



**Three Sources Consider the Future:  
What About CT Education?**

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## Conflict of Interest

- No conflicts of interest



## Three Takes on the Lab's Future

- **The Forbes Report**
- **“How Are Cytotechnologists Responding to Changes in Their Profession?” survey**
- **“Time for a Reality Check: The Hospital-Based Laboratory’s Perspective”**



## The Forbes Report Findings



## Lab Industry Faces Workforce Shortages

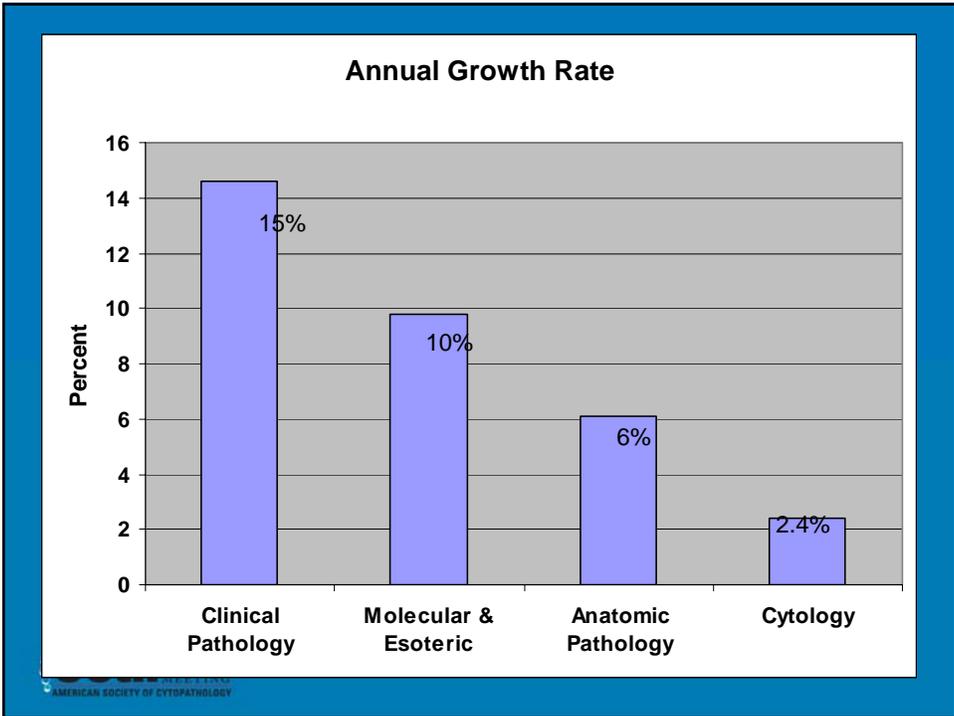
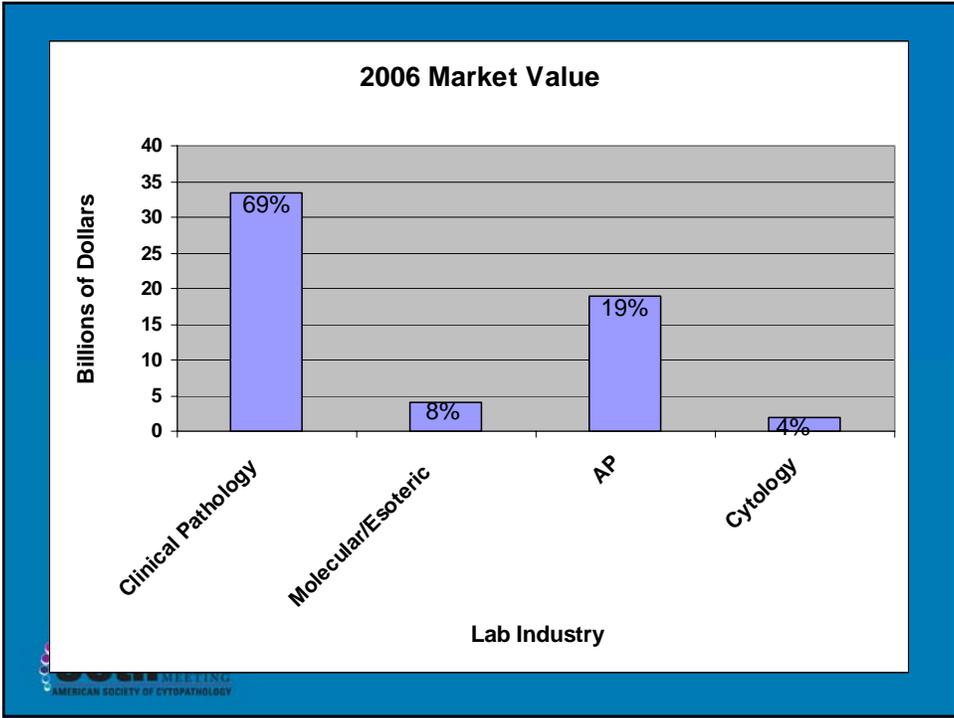
- The Forbes Report states that it is the shortage of physicians NOT technologist that is driving the needs for new professional relationships in Cytopathology.
- Pathologists face a decline in productivity due to administrative overhead, increasing regulation and paperwork



