



BCS / PRSB Health Informatics Standards Introductory Webinar series

Initial Webinar

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1. Overview of BCS / PRSB introductory webinar series on health informatics standards
2. A clinician's perspective of standards



Overview of webinar series

Introduction

Scope of health informatics standards

Common challenges encountered when getting to grips with health informatics standards

Aims and objectives of the series

Webinar titles

Introduction

- Standards are of critical importance in health and care informatics but many people working with, or on, digital technology in health and social care find them challenging
- This is the first of a series of webinars on health informatics standards, put together by BCS Health & Care and the PRSB, which is designed to help people with these challenges
- It should be noted that these webinars have been designed to be introductory and for non experts

Health informatics standards: In scope

- The standards to be covered are specific to the health and care domain and generally apply to data, apps or other products; we will loosely refer to these as ‘health informatics standards’
- There is no single straight forward and agreed way to classify IT and data standards in health and we will not attempt to do this
- Each webinar in this series will work to a title in the form of a question and address a group of standards relevant to answering that question

Health informatics standards: Out of scope

- Professional standards (i.e. those which apply to individuals and how they practice)
- Generic technical / product standards (e.g. html, smtp, imap)
- Data quality and metadata standards
- Management standards (sometimes called Codes of Practice) both domain-specific and generic
- Process modelling standards e.g. BPM+ (BCS is running separate webinars about these)

Common challenges encountered when getting to grips with health informatics (HI) standards:

- It can be difficult to get good quality guidance about individual HI standards
- In practice nearly all HI standards need to be used in combination with others
- Understanding which standards are relevant to a particular use case and ensuring appropriate implementation can be challenging
- Many HI standards cannot be implemented 'out of the box'
- Standards documents are intended to be definitive and unambiguous and so typically are not easy to read

Aims and objectives of the webinar series

- To provide an introduction to health informatics standards, explaining what they are, their importance and benefits
- To increase knowledge and understanding of the overall field as well as of individual key standards
- The creation of a long-term resource for future learners
- Improvements in specification and implementation of standards

May to July Webinar topics

- Today's initial webinar
- What information is needed to care for patients / service users?
- How do we standardise or code clinical and drug information?
- How do we move around information needed to provide care and how do we find it?
- How do we ensure safety?

Later Webinar topics include

- How do we model and structure health information in systems?
- How do we ensure security (including confidentiality and privacy)?
- How do we identify people, places and organisations uniquely?
- How do we get population health statistics, manage contracts and reimbursement?
- What standards do we use for research and analytics
- Who develops standards? Who sets / imposes standards?

1. Overview of BCS / PRSB introductory webinar series on health informatics standards
2. A Clinician's perspective of standards



A Clinician's perspective of standards

What do we mean by standards?

Professional vs Health Informatics standards

Why we need Health Informatics Standards to support patient journeys

Different types of standard and how they relate to each other

Standards not being ends in themselves

What exactly is a 'standard'?

- Middle English: *estandard* = banner
- A conspicuous object carried at the top of a pole – a rallying point
- Something established by authority, custom, or general consent as a model or example
- Something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality
- Sound and usable but not of top quality
- Regularly and widely used, available or supplied
- Well-established and very familiar
- Having recognised and permanent value

Professional compared with health informatics standards

- Professional standards
 - Apply to humans
 - About expected behaviour, values, ethical issues, culture
 - For some professions are backed up by statutory regulators in order to protect the public
 - Many different codes of practice
 - Not further covered in this series but they contribute to the ecosystem in which health informatics standards operate
- Health informatics standards
 - Generally apply to data, apps or other products
 - Specific to the health and care domain

Example of a Professional standard: GMC Good Medical Practice

- Make the care of your patient your first concern
- Be competent and keep your professional knowledge and skills up to date
- Take prompt action if you think patient safety is being compromised
- Establish and maintain good partnerships with your patients and colleagues
- Maintain trust in you and the profession by being open, honest and acting with integrity.

