

Real World Interfaces

- Experiences with implementing hundreds of interfaces from varied sources.
- Things you may not have thought of or considered.



Real World Interfaces

- Scope (HL7 and beyond)
- Why do interfaces take so long to implement?
- The importance of being thorough.
- Miscellaneous topics.
- When interfaces change.



Scope

- HL7 interfaces – mostly data from hospitals.
- However, 80% of clinical data resides in physician practices, 20% in hospitals.
- As more providers use EMRs, achieve meaningful use, EMRs will become important sources of data.



Scope

- That data is more likely to be transported as CDA/CCD or CCR, possibly 'Direct Project' (*NHIN Direct*), or other forms.
- All the problems I discuss in the context of HL7 will also apply at some level to these other standards.
- No standard is a panacea.



Why do interfaces take so long to implement?

- Because it's a process problem, not a technical one (mostly).
- Once all the information is available, usually quite quick to get an interface running.
- Amanda reviewed the basic process.



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1. You have to get examples (+/- specs).
2. You have to study them (in detail).
3. You discover problems, or have questions.
4. Request fixes or answers to questions.
5. Time passes (days to weeks).
6. You forgot the details of the interface (Rpt #2)
7. Fix problem or resolve questions
8. Repeat steps 3-7 until interface ready to write.
9. Write Interface.



Why do interfaces take so long to implement?

- Helps to have technical people directly in touch with technical people
 - Multiple layers results in wrong or incorrect answers to questions.

The importance of being thorough

- Interface programmers are the only barrier between a successful interface implementation and your organization appearing on the front page of your local paper. Attention to detail important.
- Immune system analogy
- Must not allow any garbage to make it into your repository.



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The importance of being thorough in interfaces

- Much easier to deal with exceptions than to write programs to fix the database.
- Worst event is the 'Unintended Patient Merge.'
- Not matter how thorough you are, bad things happen.



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Miscellaneous Topics

- Document Delivery to a Clinician is different than document delivery to a repository.
 - Deliver document to clinician once instead of every time you get it.
- 1. Duplicate Detection
 - 8,000 daily (out of 400,000)
- 2. Hyperactive Interfaces
- 3. Guaranteed delivery important (CLIA)



Miscellaneous Topics

- Use test data sparingly
 - Some at beginning is OK, but 90% of problems show up in real data.
- Social Security number helpful for patient matching
 - We never display it to users, but sometimes the only hope of matching to external systems.



Miscellaneous Topics

- Provider Mapping
 - Olden days.
 - Most hospitals have single provider number.
 - Automatic uploading of provider files to IHE.
 - IHE manually matches subscribed providers to hospital provider files.
 - NPI is your friend.
 - But only believe the name and number.



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When Interfaces Change

- About 5% of existing interfaces get replaced yearly.
- About 10% of existing interfaces experience changes yearly.
 - Sometimes we even get notified.
- Need to be adaptable and ready for the unexpected.



Thanks for Listening!

- Good luck on your projects.
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