## Trends in Laboratory Medicine

- Lab industry experiencing a crisis with finding and keeping skilled labor
  - In 2007, 44% of labs report to ASCP it is difficult to find laboratory personnel
  - Average age lab professionals is 49.2 years
- Predictions – worsening shortage
  - Gap between supply and demand will continue and the age demographics will cause this gap to widen





## One Factor Missing

- Cytotechnologists performing molecular testing was absent from the report.
- In 2007, molecular testing was valued at \$4.1B and represents the fastest-growing and most-profitable segment of the lab industry.
- This market is expected to grow 19% per year over the next 3 years (2007 – 2010).



## Forbes Report Concluded

- Changes in cytopathology would create new demands on support functions, such as sample harvesting, quality analysis, and management, that cannot be met by today's CT.
- Digital pathology requires technical skills in digital imaging and data management that do not exist outside the radiology department.



## How Are Cytotechnologists Responding to Changes in Their Profession?



### CTs Surveyed Spring 2008

- Sent to membership of National, Regional, and State professional societies
- 558 valid responses
  - Subset of 121 selected to examine comments on open-ended questions
  - Five telephone interviews selected from those who represented one of the themes from comments



## Few Themes Emerged

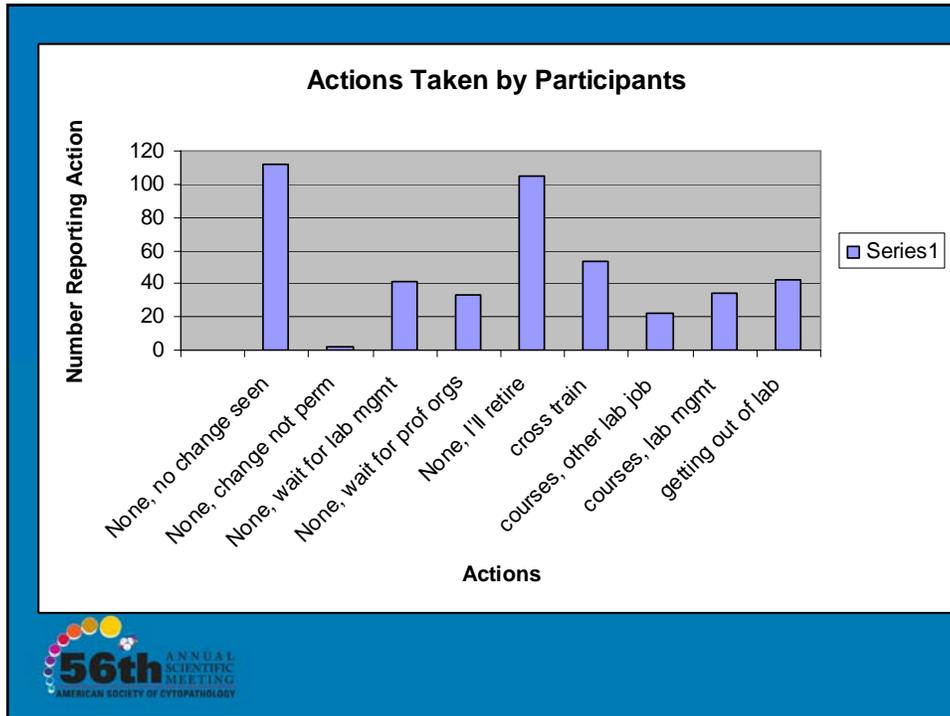
- There was a huge response
  - 231 took the survey in the first three days
  - 558 in less than a month
- Obviously this is something on CTs minds



