

## Using Newest Generation Laboratory Automation to Reduce Operational Costs by as Much as 20%



Marilyn Nelson, MBA, MT(ASCP)  
Director of Laboratory and Cardiac Services  
Ingalls Memorial Hospital  
Harvey, IL



## Ingalls Health System

- **System Facts**
- 37-acre main campus, 30 minutes south of downtown
- DNV Accredited - Licensed for 563 beds
- 4 Ambulatory Family Care Centers: Matteson, Tinley Park, Calumet City and Flossmoor – Include physician offices, state of the art outpatient diagnostics, Same Day Surgery at Tinley
- Outpatient Rehabilitation, Calumet City; Ingalls Wellness Center, Homewood
- Urgent Aid Centers in Flossmoor, Tinley Park and Calumet City for 24/7 minor emergencies
- Medical Staff of more than 450 physicians across 30 different medical and surgical specialties



## Ingalls Health System Recognition



## Ingalls Health System Recognition

- U.S. News nation's best hospitals list seven years in a row for Neurosciences
- Forbes: America's Safest Hospitals recognition
- Ingalls Earns Perfect Score in Breast Cancer Accreditation Process
- Blue Cross/Blue Shield Recognizes Ingalls for Exceptional Spine, Knee, and Hip Surgeries
- Ingalls Center for Rehabilitative Medicine Awarded 7<sup>th</sup> Consecutive Three Year CARF Accreditation
- Designated Primary Stroke Center since July 2008

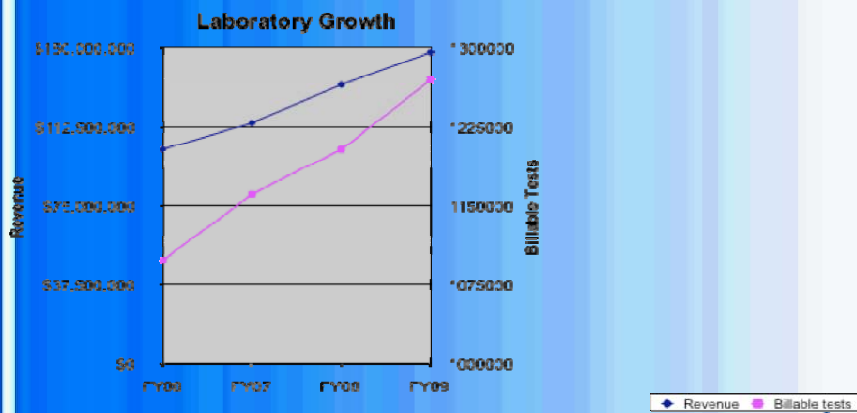


## Ingalls Laboratory

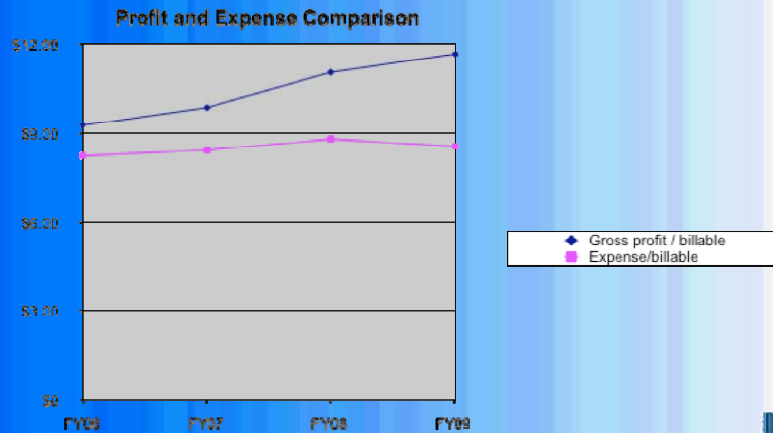
- Active Laboratory Outreach Program
- 1.3 M billable tests per year
- 2 M + Chemistries and Immunochemistries combined
- FY '09 Gross Outpatient Revenue \$82M
- 98 FTE's plus 11 FTE's to support call center, sales, billing, and mobile radiology
- Implemented automation in 2005 to include chemistry and immunochemistry



## Volume and Revenue Growth



## Profitability



## Why Change Now?

- Technological advances
- Opportunity for cost savings – Chemistry reagent expense was 14% of overall Lab budget
- Aging instrumentation requiring more maintenance and downtime
- Expiration of current 5-year agreement
  - Extend lease
  - New agreement
  - Switch vendors



