Preventing Failure in Healthcare IT Projects

Peter D Hartzman, PhD

April 2, 2009

Topics

- Background
- People
- Issues
- New World
- Examples

My Background

- More than 12 years in healthcare
- Biotechnology consulting
- Consulting and development in transportation and telecomm
- Risk Management and Insurance industry experience
- Lecturer in Computer Science

Industry Background

- Most expensive healthcare system in world
- A lot of administrative overhead
- Cost of EMRs is high (money, time, training, workflow impact)
- Providers are being threatened/tempted by pay for performance
- Variety of patient care protocols
- 45 million uninsured
- Now the government is promoting Healthcare IT!

People

- Practitioners
- Business

Practitioners

- Medical field is populated by a lot of bright people
  - Strong egos
  - Know what they want
  - Expect you to speak their language
  - Expect you to be able to read between the lines
  - Many already believe that they are practicing medicine as efficiently as possible and that IT systems are poorly designed

Business

- Business people concerns
  - Costs
  - Income
    - Billing
    - Insurance
  - Infrastructure
  - Attracting patients
  - Keeping physicians
  - Obeying regulatory requirements
  - Patient Safety

Issues

- Business
- IT

Business Issues

- Multiple payers
  - 4500 payers in the US
  - Differences in coverage and reimbursement
  - Different rewards for pay for performance
- Competition for patients
  - Optimize services scheduling; keep equipment in use
  - Attract physicians to facilities
- Meet accreditation requirements
- Don’t offend the OIG
- HIPAA compliance

IT Issues

- Budgets tend to be very generous or very tight
- Priorities tend to be set reactively
  - Regulatory changes
  - Billing issues
  - Safety issues
  - Security issues
- Buy√ vs. Build
- Staff quality is variable

IT Clients

- Sponsors are not ‘technical’
  - May know that they need something different but cannot describe it
  - May not have a ‘long term’ vision
    - Next steps not identified with original requirements
    - May miss decision implications
  - May not realize that there are other clients in the organization with similar needs
    - Business silos
    - Management by spreadsheet
    - Different vocabularies

Clinicians as IT Clients

- Views shaped by existing paper documents
  - All relevant data on one sheet to speed up review
  - Computer displays take on a busy look
  - Computer displays have a landscaped orientation so it does not quite look just like the paper they have been using

New World

- New administration is allocating significant funding to Medical Information Technology
- Primary focus is the EMR
- Chance for significant progress
- Bigger chance for significant problems
- Practitioner reimbursement tied to demonstrating meaningful use

Gotchas

- Products
  - Are expensive
  - Force changed workflows
  - Require a lot of training
  - May not be consistent
    - Suites may be integrations of acquired products
    - Different user interfaces
    - Propagated data
  - May introduce security issues
  - Are difficult to integrate into existing environment

Project Hazards

- Aggressive timelines
- Sponsor’s lack of commitment
- IT weaknesses
- Egos over reason
- Competing staff priorities
- Incomplete business analysis
- Poor communications between interested parties

Healthcare Projects

Practice Management

Laboratory Results

Lab Data Reporting

- Clinics would send patient specimens to lab for analysis
- Lab would transmit test results to PC located at client site
  - PC was configured and supplied by Lab as part of service
  - Results stored in local DB
  - Standard reports available
  - Clinic could create custom reports

Program Issues

- Application was developed in a locked room
- No communications with users or sales staff
- No requirements specification
- No functional specification
- No test plan
- Program was buggy and performed poorly when it worked

Corrective Actions

- Set up 3 parallel discussions
  - Development staff
  - Customer support department
  - Sales team
- Review customer bug and performance report
- Repair relationships with Customer Support and Sales
- Identify work scope and priortize fixes

Plan Releases

- Schedule a release every 1.5 months
- Develop test plans
- Update customer documentation to reflect changes
- Identify usability enhancements so that the improvements are visible to customer
- Accompany sales reps to customer sites to permit customer to vent
  - Show customer which issues have already been addressed

Results

- Program was faster, more reliable, and satisfied implied functionality
- Company was able to keep clients and attract new clients
- Company was acquired by larger competitor
  - Not just because of the software but because the software no longer detracted from the value of the service and the software delivered added value

Intranet and Security

Existing Conditions

- Existing intranet performed poorly, was difficult to navigate, and content was hard to find
- Adding content was dependent on IS resource scheduling
- Applications had a patchwork of rules and each had its own security mechanism
  - Users had to be added or subtracted manually

IT Situation

- Development group was entangled with legacy applications
- DBA group was constantly repairing DBs
- Operations group was overcoming old reputation
- New management was promising massive changes
- End users had low expectations and no emotional investment in services

Approach to Project

- Met with end users from different departments
  - Described new product capabilities
  - Suggested possible features and their potential benefits
  - Asked for project participation and feature requests
  - Prototype driven to give users something to react to
- IT acted as initial sponsor of project
- Informed business that we needed help to implement HIPAA security
  - Rationalized job descriptions
  - Interface to third party HR system

Impacted Groups

- Users represented finance, operations, quality, outcomes analysis, nursing, physicians, clinical staff, products, training, HR, and IT

Development

- Sent development and sys admin staff to training
- Hired vendor consultant to jump start project
  - Initial web page layouts
  - Initial security application development
- Took end-user workflow into account
  - Minimized number of clicks to get to content
  - Minimized amount of scrolling to find content
  - Majority of users provided healthcare to patients and were not web surfers

Dependencies

- Application to manage organization structure(s)
- Reduced job “families”
  - Business needed to define application and content access capabilities for all job families
- Departments agreeing to share metadata
  - Use data bases instead of spreadsheets
  - Acknowledge commonalities

Issues

- Staff cycles stolen for other work
- User ID changes (old intranet vs new intranet)
- Interface to existing intranet for legacy apps
  - Request program to provide access
  - User IDs changed and not all could be mapped in an automated fashion
- Missed deliverables of other project teams
  - Built emulators to complete testing
- Business identified project sponsor just before rollout

Results

- Delivered new intranet to support 32000 users
- Delivered role- and org-based security model
  - Supported automated allocation and deactivation of user ids
  - Supported custom user menus in internal apps
  - Supported distributed user administration
  - Implemented SOA interface for client apps

Conclusions

- Need sponsorship by management
- Need committed participation of end users
- Constant communication to keep people informed and involved
- Don’t forget that the majority of the end-users need quick access to specific information and are not there to web surf=> the system has to fit their workflow

Conclusions (cont)

- End product has to be supportable!
  - Unless you have a large consulting budget, make sure that your staff can maintain and manage it.

Questions

Contact Information

Peter Hartzman

peter.hartzman@comcast.net

408-910-0051

www.tapapm.org