## Few Themes Emerged

- Only thing for sure – CTs over 46 think they will retire before changes in the profession affect them. (70% N= 74)
- Many had seen a drop in Pap volume in their lab (39.4% N=213), but few had lost FTEs (24.6% N=135).





## What Individual CTs Recommend for Their Colleagues

- Continuing Education
- Cross Training
- Leave Cytology
- Molecular Technology
- Be Open/Flexible

## Time for a Reality Check: The Hospital-Based Laboratory's Perspective

by

Richard C. Friedberg, MD, PhD  
*Archives of Pathology &  
Laboratory Medicine Online*



### Bottom-line for Physicians

- Average physician wants help in making a diagnosis and doesn't care what analyzer is used or what the label on the department doorway is
- The prediction is that the distinction between clinical and anatomic pathology will disappear

Friedberg R. Time for a Reality Check  
*Arch Pathol Lab Med*, May 2008



## Trends in Laboratory Medicine

- Need well-educated personnel with solid expertise in science, engineering, informatics, and medicine
- Need well-trained, subspecialty-focused, “digitally intact,” and “clinically intact” pathologists

Friedberg R. Time for a Reality Check  
*Arch Pathol Lab Med*, May 2008



## New Paradigms

- A blended diagnostic department made up of medical imaging, molecular diagnostics and radiology
- Morphologic ‘workcell’ might include:
  - Flow cytometry, bone marrow, histology, cytology and ISH?



## How Can Cytology Training Programs Address This Future?



## Two Primary Challenges for Programs

- Remain Viable
- Ensure Graduates' Employability



## Remaining Viable

- Act on the ideas that have come from today's session (and previous PFS)



## Remaining Viable

- Be creative in becoming budget neutral
  - Meet the growing need for distance education for CTs in the field
  - Meet CTs need for guidance in approaching MP training and exam
  - Coordinate cross training in your lab



## Remaining Viable

- Increase your visibility and value
  - Use your instructional design knowledge to direct/enhance Lab training (Clinical & AP) for compliance and continuing education
    - Technical writing
    - Adult learning theory
      - Performance-based objectives
      - Outcomes-based training



## Remaining Viable

- Collaborate
  - With other CT programs
  - With other 'players' in medical education



## Ensure Graduates' Employability

- Expose Students to All Aspects of Lab
  - Histology
  - Molecular Technology
  - Clinical Lab
  - Radiology
- Look carefully of what can be eliminated from current training to make time for this



## Ensure Graduates' Employability

- Educate beyond the microscope
  - Broaden student skills
    - LEAN, Six Sigma mindset
    - Outcomes-based medicine
    - LIS, data management
    - Digital Image management



