What’s Ailing Pathology: A Personal Diagnostic & Prescriptive Response

Bruce A. Friedman, M.D.
Professor of Pathology
University of Michigan Medical School
Ann Arbor, MI
734-764-8333
History of this Invitation to Present Views at Matrix Meeting

- Director of a pathology informatics conference called Lab InfoTech Summit with a 23 year history, 21 years as AIMCI

- Last March I presented a lecture expressing views similar to those presented today
  - My only goal at this time was to illustrate important role of pathology informatics as a value-adding discipline
  - I was contacted by Ellen Sullivan of ASCP Today; interviewed for an article
    - “Creating a New Breed of Pathologist” published in *ASCP Today*, Sept. 2005; this lead to this invitation

- I represent only myself today; the ideas are largely my own that have developed for the nearly 40 years in the field
Continuing Strengths, Pathology, Pathologists, & Other Lab Professionals

- Surgical pathology is today, and will remain for the foreseeable future, as the gold standard for tissue dx

- The clinical lab industry is a mainstay of health care deliver; lab results contribute to some 70% of all diagnoses

- Lab testing is the most cost-effective component in the health system; continuous advances and lowering costs

- Pathologists & other lab professionals are the staunchest supports and practitioners of quality in the health system

- Pathologists continue to strive to improve lab performance in the face of many years of declining reimbursement
Eating an Elephant: An Approach to Making Changes in Pathology/Lab Med

- I believe that significant changes are required in pathology and lab/medicine despite the obvious strengths of the field.

- Strategy when eating an elephant (solving a hard problem) is to approach the process one bite at a time.

- I will lay out what I consider the total array of challenges I believe are facing the field and then a set of action items.

- These action items will involve various initiatives by various groups and individuals.

- No one set of actors will have influence/power to effect the changes so concerted coordinated program will be necessary.
Understanding Why Pathology Is at the End of the Hospital Food Chain
Hematopathology: Perfect Model for other Laboratory Disciplines
Seeking a Common Thread in the Clinical Pathology Disciplines

- At present time, no common thread between blood banking, microbiology, chemistry
- Common thread in all of them will be the exploration of molecular basis of disease
Challenges Facing Pathology & Lab Medicine by Category

**Pathology Has Become Too Narrow**

- Many pathologists have retreated from clinical pathology in favor of anatomic pathology; specialized niche players
- Focus of surgical pathology is too narrow with insufficient correlation with the molecular basis of disease
- Resident training overly focused on surgical pathology; insufficient attention to molecular basis of diseases
- Pathologists are insufficiently involved with clinicians in formulating diagnoses and treatment regimens
- Barriers too rigid between AP and CP; need to train residents as consultants in molecular & morphologic basis of disease
Challenges Facing Pathology & Lab Medicine by Category

Pathology Lacks Influence and Political Power

- Role of pathology and pathologists is under-appreciated by clinicians and administrators in hospitals/health systems.
- Need to affiliate more closely with the other major diagnostic specialties, particularly radiology.
- Attitude of “learned helplessness” prevalent in field rather than “learned omnipotence” of cardiology.
- Professional societies and meetings fragmented and competitive; dilutes national influence and power.
Challenges Facing Pathology & Lab Medicine by Category

Product Line in Pathology Need Revamping

- Majority of laboratory tests are commoditized; can break out of this cul-de-sac with molecular pathology
- Need to embrace new lab product lines such as lab medicine consulting and direct-access-testing
- Tissue banking pursued only by small number of pathology departments even though they control all abnormal tissues
- Insufficient adoption and support for decentralized lab tests (POCT, near patient testing, home testing)
- Inadequate attention to translational research; need to expedite biomarker transfer from bench to clinical lab
Challenges Facing Pathology & Lab Medicine by Category

**Pathology Informatics Requires Emphasis**

- Informatics given insufficient attention in pathology departments even though IT is major value-adding step
- Pathology organized in silos that work for own benefit; need data integration model operating at the department level
- Pathology & lab reports dull and unimaginative; need to convert to web-based “smart reports” (mini-textbooks)
- Assume responsibility for management of lab test data regardless of where generated (inpt, outpt., office, home)
Challenges Facing Pathology & Lab Medicine by Category

