

UPMC



Building a Business Case for Digital Pathology:
The Time is Now!
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- Telepathology vs. Digital Pathology
 - Telepathology as a term was misunderstood in the past;
 - It denotes point-to-point service;
 - Unfortunately, for some users, it also:
 - Brings to mind slow image exchange;
 - Brings to mind undersampling;
 - It is not all-encompassing;
 - There is no direct inclusion of digital enhancements such as automated image analysis and content based image retrieval
- It is 2008 already, and there is no clearly defined financial strategy on why would we need to adopt digital pathology



"Quick, Henson - seal the exits, call the police and get a pathologist in here to determine the exact time he left the payroll!"

- Two – tiered approach:
 - Justify this technology for pathologists;
 - Justify this technology for hospital administrators

- Can we copy the experiences from radiology?
 - The advances of digitization were readily apparent;
 - Elimination of silver film;
 - Search capabilities;
 - Workflow improvement came as an afterthought but resulted in the greatest money saving



- Why can't we copy radiology?
 - Glass slides are alive and well;
 - There is no viable alternative;
 - We cannot digitize pathology without the use of digital slides (aka whole slide images, aka virtual slides);
- The experience is different enough that pathologists need to be retrained.

- Reality – the approach needs to be as fragmented as pathology practices are today;
 - Large hospital practices;
 - Private
 - Employees;
 - Academic practices;
 - Private practices;
 - Groups (large and small)
 - Solo practices

- Solo practices;
 - Practices with multiple locations - do pathologists need to travel for “coverage”;
 - Usually, frozen section is of utmost importance;
 - “Regular” cases can be shipped (either before or after grossing)
 - This could be addressed by either a robotic microscope or “whole” (digital) slide scanner;
 - The cost ranges from \$25 K to \$250 K
 - Variables – pathologists’ time, gas, and stress factor;
 - How efficient is to “ping-pong” around and have two areas of work?

- Small practices
 - Coverage while one person is on vacation or sick;
 - Locum tenens (currently);
 - Could be addressed by utilizing a “contractor” in other practice (location is not an issue)
 - Especially feasible in case of small practices (outposts) that are a part of a larger practice plan

- This quality assurance could be instant and anonymous;
- The problem:
 - We are required to perform QA, but are not reimbursed for it;
 - Needs to be factored in when assessing pathologist's duties and compensation
- Possibility:
 - Ask CAP to approach the HCFA for a billing modifier;
 - Ask the hospital administration to build it in the budget.
- Need:
 - Digital slide imager (robot) - \$100 K - \$ 250 K

- Instant (or rapid) digital consult;
- Usage of either a robotic microscope or digital slide scanner
- Possibilities:
 - Multi-person diagnostic conference;
 - Case discussion and feedback a possibility
- Billing code for consultation exists;
 - Either reuse the 88321 to 88327 or add a modifier;
 - Potential increase in consultation revenue with emphasis of patient safety

- Potential elimination of glass slide file;
 - Studies needed that would demonstrate to CLIA that the digital slides equal glass slides for the archival purposes;
 - Elimination of lost slides (currently seen in ~ 10% of cases);
 - Ability to instantly (or near instant) retrieve cases.
 - This would also eliminate the costs associated with storage.

- Cost savings:
 - Courier costs:
 - \$27,150.00
 - Slide retrieval and filing costs:
 - ~ \$60,000.00
- In-house couriers, as well as nation-wide couriers



- Studies in UPMC have revealed potential increase in daily efficiency of ~ 10% to 15;
 - Based on:
 - Amount of the time needed to prepare for the sign-out;
 - Match slides with requisitions
 - Digitally → Done automatically
 - Organize cases and potential missing slides per case;



Status Quo



ATA 2008

FY 05 IMiTs Telepathology Project

- Also increase the usage of new techniques
 - Time savings and efficiency increase;
 - Smart algorithms;
 - Rare event detection;
 - Immunohistochemistry digital analysis;
 - Report distribution and communication.

- Pathologists:
 - Estimated at 15% - total money saved depends on the number of pathologists and salary;
- Histotechnologists:
 - Estimated at 10%

Patient Safety - Reduction in Pre & Post Analytical Errors

Estimated Number of Annual Errors with award (Pre-Analytical & Post-Analytical)	0.6
	\$
Average Cost Per Case (Monetary Award Only)	1,000.000
Reduction Potential	100%
	<hr/>
	\$
Total Cost Savings for Improved Patient Safety	600,000
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- Barcoding of:
 - Requisitions
 - Specimen bottles
 - Cassettes
 - Slides
- Bar-coding with:
 - Unique ID

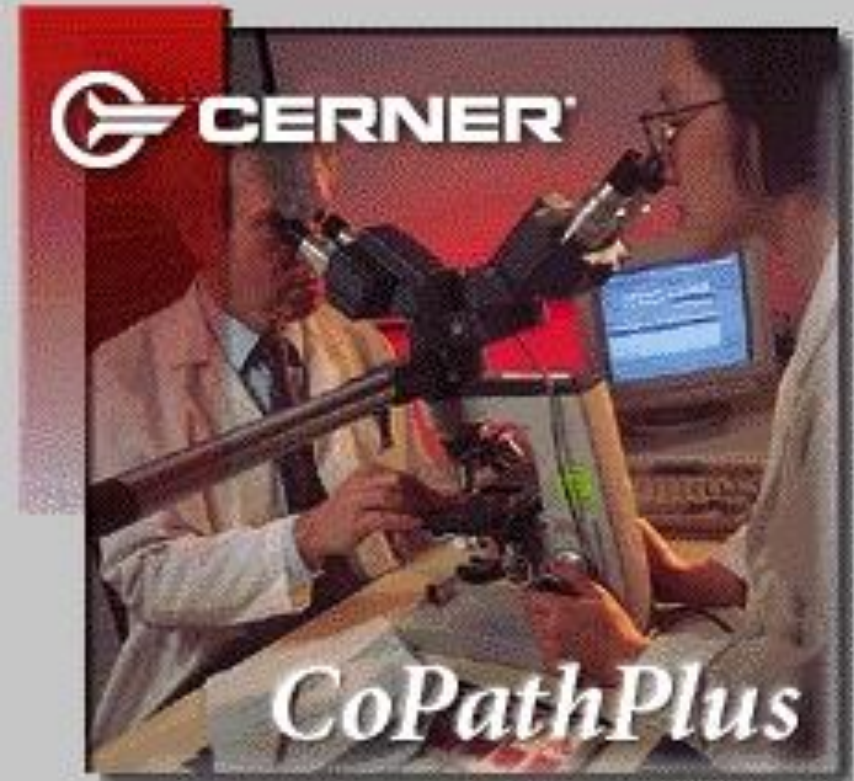




- Clear – cut benefits, including the patient safety and decrease in errors;
- There are hard savings and soft savings
- Both need to be clearly identified, outlined and discussed
- Presenting this to hospital administration might be a challenge;
- If you own your own laboratory, increases in efficiency might pay for itself as well as decrease in errors
- Adoption might be in phases

Things to avoid:

- Pathologists need to take the ownership of the issue;
- “If you build it they will come...”
- “ They will come even if you do not build it, but you might not be happy to see them”.



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