



American Society for
Clinical Pathology

143 Changes on the Horizon-An Update on Pathology Convergence

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143 Changes on the Horizon-An Update on Pathology Convergence

Advances in imaging technology, the growth of personalized medicine and dramatic economic changes brought on by health care reform are all catalysts to the convergence between pathology and radiology. In this session, participants will learn about new and emerging forces as well as the technologies behind this trend. They will discuss what these developments will mean for their practice and profession.

- Define the term convergence as it relates to anatomic and clinical pathology.
- Understand macro trends and their implications for convergence in diagnostics, including healthcare reform, cost containment, and development of accountable care organizations (ACOs).
- Present micro trends also leading to convergence such as the closer integration of anatomic and clinical pathology and integrated diagnostics, defined as closer collaboration with radiology.

FACULTY:

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Pathologists, Residents
Laboratory/Business Management
Laboratory & Business Management
1.0 CME/CMLE Credit

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Changes on the Horizon: An Update on Pathology “Convergence”

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Convergence - The Macro Perspective

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Learning Objectives

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- Understand macro trends and their implications for convergence in diagnostics, including healthcare reform, cost containment, and development of accountable care organizations (ACOs).
- Present micro trends also leading to convergence such as the closer integration of anatomic and clinical pathology and integrated diagnostics, defined as closer collaboration with radiology.

Disclosures

- Richard C Friedberg, MD, PhD
 - None relevant
- Bruce A. Friedman, MD
 - Educational Consultant, Department of Biomedical Informatics, University of Pittsburgh

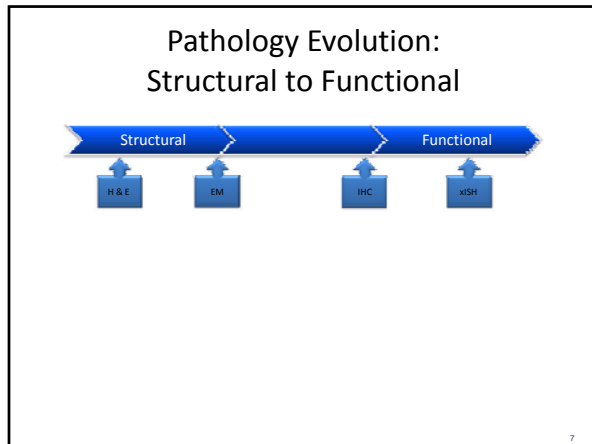
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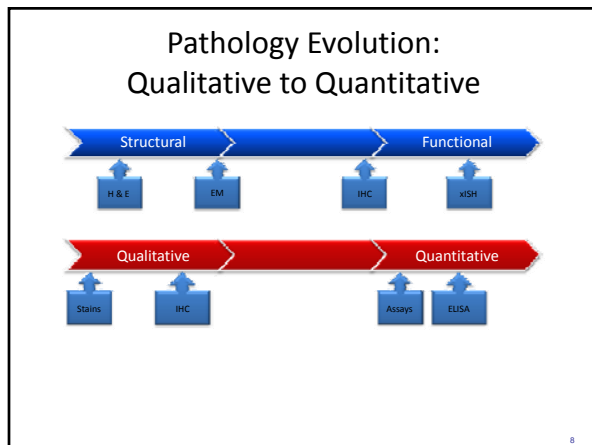
What is it? – History? – Today? – Tomorrow?
CONVERGENCE?

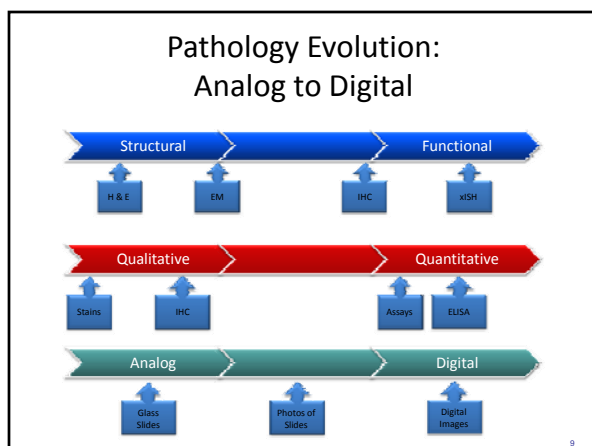
Pathology Evolution: Discrete to Multiplex