Training and Education Challenges

- Insufficient managerial and entrepreneurial skill set that would facilitate expansion of the pathology domain
- Impending major personnel shortages for medical technologists and laboratory scientists
- Short half-life for residents training primarily in the morphologic diagnosis of disease
High Level *Action Items* Organized by “Problem” Category

**Pathology Has Become Too Narrow**

1. Dissolve barriers between anatomic and clinical pathology; merge with pathology informatics for unified departments
2. Co-locate and intermix clinical pathologists, anatomic pathologists, and lab scientists
3. Accept residents for training only with strong clinical background and interest in operating in clinical setting
4. Train residents to have a comprehensive understanding of both a molecular & morphologic comprehension of disease
5. Develop formal reimbursable customized laboratory medicine consultations; engage with clinicians & increase revenue
High Level **Action Items** Organized by “Problem” Category

**Pathology Lacks Influence and Political Power**

5. Begin dialogue with radiology; consideration of creation of departments of diagnostic medicine (pathology + radiology)

6. Begin process to merge (or strongly affiliate) the major professional societies in pathology and lab medicine
   a. Process will not occur without the participation of outside mediators or facilitators

7. Sponsor one/two major meetings per year (Spring and Fall) sponsored by a federation of major pathology/lab societies
Product Lines in Pathology Need Revamping

8. Facilitate translational research to increase speed of new tests (e.g. tumor biomarkers) from bench research to lab

9. Create a national integrated collaborative network of tissue banks affiliated with pathology departments

10. Enthusiastically embrace all forms of testing (central lab, POCT, home) regardless of whether supported financially
High Level **Action Items** Organized by “Problem” Category

**Greater Emphasis on Pathology Informatics**

11. Elevate pathology informatics to status of AP and CP; positions of director of clinical and research informatics

12. Emphasize informatics both in training programs and in practice; view as a critical component of practices for MDs
High Level **Action Items** Organized by “Problem” Category

**Training and Education Challenges in Pathology**

13. Encourage high level management training for medical technologists; reestablish med tech training programs

14. Encourage/stimulate entrepreneurial efforts by pathologists; stimulate production of more pathologist MBAs

15. Need for more pathology informaticians to head up new divisions of pathology informatics in academic departments

16. Given residents rotating through CP disciplines real work and real assignments including rounds and chart notes
Rethinking the Value/Purpose of the Autopsy

- Need to rethink the value of the autopsy; have not challenged the primary goal of determining cause of death
- This despite major changes in technology, diagnostics and treatment regimens during last several decades
- Consider adding the following as additional goals
  - Validation/quality control of various ante-mortem imaging studies
  - Genomic-directed autopsy
  - Teach surgical anatomy to medical students and surgery residents in non-embalmed body
The “Interesting” Problem of the Autopsy; How Does This Fit In?

- Problem is not that autopsies don’t yield important information but rather that the information is ignored.
- I believe that we should pursue the following goals in terms of the persistence of the autopsy service:
  - Perform only on interesting cases; interesting cases determined collaboratively with clinicians.
  - For cases selected by clinicians, required that they participate in the process in some active way.
  - Key mandatory aspect of any autopsy will be correlated of all pre-autopsy imaging studies with radiologists.
  - Worth restating is that major goal will be salvage of fresh tissue for pathology tissue banking activities.
Pathology needs an initiative similar to that in Radiology called the “Manhattan Project”\(^1\)

- project designed to expand the fund of knowledge and experience in cardiovascular imaging within the specialty of radiology
- establish training sites in cardiac MR and cardiac CT imaging at academic medical centers around the country. ...sites will be geographically dispersed.
- develop comprehensive website which will serve as a clearinghouse to describe each of the training sites
- radiology department that does not have a cardiac imager in place to commit to sending at least one faculty member to one of these training sites

1. http://www.nasci.org/NASCI-Newsletters/NASCIBeat%20December%202003.htm#SCARD
Critical Role of the Web in Reform of Pathology & Lab Medicine
Take-Home Points from Presentation