## Ensure Graduates' Employability

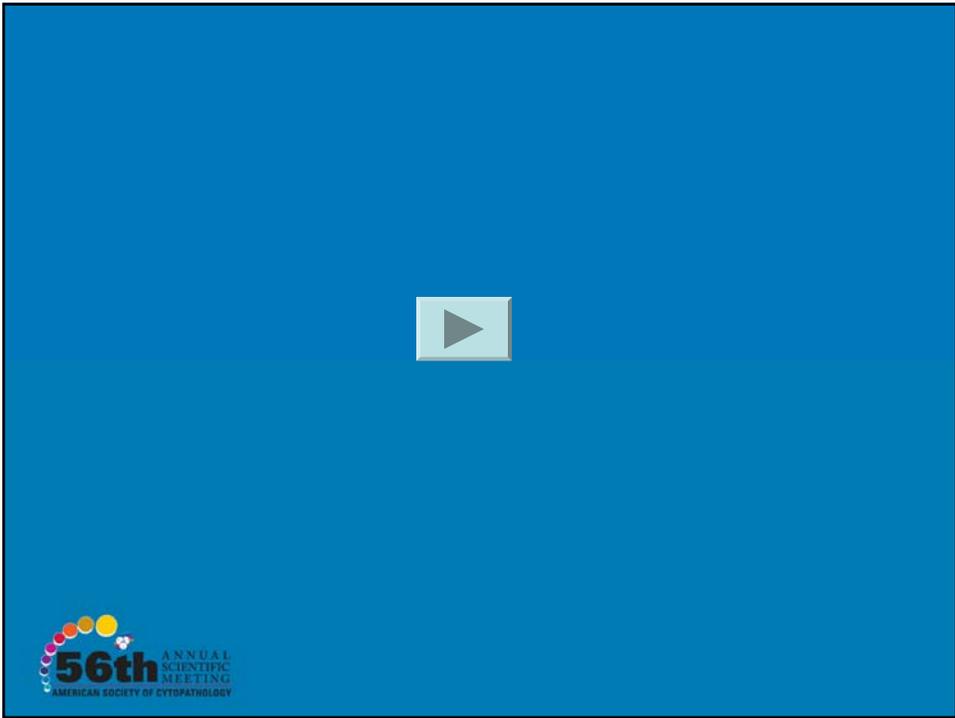
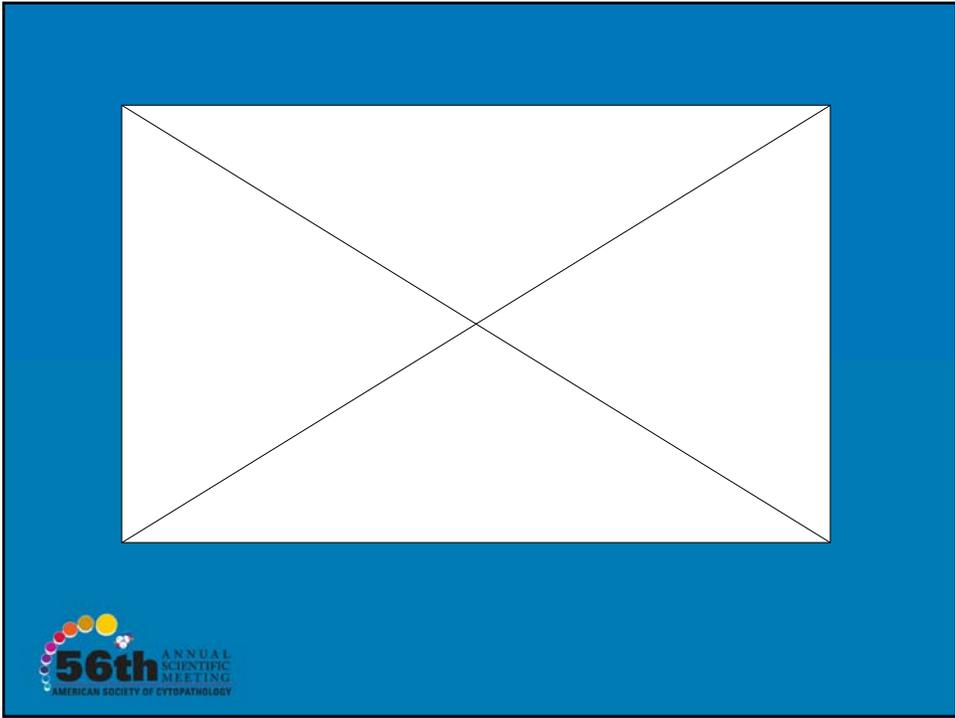
- Help students develop flexibility
  - Eliminate 'silo' mentality from the start
  - Help them see Cytology (morphology) as one unique tool in their skill set
  - Easier with GenNet mindset



## Collaboration Can Help

- Educators need to collaborate to ease the workload, share ideas and resources
- One way to do that is with a wiki





## To Join the CytologyEd wiki

- Respond to the coming invitation to everyone on the educators' list serve

OR

- Email me at [martyboes@gmail.com](mailto:martyboes@gmail.com)



## Basic Questions to Ask

- What is our program's charge?
- Who does the program serve?
- Are we successful?
  - How do we know? What about future?
- Conduct SWOT
- Build on program strengths
- Build a base of support and financial partnerships wherever possible



# Be Flexible



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