GMC Good Medical Practice: Four domains – some excerpts

- Knowledge skills and performance
 - Develop and maintain your professional performance
 - Record your work clearly, accurately and legibly
- Safety and quality
 - Contribute to and comply with systems to protect patients
- Communication, partnership and teamwork
 - Communicate effectively
 - Work collaboratively
 - Continuity and coordination of care
- Maintaining trust
 - Show respect for patients
 - Act with honesty and integrity

Professional standard: Implications for information system requirements

- Clear, accurate and legible (accessible) records
- Person centredness
- Safety and good quality care
- Security and protection of confidentiality and privacy
- Effective communication, collaboration, partnership, teamwork
- Continuity and coordination of care
- Development and maintenance of professional performance
- Encourage, and monitor for, honesty and integrity (system audit trail / Harold Shipman)

Patient records are complex

- Not just lakes of data items
 - Hold many different kinds of information
 - Importance of representing
 - Context
 - Provenance
 - Clinical fragments / expressions
- Also contain knowledge – for example:
 - About how concepts are related and linked together
 - Driving decision support

Examples of different kinds of clinical information

- Problems
- Diagnoses
- Medications
- Lifestyle
- Test results
- Operations and procedures
- Social habits
- Family history
- Attached documents
- Narrative
- Symptoms and signs
- Requests
- Referrals
- Recalls / plans

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- **Have many purposes**

The purposes of health records

- Clinical purposes
 - Facilitation of the clinical care of individual patients
 - Assisting in the clinical care of the population
- Non clinical purposes
- Additional purposes

[Shared Record Professional Guidance report lists more than 20 purposes](#)

The purposes of health records: Clinical (1)

- Facilitation of the clinical care of individual patients
 - Assisting the health professional to structure his or her thoughts and make appropriate decisions
 - Acting as an aide memoir for the health professional during subsequent consultations
 - Making information available to others with access to the record system who are involved in the care of the same patient
 - Providing information for inclusion in other documents (e.g. laboratory requests, referrals and medical reports)
 - Storing information received from other parties or organisations (e.g. laboratory results and letters from specialists)
 - Transfer of the record to any NHS practice with which the patient subsequently registers (GP record)
 - Providing information to patients about their health and health care

The purposes of health records: Clinical (2)

- Assisting in the care of the practice population
 - Assessing the health needs of the population
 - Identifying target groups and enabling call and recall programmes
 - Monitoring the progress of health promotion initiatives
 - Providing patients with an opportunity to contribute to their records
 - Supporting medical audit

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- Have many purposes
- Are dynamic so will change with time – so good date handling across the system is essential

