



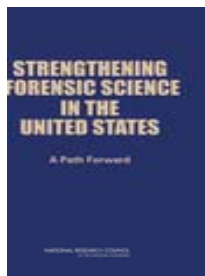
Leadership Best Practices: Developing the Next Generation of Lab Managers

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Northeast Regional Forensic Institute
(NERFI)



Strengthening Forensic Science in the United States: A Path Forward



“Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support.”

It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application.”

Committee on Identifying the Needs of the Forensic Sciences Community; Committee on Applied and Theoretical Statistics, National Research Council

The American Society of Crime Laboratory Directors
"Excellence Through Leadership in Forensic Science Management"

Northeast Regional Forensics Institute

SHIPPENSBURG UNIVERSITY

NEW YORK STATE POLICE

AMERICAN SOCIETY OF CRIME LABORATORY DIRECTORS 37th ANNUAL SYMPOSIUM
"Leading the Future of Forensics: Creating Collaborative Partnerships"
ANAHEIM, CALIFORNIA
SEPT 13-17, 2009

Purpose & Importance

- Leadership "Best Practices" for area of great need and critical change in society
- Technology-intensive jobs
- Demonstrate science-practice partnership



A Case Study of Forensic Scientist Turnover

Managing Intellectual Capital

Critical Human Resource Issues



Empowering Leaders in Organizations



Case Study of Forensic Scientist Turnover

- Large Northeastern state forensic lab system
- Implemented new staffing model
- 53 forensic scientists hired year of study
- Looked at retention of new recruits

Selection System Phases

- 1000+ applicants
- 750 previous job experience/relevant degree
- 400 interviews
- 300 background check
- 150 drug, polygraph, integrity tests
- 53 hires

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New 2-Tiered Staffing Model

- Scientists train apprentice-type program
 - 38 of 53 positions filled by technicians
 - Within one year, 16 new hires left organization
- | |
|---------------------------------------|
| Proposed Savings: \$1m |
| Turnover Costs: \$850k (conservative) |
- Reviewed exit interviews
 - Re-contacted lost employees

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Reasons That Forensic Scientists Leave

- Personal reasons (spouse, family issues)
- Salary
- Career advancement
- Pursue advanced degree
- Better facilities elsewhere

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Lessons Learned

- Employee turnover is costly
- Realistic Job Previews (RJPs) critical
- Strategies for employee retention?

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Critical Human Resource Issues: Scientists Under Pressure

National Survey

Document basic staffing issues in public crime labs

Retention strategies

Lab capacity / level of outsourcing

Performance pressure on scientists / capacity

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Method

- Web-based survey
- 250 American Society of Crime Laboratory Directors (ASCLD)
- 46 items grouped into six sections: demographics, caseload, recruitment, turnover, retention and performance issues
- Reminder email two weeks after the initial request
- Follow-up phone interviews

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Survey Results

- 55 responses (22%)
- Populations served range from 59,000 to 22 million
- Average system 5.4 labs
- Pay (non-supervisor scientists) \$28,800-116,000; average \$59,087.
- Age of oldest case 0 to 480 months; average 28 months.

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Survey Results ...	Percentage	
	Yes	No
Do you ... measure productivity?	89.6	10.4
Provide career development opportunities?	86.4	13.6
Need more tools to increase productivity and quality?	82.0	18.0
Have interns?	80.4	19.6
Are retention methods successful?	77.5	22.5
Lose scientists to public sector?	56.3	43.8
Lose scientists to private sector?	48.0	52.0
Have multiple labs?	46.8	53.2
Maintain a DNA convicted offender databank?	45.9	54.1
Have shadow programs for students?	45.7	54.3
Is turnover a problem?	34.0	66.0
Would send more cases to private labs if had the funding?	28.9	71.1
Have a sufficient number of scientists needed?	21.2	78.8
Have shortage of applicants?	8.0	92.0

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Pressure to Perform Increases With # Cases

Forensic scientists are pressured to complete cases in a timely manner	.282*
Forensic scientists are pressured to complete cases too quickly	.391**
Forensic scientists are pressured to get a particular result	.355**

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

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Lessons Learned

- First national survey to attempt to identify critical staffing issues faced in public forensic science labs
- Serious staff shortages
- Labs need additional scientists to meet our standard of one scientist per 30,000 population.
- Relationship between current staff capacity and amount of outsourcing cases to private labs.

