is key to successful adoption of standards. This ensures that potential issues are identified early on and risks to adoption are highlighted and mitigated. Examples of issues with consultation and engagement when developing and imposing specific standards include:

- Choosing the wrong stakeholders.
- Not engaging all key stakeholders e.g. NHS making assumptions about private care providers without consulting them.
- Failing to include trade and other bodies or assuming that they can be representative of all the relevant care providers.
- Superficial consultation that does not draw out the issues and/or does not result in necessary changes.
- Meetings and events where it is not possible to consider issues in depth or questions are not satisfactorily answered because the relevant experts are not present – this happens, for example, if there are only project managers or other non-technical people representing the organisation which is developing or mandating use of a standard.
- Consultation that either is directed equally at suppliers and care providers without distinguishing (sufficiently) between the two groups or that makes the distinction but neither adequately address the different perspectives of the two groups nor resolves issues where their positions are not initially aligned.

Identification & Engagement of the correct stakeholders:

- It is important to get the right ones and not assume that, for example, a trade body or Royal College will necessarily either have or provide adequate representation.
- even if the right people have been identified, consultation and engagement with them needs to be tailored: for example, asking only technical people about clinical issues and vice versa is not going to work (well).

In addition to 'general stakeholders' it is important to ensure subject matter experts (SMEs) are involved as well. In some cases, clinical informaticians are the right SMEs. Patients, particularly with long term conditions, can also be SMEs.

Caution may be needed with SMEs:

- They may not have the required expertise (and this may not be evident to them and / or the people consulting them).
- Assumptions are sometimes erroneously made that a particular SME or group of SMEs is expert at everything rather than just their true specialist area.
- SME groups are sometimes pressured to give advice outside their specialist area.

More generally, there appear to be recurrent issues with consultation in relation to engagement with the clinical community which is perceived to have worsened in recent years. There are examples where collaborations between clinical representatives, industry, and central NHS bodies have led to successful outcomes and good safety records (e.g. development of GP2GP record transfer). CHASCIS can be used as a resource to signpost to relevant clinical communities for any consultation on standards. Similarly in social care it is important to consider all relevant care activities, including for example, care homes, domiciliary care, supported living, and extra housing.

Another challenge is the consistent lack of input from IT and Information departments (who play a critical role in standards implementation and have considerable experience in many cases) in front-line NHS organisations, and those providing equivalent services in social care.

Recognition that consultation needs to take place throughout a project is essential. In addition, the people to be consulted may need to change - for example, when it comes to implementation, it is necessary to know that things are ready and the people to answer that may well be different from those consulted about what should be in the standard.

2. Change readiness

Change readiness can be an issue in many IT (standards) projects. However, in projects that implement data interchange or interoperability standards, there is a dependency on one or more other systems being ready. Experience from some local procurements is that, after implementing a system as far as possible, there is nothing for it to connect to. A similar issue can arise when systems are mandated on NHS

organisations at a regional or national level but, when implemented, the central system or service on which they depend is not operational.

Establishing and implementing common information standards across systems before attempting automated or semi-automated interoperability is a way of mitigating this problem[1]. There are benefits in establishing and using the same language across different systems as a baseline, and this consistency helps users of the different systems and helps to enable comparable reporting from systems even if they are not yet interoperable.

There does need to be a clear driver (clinical or business, and ideally both) to all stakeholders to make the change to adopt common data standards. If the data is only being used within a single system or organisation, then such drivers may not exist.

3. Understanding dependencies

In general standards are not implemented on their own but depend on others. The interdependencies are often not (well) understood. Successful adoption of a standard might require linking with other standards, for example:

- PRSB (the Professional Records Standards Body) specify the information that is required in particular circumstances (for example in a discharge summary) by clinicians and other care professionals. That is very unlikely to be sufficient in isolation, several PRSB standards require use of SNOMED CT and exchanging the information specified in a PRSB standard will often be done with FHIR
- other dependencies as for any IT project e.g. dealing with the problems of complexity. The NASSS framework (see Additional resources and further reading below) is particularly helpful in this context.