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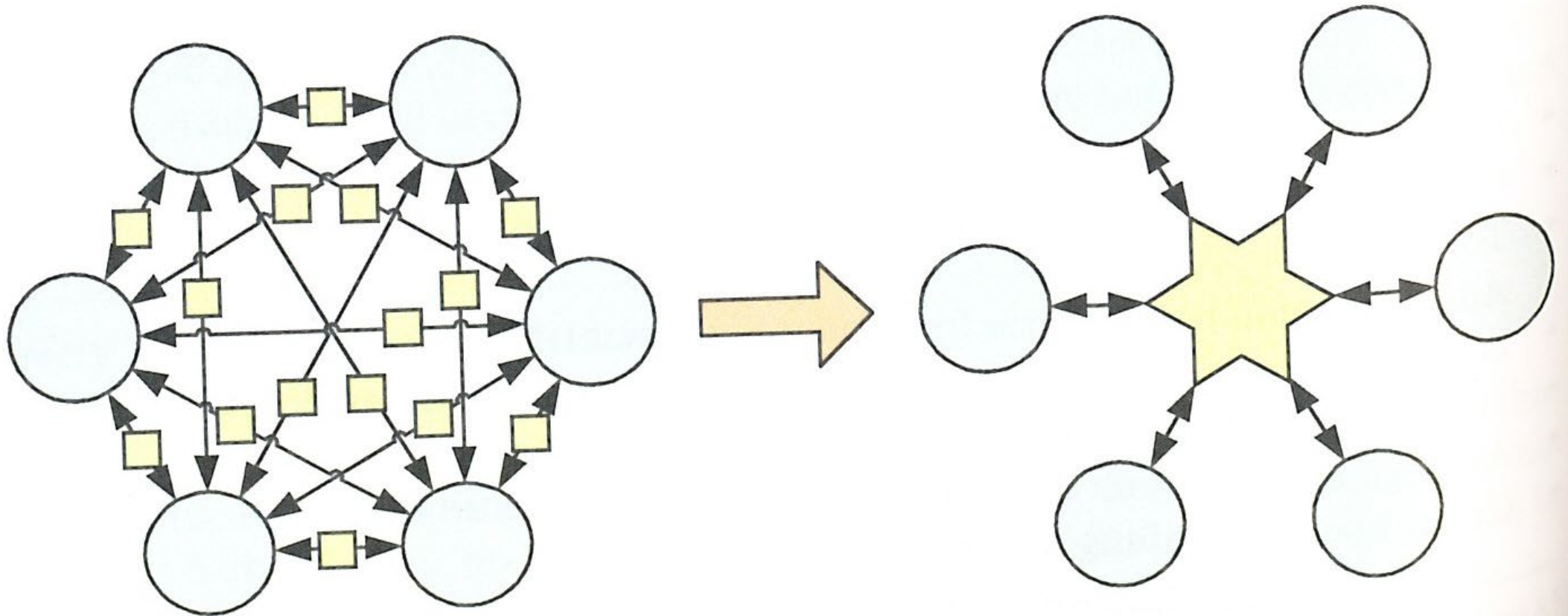
Communicating, sharing, moving information around

- Much of this relates to interoperability, another major and complex domain
- Many different definitions for interoperability
‘Interoperability is the ability of two or more systems to exchange information and to use the information exchanged’
- First must have operable, fit for purpose end systems
- Can be viewed in layers
 - Technical: Does not know or care about the meaning of what is exchanged
 - Semantic: ‘The ability to import utterances from another computer without prior notification and have your decision support, data queries and business rules continue to work reliably against these utterances’
 - Process
 - Clinical
- Ideally systems should be designed to be interoperable from the start