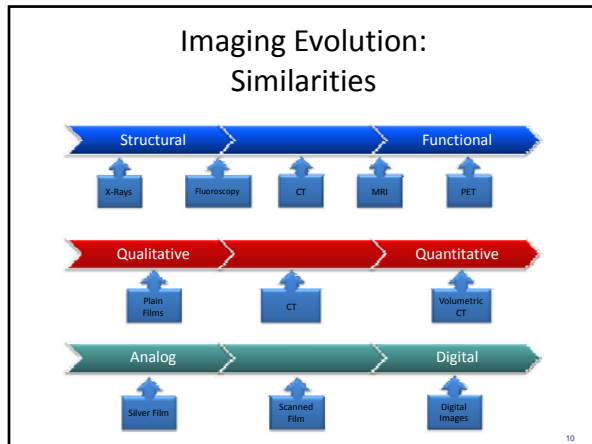


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Overall Evolution of Diagnostics

- Diagnostics clearly evolving with data integration
 - Increasing dependence upon integrated structural, functional, molecular, genetic, proteomic, and genomic information
 - Historical source irrelevant

Overall Evolution of Diagnostics

- Qualitative “pattern recognition” fields and technology becomes quantitative
 - Increasing focus up on precision, accuracy, reliability, and measurability
 - Transition away from “eminence-based” diagnostics
- Once information is digital, integration shifts into high gear

Integrated Diagnostics

- Earlier diagnosis and earlier cure by advancing the optimal point of medical intervention earlier in the natural course of a disease

Patterns of History are Clear

- Qualitative evolves to quantitative
- Analog evolves to digital
- Distinct evolves to integrated
- Data aggregates to information
- Information with context becomes knowledge

Qualitative > Quantitative

Analog > Digital

Distinct > Integrated

Data > Information

Information > Knowledge

Federal – Local – Pathology Impact

POLITICAL REALITIES

Federal Health Care Reform

- March 23, 2010
 - Affordable Care Act (ACA) enacted
- March 31, 2011
 - Notice of proposed rulemaking and request for comment for the Medicare Shared Savings Program
- Since then...

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Impact on Pathology

- Does not facilitate or impede pathologist role or participation in ACOs
 - Does create opportunities
- Does not displace fee for service
 - May create apathy among pathologists for adapting to new roles and models
- Heavily size and capital dependent
 - Non-starter for smaller ACOs and pathology groups?
- Local decision making key
 - Rule permits for local innovation and leadership

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Massachusetts Experience

- Universal coverage enacted in 2006
- February '11 cost-containment plan
 - ACO in a primary care medical home model
- Bye-bye Fee-for-Service?
 - “Establish ... benchmarks for expanding the use of alternative payment methodologies and reducing fee-for-service ... for the purpose of adopting alternative payment methods across the healthcare industry by the end of the year 2015...”

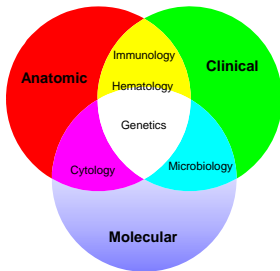
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Political Realities

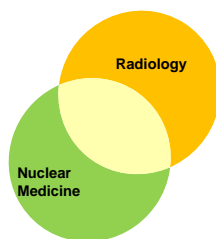
- Shift in values, provision, & perception of medical services
- Fundamental reality of the momentum for more accountable and coordinated care that includes:
 - Patient centered care
 - Pay for performance
 - Health information technology
 - Payment reform
 - Integrated delivery models

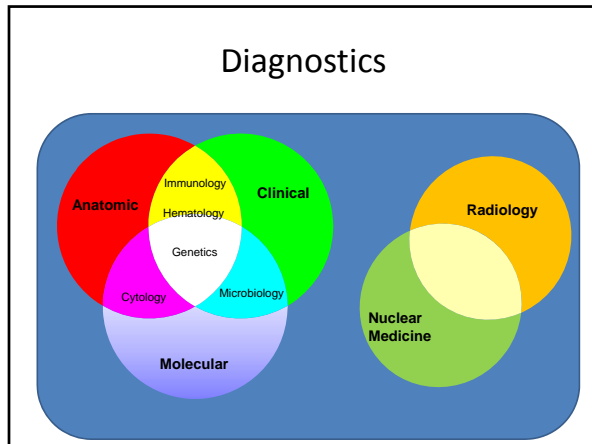
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Pathology



Imaging





Update on Pathology: Convergence *Within Pathology & Across Diagnostic Specialties*

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Defining convergence & integration; why desirable goals

- Will use convergence/integration synonymously in lecture
- Overarching goal: more value/efficiency from pathology
- Integration requires more efficient & effective work flow
- Integration results in fewer hand-offs by lab professionals
- All of above yields "faster, cheaper, better" care for pts.
- Faster, cheaper, better inexorably => higher quality care

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Opportunities for convergence within pathology: first, AP and CP