4. Requirements setting

Requirements are often not adequately captured and documented.

In many healthcare IT projects, especially those based on standards, it is important that there is a clear set of solution-agnostic requirements stating the clinical or other care needs in precise language. Imposition of systems or solutions, without understanding the needs of stakeholders but on the assumption that users will adapt to whatever is provided to them, is unlikely to succeed.

It is important to be clear on the scope of the project, identifying the systems, pathways and geographies that are relevant. Changes done within a single trust or practice can be agreed locally, whereas a change at regional, national, or international level will benefit from data governance provided by standards organisations.

Changes to information that is collected and available will impact both workflows and the care pathways. These factors should be carefully considered at an early stage in the project to ensure that potential benefits and risks are identified.

5. Standard APIs

A key benefit of adopting standards is to improve quality and consistency of information and the potential to share information across organisations. Where APIs are built in non-standard formats this has been shown to create barriers to adoption. There are good practice examples of building standard APIs such as GP Connect for digital social care records, which has led to widescale adoption and use.

6. Lessons learned

Industry experience is that they are rarely asked about standards adoption. In the few cases where they are asked to provide data (for example for GP Connect) there is no direct feedback, and it is unclear what is done with the information that suppliers have provided.

It is unclear whether centrally it is assumed that imposed standards have been implemented or whether there is an assumption that there is no need for such information.

It is also unclear to what extent, if any, the development of standards is reviewed centrally. If any lessons are learnt, that information is not known to be routinely shared with any stakeholders.

Establishing a mechanism for sharing lessons learnt from adoption of standards allows for sharing of best practice and pitfalls to avoid, as well as retaining corporate memory for the benefit of the system.

7. Skills, knowledge & understanding

The case for creating a community of experts and ‘standards awareness’ champions is strong given the current drive for mandating standards across health and care. There is a consensus that there are not enough experts, either from health and care backgrounds or from technical backgrounds. This applies particularly to the key standards FHIR, openEHR, and SNOMED CT. PRSB standards present challenges as well. These issues are quite significant in themselves, but it also means that the number of people with expertise in multiple standards is small. Given the earlier point about standards being linked or independent, this is a fundamental problem.

For the longer term it is essential that clinicians and other care professionals who are early in their careers and want to become informaticians can develop the necessary expertise and are encouraged to do so. The BCS and its Faculty of Health and Care may have a role to play here, not only for care professionals but also IT professionals.

While there is a major shortage of technical expertise, there is also a lack of awareness amongst other stakeholders. For instance, project managers can be assigned to standards projects with no background in the area at all. Another example is chief executives and finance directors who may have overall responsibility or accountability for standards projects. A culture change is needed so that non-technical stakeholders are better prepared at least to ask relevant questions and obtain assurances when involved in standards projects.

8. Maintenance

Issues arise when standards are not being maintained or fixed when there are known problems. Frequency of updates can be a problem (e.g. either too often or not often enough). This applies to code sets, terminologies etc. in particular. For standards to be sustained, there may be the need for a community (or user group)

around standards throughout their lifetime, recognising that the work on a standard is not finished when it is published.

Additional resources and further reading

NASSS framework (Non-adoption, Abandonment and challenges to Scale-up, Spread and Sustainability of technology-supported change efforts in health and social care)

https://www.phc.ox.ac.uk/research/groups-and-centres/interdisciplinary-research-in-health-sciences/enasss-cat

1 automated semantic interoperability only gets information transferred from one machine to another - and by definition does not require human involvement. It does not present the information to users to enable decision making and actions. Semi-automated interoperability does require human involvement but is dependent on properly designed workflows in the end systems. To maximise the likelihood that a system will be adopted by users there need to be well designed workflows that are as intuitive as possible to users. These can be overlooked leading to poor adoption or non-adoption by users.