

Med Inf 405

Session 1 - Study Questions and Answers

1. **What is integration?**
The process by which different information systems are able to exchange data in a fashion that is seamless to the end user.
2. **What is an interface?**
A computer program that tells two different systems how to exchange data. It permits integration.
3. **What are the benefits of integration?**
Allows instant access to applications and data
Improves data integrity with single entry of data
Decreases labor costs with single entry of data
Facilitates the formulation of a more accurate, complete record
Facilitates information tracking for accurate cost determination
4. **What are the benefits of an interface engine?**
Improves timeliness and availability of critical administrative and clinical data
Decreases integration costs by providing an alternative to customized point-to-point interface application programming
Improves data quality because of data mapping and consistent user of terms
Allows clients to select the best system for their needs.
Preserves institutional investment in existing systems
Simplifies the administration of healthcare data processing
Simplifies systems integration efforts
Shortens the time required for integration
Improves management of care, the financial tracking of care rendered, and efficacy of treatment
5. **What is mapping?**
The process in which terms defined in one system are associated with comparable terms in another system.
6. **What is interoperability?**
The ability of two entities (human or machine) to exchange and predictably use data or information while retaining the original meaning of that data. Syntactic and Semantic are two types.
7. **What does HL7 rely upon for the storage and movement of clinical documents between systems?**
XML markup language.

8. What is the difference between syntactic interoperability and semantic interoperability?

Syntactic is the ability to exchange the structure of the data, but not necessarily the meaning of the data. Symantec guarantees that the meaning of the exchanged data remains the same on both ends of the transaction.

9. What is an archetype?

High-quality, reuseable clinical models of content and process that are defined by clinicians. An archetype contains a header, definition, and ontology section. The Archetype Definition Language (ADL) is a formal language for the expression of archetypes.

10. What is service-oriented architecture?

Calls for placing key functions into modules that, along with new capabilities, may be re-used, similar to object-oriented programming. SOA defines a service as a self-contained unit of work that has well defined and understood capabilities. A service may be an entire process, a function supporting a process, or a step of business process. Services may be built into a library that can be used to address enterprise needs. It is vendor and technology neutral and does not require specific equipment or standards for operation. It supports the ability to maintain a registry of services at the enterprise level that can be invoked after lookup & the ability to provide quality service that includes security requirements such as authentication, authorization, & reliable messaging and policies.

11. What factors slow integration?

- Unrealistic vendor promises
- Unrealistic institutional timetable
- Changing user specification
- Lack of vendor support
- Insufficient documentation
- Lack of agreement among merged institutions
- All components of a vendor's products may not work together

12. What is the data dictionary?

Defines terminology to ensure consistent understanding and use across the enterprise. Should include synonyms found in the various systems used across the enterprise. Can be achieved through a interface engine.

13. What is the master patient index?

A database that lists all identifiers assigned to one client in all the information systems used within an enterprise. It assigns a global identification number for each client and allows clients to be identified by demographic information provided at the point of care. Could use first & last names, birthdates, SSN and Drivers License Numbers.

14. What do HL7 standards address?

The exchange of clinical data for integration. Includes definitions of data to be exchanged, the timing of the exchanges, & communication of certain errors between applications. It provides a structure that defines data & elements and specifies how the data are coded.

15. What is DICOM used for?

The production, display, storage & retrieval of medical images & derived structured documents, as well as to manage related workflow.

16. How does standardization affect the economy?

The economy: Helps create a strong, open, and well-organized technological infrastructure; Act as a barrier to undesirable outcomes; Enable innovation; Promote the best interests of the economy.

17. How do companies benefit from participating in the standards development process?

Reduce costs; Head start on competition; Reduce technological risks; Reduce marketplace risks

18. How does standardization affect the marketplace?

They don't necessarily increase profits as they enable competition. They increase the volume of trade, increasing imports as well as exports, and makes an important contribution to macroeconomic growth. Benefits consumers via innovation.

19. How is the pace of traditional public standards setting procedures perceived?

Slow and difficult to resolve.

20. What impact does the rate of technological change have on the pace of standardization?

Procedures are perceived as being slow. When the rate of technological change is rapid, producers need standards quickly & consumers need high quality standards.

21. What impact does involving customers directly in the standardization process have?

Is desirable in the long term (standards are relevant) but slows down the process (technical detail is complex).

22. What is the role of the government in the standardization process?

Guiding role and change the balance of participation: Represent excluded interests (all interests); Give greater attention to consumer interests; Prevent market failure; address major needs; guarantee openness.