- Roots of anatomic pathology lie in previous centuries
- Clinical pathology developed largely post-World War II
- CP turfed to pathologists by default because hospital-based
- CP became financially lucrative in 70's, 80's, and 90's
- Pathologists reimbursed on percentage of lab gross revenue
- Most such contracts now gone; return to focus on surg path

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Growth of molecular pathology; requires elimination of silos

- Molecular tests can & will provide specificity to diagnoses
- Open doors to enhanced predictive/preventive medicine
- Emergence of multiplexed tests with computer algorithms
- Even greater "power" to surgical pathology diagnoses
- Barriers to AP/CP convergence are silos in pathology
- IT enables integration with "dashboards" to legacy systems

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Second convergence in Pathology: all trainees learn pathology informatics

- For 20+ years, informatics has evolved as a separate silo
- Time for all trainees to become more "computer savvy"
- Optimal estimate: 20% of general training in informatics
- Necessary to offset hospital momentum toward EMRs
- Necessary to provide oversight for LIS system integration
- This convergence difficult; scarcity of teachers in programs

Slide 27

Convergence across diagnostics: why radiology is thriving & CEO favorite

- Huge multinational corps. behind imaging: Siemens, GE
- New/enhanced imaging systems; yield high profit margins
- CEOs encourage capital investment in new modalities
- Digital radiology has increased individual productivity
- Maintain earning power in face of cost-containment
- New radiology goal: diagnoses instead of impressions

Slide 28

Short-term vision; closer collaboration with focus on breast mass diagnoses

- Radiology breast centers ideal locus for enhanced model
- Large-scale screening; pts with suspicious lumps culled out
- Opportunity to integrate surg path services into process
- Suspicious lumps immediately undergo FNA/core bx
- Rapid processing & digital path; goal of dx in 24-48 hours
- Breast success => carried to thyroid, liver, lung, ovary

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A new model for pursuing integrated dx: Integrated Dx Centers (IDC)

- PCPs refer pts with unknown mass (e.g., breast) to IDC
- IDC staffed by diagnosticians + patient intake clinicians
- Efficiencies: parallel processing, two shifts, collaboration
- Digital pathology key element in rapid processing
- Portability of images enable off-site final tissue diagnoses
- IDCs will resonate with oncologists; only accept dx'ed pts

Slide 30

Short-term vision for integrated dx: multi-disciplinary diagnostic teams

- Multi-faceted diagnosticians; unrealistic short-term goal
- *Most* patient diagnoses can be addressed without MDTs
- Compare/contrast clinical vs. diagnostic MDTs
- Complex patients managed by Dx-MDTs meeting virtually
- Such Dx- MDTs composed of radiologists and pathologists
- Develop "super-dx's"; consolidation of individual dx reports

Slide 31

The Virtopsy; Combining the classic autopsy with a total-body CT scan

- Intro. to virtopsy; autopsies begin with whole body CT
- Then, selected biopsies directed to confirmation of disease
- Autopsy permission rate increases; CT only less intrusive
- Greatly reduced cost/time; improved disease identification
- Now the standard of care for U.S. military autopsies
- Enables pathology residents to acquire skill with imaging

Slide 32

Longer-term vision for integrated dx: images + tissue + molecular dx

- Ultimately, will train diagnosticians by key organ systems
- Each would employ all available technologies => diagnosis
- Multiplexed biomarkers; critical for predictive/dx medicine
- Forge tight relationships with similarly oriented clinicians
- Entering golden era of diagnostics; dx requires most effort
- Treatment (surgery, drug) will be obvious based on the dx

Slide 33

Integrated diagnostics inevitable; question only how we get there

- Integrated dx thriving now in large GI/GU clinical groups
- GI/GU specialists hiring pathologists for in-office labs
- In-office labs have thrived: tight integration/collaboration
- These efficiencies will soon be more broadly recognized
- However, pressure for GI/GU groups merge with hospitals
- Will pathologists emerge as contract players or co-equals?

Slide 34

Barriers to pursuit of convergence: incumbents with stake in *status quo*

- As always, successful incumbents resist many changes
- Teaching programs managed by content incumbents
- Early and necessary shift: adoption of digital pathology
- Digital images portable; enable greater productivity
- Pathologist need to lobby for capital costs for conversion
- Hosp. executives; resonate to integrated dx when explained

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Drivers for convergence: impetus from pathologists seeking higher quality

- Change always comes from those who are dissatisfied
- Belief that "tried and true" can be improved upon
- Molecular imaging in Radiology; convergence occurring
- Also rapid advances in non-invasive optical microscopy
- Political power in health systems; merged Path + Radiology
- We need more "change agents" willing to swim upstream

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