Two issues of relevance to standards in this area

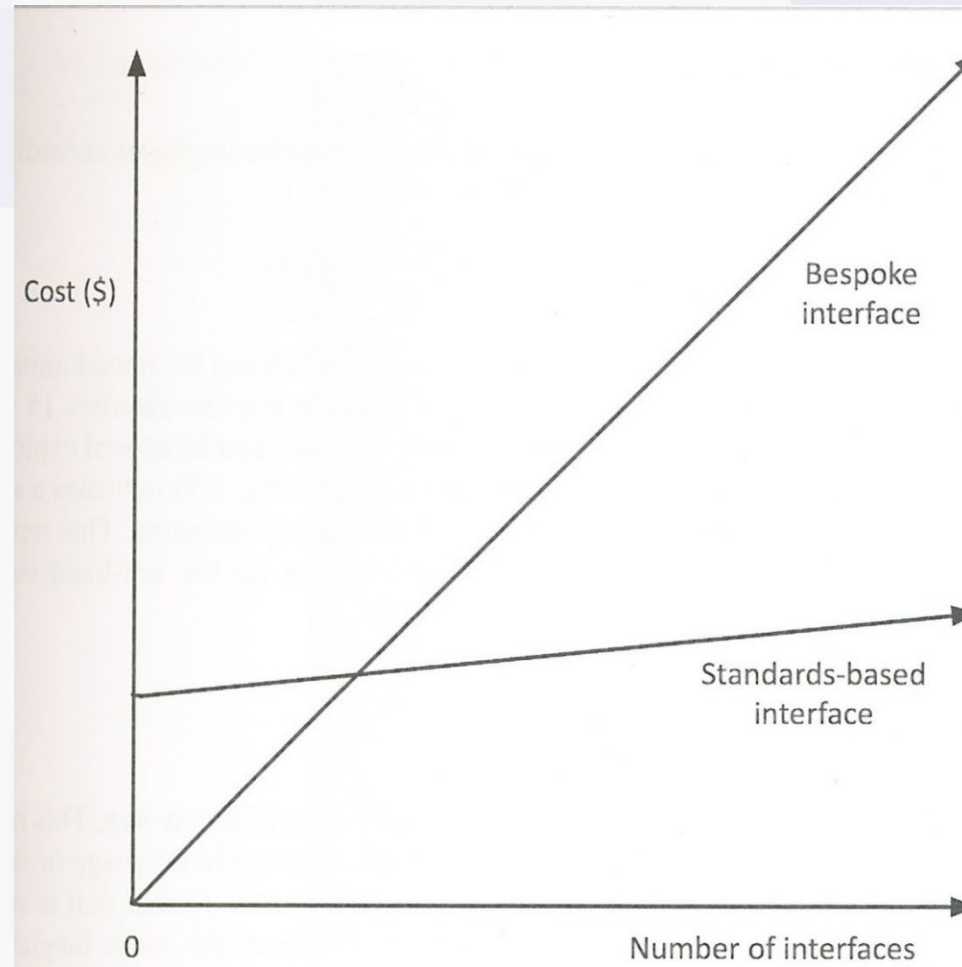
- The problems of combinatorial explosion if everyone 'does their own thing'
 - Number of links needed to connect n different systems back and forth increases according to the formula: $n(n-1)$
- Costs: implementing a standard can be costly but in the end, not making best use of right standards will be even more costly and very unlikely to scale

Avoiding a combinatorial explosion



From Principles of Health Interoperability – Tim Benson, Grahame Grieve: 4th edition

Interoperability costs



2 Standards economics

A clinician's perspective: What kinds of standards are we talking about (1)?

- The 'big three'
 - Terminologies to frame language and code it: to get around the problems of natural language
 - 'Architecture' to structure and organise the way that clinical information is presented to users. Note that this may be quite different from the technical way that information is stored deeper down in systems
 - Messaging: enabling that single central star that systems simply have to write to and read from
- These sit at the heart of everything: generally all three working in harmony together: the core of operable and interoperable systems

A clinician's perspective: What kinds of standards are we talking about (2)?

- Many other standards play their parts around 'the big three' including:
 - Record standards defining the professional requirements for information content of specific use cases – such as Hospital to GP discharge summary e.g. as produced by Professional Record Standards Board
 - Reliable identification of patients, people in general, places and organisations
 - Clinical safety
 - Security, confidentiality and privacy
- All of these and more, are covered later in the webinar series

Standards are very necessary but not enough on their own

- Mandating?
Standard: “Something established by authority, custom, or general consent as a model or example”
- Need to remove stumbling blocks and ensure:
 - Organisations and people are incentivised to use them
 - Adequate funding and resources
 - Right people with the right knowledge and skills
 - Clear strategy
- Need to tackle the kinds of challenges enumerated in the first section of this webinar

In summary: In this webinar we have provided

- An Introduction to the Webinar series looking at
 - The scope of health informatics (HI) standards
 - Common challenges encountered with HI standards
 - The aims and objectives of the series
 - Future webinar titles
- A clinician's perspective taking in
 - What we mean by standards
 - A look at Professional vs HI standards
 - Why we need HI standards to support patient journeys
 - Different types of standard and how they relate to each other
 - Standards not being ends in themselves

1. Overview of webinar series
3. Question and answer session



Any questions?