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Lessons Learned

- Interestingly, in many cases one would predict that as productivity increases, the pressure to complete a case would decrease.
- However, we found relationship between capacity and pressure to perform
- Vicious cycle; as capacity increases ... having time/resources decrease:
 - having the proper equipment to do the job
 - having enough time to perform the job
 - having adequate resources to do the job
 - having enough time to prepare for courtroom testimony

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Discussion

- Two major reasons for scientist turnover
 - personal reasons and salary
- This is cause for concern, as public labs typically have extensive recruitment phases; in larger organizations, recruitment and selection take as long as 12 months to cycle through.
- Identified retention strategies
 - hire people with a link to the local area
 - provide flexible work hours
 - further education
 - train scientists in multiple disciplines
 - opportunity to transfer to other labs

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Limitations

- Non-response error
- Email surveys vs traditional mail surveys
- Common method variance. Study variables measured using single-source, self-reports

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Managing Intellectual Capital

- Performance Measures:
 - If you can Measure it, you can Manage it
- Forensic Advisory Board

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Recommendations

Employee Performance Measures

1. Cases/items analyzed per scientist/per project team/per laboratory
2. Ratio of local, state, and national ballistic hits in the National Integrated Ballistics Imaging Network per firearms examiner and per capita of service region
3. Ratio of local, state, and national latent fingerprint hits in the Automated Fingerprint Identification System per fingerprint examiner and per capita of service region
4. Ratio of local, state, and national DNA hits in the Combined DNA Index System per DNA scientist and per capita of service region
5. Ratio of technical support personnel per capita of service region (1 FS/30,000 pop)
6. Total cost of analyses per case and per item (\$750/standard DNA profile)
7. Total cost of errors, for example, rework
8. Employee turnover
9. Quality system measures, including:
 - a. Number of corrective actions
 - b. Number of types and frequency of corrective actions per discipline over time
 - c. Number of errors per case, per item
 - d. Timeliness of analyses
 - e. Total backlog

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Forensic Advisory Board

- Simulates private sector Board; creates surrogate for natural movement
- Steve Kerr (Goldman Sachs) moved managing directors onto boards, created joint venture with Harvard to give people board training, set up action experiments, job shadowing (ex: Hewlett-Packard)
- Intellectual capital from experienced active and retired professionals various disciplines & academia; regular audits using ASCLD/LAB criteria;
- Review meetings as follow-up for corrective action; regular phone calls, emails, creates new organizational culture of collaboration between staff and advisory group

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Implications/Future Research

- Increased reliance on private labs raises several critical questions.
 - Trends toward outsourcing and privatization impact public labs?
 - Will public labs outsource only the routine, redundant cases? Or will continued budget shortfalls ultimately bring about a downsizing or even the demise of public labs?
 - Should a different pay structure be implemented for DNA analyses that take these issues into consideration?
 - Should a price be put on DNA analyses that can include or exclude a defendant or free a convicted offender?
- We hope to continue dialogue in the forensic science community for these important issues.

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Empowering Next Generation of Leaders

- Psychological Empowerment - *perception that we can determine our own work role, accomplish meaningful work and influence important decisions*
- Few organizations achieve
- Benefits: increased commitment, quality, Innovation, job satisfaction, better decisions

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Facilitating Conditions Empowerment

Condition	Unfavorable	Favorable
Org Structure	Highly centralized formal structure; low cost, standard product or service	Decentralized and low formalization; customized, highly differentiated product or service
Org culture	Reliable, efficient operations do not allow mistakes; internal politics, criticism of new ideas; destructive internal competition; avoidance of risk; overemphasis on status quo	Flexibility, learning, participation; fair, constructive judgment of ideas; reward and recognition; mechanisms for developing new ideas; an active flow of ideas; and shared vision
Job design	Simple, repetitive tasks with technology dictating workflow; brief customer transactions that take place in a short time interval	Complex, non-routine and challenging tasks; flexible technology; repeated customer interactions in a continuing relationship
Access to resources	Resources are scarce or non-existent	Access to appropriate resources, funds, materials, facilities, and information

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Employee rewards and ownership	None or very little	Employees shareholders or co-owners & invested in organization's success
Employee traits and skills	Low achievement motivation; low self confidence; and an external locus of control orientation	Low skill employees benefit more from empowerment efforts; employees with high need for achievement; high self confidence and self efficacy; and an internal locus of control orientation
Autonomy	Employees lack freedom in deciding how work is done and lack control over work	Employees have freedom deciding what work to do & how to do it; employees have a sense of control over work
Mutual trust	Low	High
Leaders as role models	Leaders do not model empowering behaviors	Leaders serve as role models, set appropriate goals, support work group, value individual contributions, show confidence

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Guidelines for Participative Leadership

How to diagnose decision situations

- Evaluate how important the decision is
- Identify people with relevant knowledge or expertise
- Evaluate likely cooperation by participants
- Evaluate likely acceptance without participation
- Evaluate whether it is feasible to hold a meeting

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How Leaders Encourage Participation

- Encourage people to express their concerns
- Describe a proposal as tentative
- Record ideas and suggestions
- Look for ways to build on ideas and suggestions
- Be tactful in expressing concerns about a suggestion
- Listen to dissenting views without getting defensive
- Try to utilize suggestions and deal with concerns
- Show appreciation for suggestions

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Empowering Leaders to Delegate

- Tasks that can be done better by a subordinate
- Tasks that are urgent but not high priority
- Tasks that are relevant to a subordinate's career
- Tasks of appropriate difficulty
- Both pleasant and unpleasant tasks
- Tasks that are not central to the manager's role

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Empowering Leaders to Delegate