## Evaluation of Progress To Date

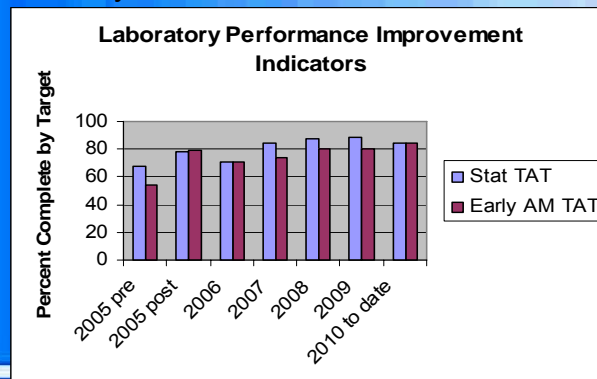


- 1<sup>st</sup> generation automation resulted in
  - Improved turnaround time for stats: from 33% outliers to 15% outliers
  - Improved turnaround time for early am: from 27% outliers to 16% outliers
  - Staffing reduction - technical and non-technical
  - Collect and receipt by automation
  - Consolidation of instruments



## Laboratory PI Indicators

- Automation implemented in May 2005
- In 2006, Stat TAT changed from w/i 1 hour of receipt in lab to w/i 45 minutes of receipt in lab
- Early am TAT represents percentage of defined tests available by 8 am



## Existing Instrument Performance and Reliability

- Minimal downtime – assurance that service records agree
- High throughput to meet peak periods
- User friendly – everyone's a super-user
- Reliable service staff for preventive maintenance and as needed
- Modular – system can run independently as instruments go off-line



## Primary Desired Improvements

- Additional centrifuge
- Additional instruments connected to the automation line
- Ability to connect coagulation
- Faster and greater throughput
- Decreased testing time for cardiac markers
- Broader menu
- Auto calibration and controls
- Consolidation opportunities



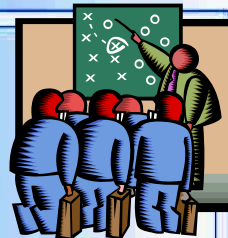
## Selection Process for Decision

- Form selection team
- Define rules for process
- Determine criteria for selection
- Develop scoring grid
- Target date to complete selection process determined
- Invite prospective vendors - communicate plan
- Final 2 vendors to be negotiated with by management



## Staff Determined Criteria

- Minimal/ease of maintenance
- Adequate menu/ open system
- No reagent prep
- Load/unload reagent at will
- Small sample volume
- Infrequent and easy calibration
- Handles multiple tube sizes
- Ease of troubleshooting
- Auto repeat and dilutions
- Minimal downtime for PM's
- In-house training
- Onboard sample integrity checking
- Plasma required for most tests
- Add on tests while running



## Management Criteria

- Achieve annual cost savings in excess of 10% across system
- Potential to connect coagulation to automation line
- Solution must include Family Care Center labs as well as core lab
- No hidden ongoing costs associated with decision
- Vendor must meet our timeline for change
- Must provide seasoned implementation team



## Work Flow Consultations by Vendors

- Each participating vendor studies workflow and prepares report as part of engagement
- Useful information to identify opportunity to improve at multiple points
- Data sharing
- How to evaluate the reports
- Good source of “free” consulting
- Helps identify and communicate the problems and solutions





## Working the Selection Process

- Team meets regularly at decision points
- Demos, reference calls, site visits take place
- Scoring is objective, weighted
- All parties get regular communication on status of progress
  - Vendor
  - Administration
  - Pathologists
  - Purchasing
  - Front-line staff



## Narrowing the Choices

- Need to have two finalists for negotiating power
- Verify the facts in hand
- Communicate decision quickly and effectively
- Honesty with all parties is important
- Keep decision objective and quickly move forward with selection process



## Presentations and Proposals

- Include all necessary parties at final presentations
- Administration is not always required
- Compile list of questions – be sure all get answered to your satisfaction
- Keep your eye on THE GOAL
- Rework the math, scrutinize the details
- Don't let flash substitute substance
- Send the vendors back to work



## Evaluating Financial Options

- Capital purchase, capital lease, rent to own, reagent rental, direct or bundled leases
- Look for hidden costs
- Evaluate different configurations or instrument and automation component options
- Can costs be reduced by keeping or adjusting any current instruments
- Work with Purchasing Department and GPO to determine if there are additional available (Premier Ascend)
- Length of contract



## Negotiations

- Give deadline for final offer
- Do homework to validate information
- Place value on integrity
- Include service agreements in cost analysis
- Identify system-wide volume to be included in proposal
- Interface and IT requirements- contractual allowances
- Technology upgrades included
- Implementation team requirements



## Effective Cross-Function Decision Making

- Finance, Purchasing, Administration, Laboratory, Plant Operations, Legal
- Contract review
- Is long-term goal being met?
- Any missed opportunities?
- Create list



## More Negotiations

- Give each vendor their last opportunity to speak
- Determine if items such as freight, service , water expenses have all been covered or not
- Identify any last minute changes to the proposal, get contract revisions
- Decision made regarding who should be involved in final conversations (i.e. CFO, VP)



## Communicating the Decision

- To Staff – give them credit
- Outside Lab when applicable (depending on how widespread change will be)
- To the FINAL TWO
  - Face to face if at all possible
  - Remain honest
  - Share facts that will help either in their business
  - Keep relationship door open to the future
  - Never bad-mouth the competition
  - Thank-you