- Specify responsibilities clearly
- Provide adequate authority and specify limits of discretion
- Specify reporting requirements
- Ensure subordinate acceptance of responsibility
- Inform others who need to know
- Monitor progress in appropriate ways
- Arrange for the subordinate to receive necessary information
- Provide support and assistance, but avoid reverse delegation
- Make mistakes a learning experience

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General Guidelines for Empowering Leaders

- Involve people in decisions that affect them
- Clarify goals and objectives and explain how the work is related
- Delegate responsibility and authority for important work activities
- Take into consideration individual differences in ability and motivation
- Provide access to relevant information
- Provide the resources needed for new work responsibilities
- Realign management systems consistent with empowerment principles
- Remove bureaucratic constraints and unnecessary controls
- Express confidence and trust in people
- Provide coaching and advice on a timely basis
- Encourage and support initiative and problem solving
- Recognize important contributions and achievements
- Ensure that rewards are commensurate with new responsibilities
- Ensure accountability for the ethical use of power

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How Leaders Enhance Organizational Learning

- Question traditional methods; look for more effective methods
- Articulate inspiring vision to gain support for innovations
- Encourage & facilitate acquisition new skills
- Help develop shared mental models about cause-effect relationships
- Encourage social networks facilitate shared knowledge
- Help people recognize when important learning has occurred
- Gain external support funding major initiatives
- Encourage experiments
- Encourage after activity reviews
- Recognize when initiative is failing & should be aborted
- Create decentralized subunits with authority

Source: Yukl, G. (2009) Leading organizational learning. *Leadership Quarterly*.

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Additional Strategies Developing Leaders

- Skills assessment
- Assessment centers
- Tuition-refund or assistance plans
- 360-degree multiple rater feedback
- Job rotation
- Stretch assignments
- Mentoring

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Criteria for Successful Leader Development Program

1. Extensive involvement of CEO
2. Clearly stated development policy
3. Leader development link to business strategy
4. Annual succession-planning process and on-the-job developmental assignments
5. Line managers responsible for the program

Source: Fenwick-Magrath, J.A. (1988). Executive development: Key factors for success. *Personnel*, 7, 68-72.

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Stretch Assignments

- Revitalize or advance stagnant career
- Provide real, high-stakes work experience in safe environment
- Help leverage talent to develop new skills or connect with new stakeholders
- Function beyond current role; identify mentor to help develop learning goals, engage in assignments that are challenging and bring some exposure

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Job Rotation/Job Sampling

- Examples:
 - Apple Computer: fill in for employees on sabbaticals
 - Xerox, American Express, Wells Fargo & Co: employees paid while working for charitable organizations

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Mentoring

- Formal relationship between junior and senior colleagues or peers
 - Career function (sponsor, coach, “protect” the colleague; establish important contacts and resources; assign challenging work)
 - Psychosocial function (role model, counseling, acceptance and confirmation of colleague, friendship)

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Mentoring

- Outcomes of mentoring
 - Objective (promotions, compensation)
 - Subjective (career satisfaction)
- Objective measures more strongly related to career mentoring (because it is task-based) than psycho-social

Source: Allen, T.D., Eby, L. T., Poteet, M. L., Lentz, E. & Lima, L. (2004). Career benefits associated with mentoring for protégés: A meta-analysis. *Journal of Applied Psychology*, 89, 127-136.

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References

Becker, W. S., Carbo, J. A. II, Esq., & Langella, I. M. (under review). Beyond self-interest: Social responsibility, supply chains and sustainability.

Becker, W. S. (2009). Self-directed work teams. *Human Resource Encyclopedia*, Pfeiffer.

Dale, W. M. & Becker, W. S. (2007). *The Crime Scene: How Forensic Science Works*. NYC: Kaplan.

Becker, W. S., & Dale, W. M. (2007). Critical human resource issues: Scientists under pressure. *Forensic Science Communications*, 9, 2.

Becker, W. S. (2007). Missed opportunities and the Great Bear Wilderness Disaster. *Organizational Dynamics*, 36, 4, 363-376.

Yukl, G., & Becker, W. S. (2006). Effective empowerment in organizations. *Organization Management Journal*, 3, 3, 210-231.

Becker, W. S. (2006). In the crime lab. *The Industrial-Organizational Psychologist*, 43, 4, 21-27.

Dale, W.M.& Becker, W.S.(2005). Managing intellectual capital. *Forensic Science Communications*, 7, 4.

Becker, W. S., Dale, W. M., Lambert, A., & Magnus, D. (2005). [Commentary] Forensic lab directors' perceptions of staffing issues. *Journal of Forensic Sciences*, 50, 5, 1255-1257.

Dale, W. M., & Becker, W. S. (2004). A case study of forensic scientist turnover. *Forensic Science Communications*, 6, 4.

Becker, W. S., & Dale, W. M. (2003). Strategic human resource management in the forensic science laboratory. *Forensic Science Communications*, 5, 4.

Dale, W. M., & Becker, W. S. (2003). Strategy for staffing forensic scientists. *Journal of Forensic Sciences*, 48, 2, 465-466.

Questions ?