## Implementation Plan

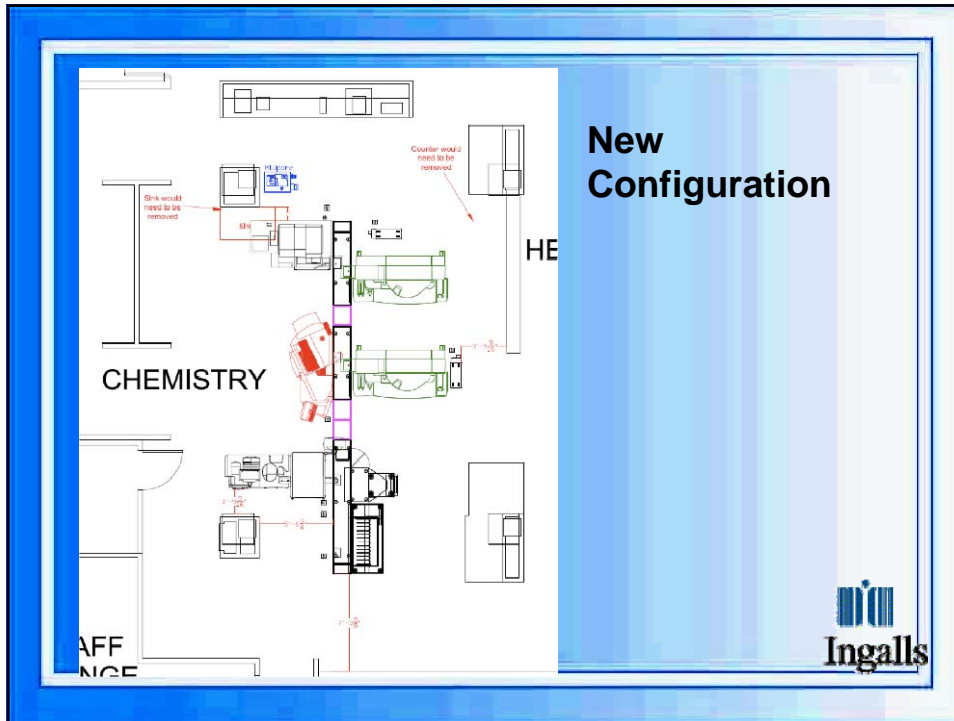
- Construction requirements completed
- Training schedule
- Add allocation of training hours to FTE budget
- Installation and validation of instruments
- Down-time plan
- Connecting to the automation line
- Calculate savings based on meeting timelines!



## Estimated Timeline for Ingalls – Vista / StreamLab Project


Pre-Installation Meeting	Week 1 April 26th	Week 2 May 3rd	Week 3 May 10th	Week 4 May 17th	Week 5 May 24th	Week 6 May 31st	Week 7 June 7th	Week 8 June 14th	Week 9 June 21	Week 10 June 28th
3/22										
4/12	Plumbing, Electrical and Lab Renovations should be completed	Vista 1500 hardware Install Begins	Vista 1500 hardware Install continue	TAS Vista Validation Begins Ziv Schultz	TAS Vista Validation continues Ziv Schultz	TAS Vista Validation continues Ziv Schultz	TAS Vista Validation continues Ziv Schultz	TAS Vista Validation continues Ziv Schultz	TAS Vista Validation continues Ziv Schultz	Estimated Vista Go Live YEAH!!
	Arrival and Installation Of EasyLink		Jerrold Aquino Vista Training Delaware	Michele Hughes Vista Training Delaware	TAS Vista Validation continues Ziv Schultz		Fran Willis Vista Training Delaware	Vista Simulator Training		
	Vista initial order arrives				Unknown Vista Training Delaware					





## Success Measures

- Did implementation team get started immediately? Present clear project plan? Finish on time?
- Have staff and management expectations been realized? How early?
- Unexpected costs arise?
- PI indicators quickly move in right direction?
- Full ongoing support, exceed expectations?



Ingalls

## Next Steps

- Monitor cost savings – in line with go-live of each phase of implementation
- Family Care Centers
- Coagulation selection team forms – final decision on instrument (on or off automated line?)
- Measure, communicate, and celebrate successes
- Watch for opportunities for additional in-house testing as menu of approved tests expands
- Allergy Testing



## Summary

- Start the process with understanding of reasons for change and clearly define goals that MUST be met
- Involve staff in the process, keeping it as objective as possible
- Consider your organization and your laboratory's individual characteristics in creating criteria the selection must meet
- Use the workflow reports provided by the vendors
- Involve all necessary parties during the negotiation process, particularly related to financials
- Have a structured implementation
- Know what your success measures will be and follow them closely



**Questions ????**

**Contact:**

**Marilyn Nelson**

**708-915-5771**

**[mnelson@ingalls.org](mailto:mnelson@ingalls.org)**

