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Retention Strategies for Medical Technologists:  
Addressing the Shortages and Vacancies in the Clinical Laboratory

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A thesis  
presented to  
the faculty of the Department of Allied Health Sciences  
East Tennessee State University

In partial fulfillment  
of the requirements for the degree  
Master of Science in Allied Health

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by  
Kathy Small  
December 2013

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Dr. Randy Byington, Chair

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Dr. Susan B. Epps

Keywords: Clinical Laboratory Scientists, Medical Technologists, Medical Laboratory Scientists, retention, turnover rate, Laboratory Director, Laboratory Manager

## ABSTRACT

Retention Strategies for Medical Technologists:

Addressing the Shortages and Vacancies in the Clinical Laboratory

by

Kathy Small

It is important to have well-trained and qualified laboratory professionals. Seventy percent of patient care is based on decisions made from laboratory results, yet there is a growing shortage of medical technologists. Although some baby boomers are delaying retirement, worsening of the shortage crisis is inevitable. Retention of medical technologists has become more important than recruitment. The purpose of this study was to identify and evaluate innovative retention strategies used by clinical laboratory managers throughout the United States.

A significant finding of this study was the lack of qualified medical technologists entering the ranks of laboratory managers. This study identified a need for a more defined career path and more recognition of the importance of laboratory scientists. It is recommended that studies be undertaken to examine the opinions of hospital and medical group practice administrators as well as the view of medical technologists regarding retention strategies that are proven to be effective.

## DEDICATION

I dedicate this thesis to the many friends and family members who gave me the encouragement I needed to complete this program. I give a special dedication to my 90 year old mother who has always been my number one supporter.

## ACKNOWLEDGEMENTS

There are many people who made this thesis possible. First and foremost I am indebted to Dr. Randy Byington, my committee chair. Without his encouragement, guidance, support, and patience it would not have been possible to complete this thesis. I also thank Dr. Esther Verhovsek and Dr. Susan Epps for their input and guidance through this process. I am also grateful to Mary Ruth Richards, my supervisor and mentor, for allowing me to take time away from the job when necessary to do what I needed to do to complete this program.

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## CHAPTER 1

### INTRODUCTION

The demand for laboratory professionals far outweighs the supply available. The ranks are dwindling as retirement brings a mass exodus of baby boomers from the work force and there are no reinforcements (Malone, 2011). Laboratory directors are struggling to fill positions.

There are many facets to the current shortage of well trained and qualified laboratory personnel. The U.S. Bureau of Labor Statistics (BLS) predicted that by 2014, approximately 81,000 technologists and technicians will be needed to fill spaces left by retirees (BLS, 2010). There is a lack of public visibility of professions within laboratory medicine as well as limited opportunities for advancement for those who currently work in the profession. Training programs for medical technologists have closed. Some believe that the Clinical Laboratory Improvement Amendments (CLIA) of 1988 may have played a part in the personnel shortage. CLIA relaxed the educational requirements for those permitted to perform laboratory testing depending on the complexity level of the testing performed (American Society of Clinical Pathologists), thus, allowing laboratory managers to hire previously unqualified individuals at lower wages (ASCP, 2009). Additionally, laboratories' continuing education, operating, and capital budgets have been cut. These factors, as well as the aging baby boomers nearing retirement age, contribute to the critical shortage (Malone, 2011).

For those working in the nation's clinical laboratories, working without fully staffed departments has become the norm. In addition to the staffing shortages, the volume of laboratory testing continues to increase and quality laboratory results are expected by the health care staff and patients. Information from laboratory testing accounts for up to 70% of the objective data in the medical record for patients (Kaplan & Burgess, 2010).

Many variables contribute to a work environment that leads to an increased retention of employees. Fried and Fottler (2011) stated that there is no longer the employee commitment that at one time was the norm. Likewise, there is no longer an employer commitment to employees that was once the norm. Employees seek to balance their professional and personal lives and various factors influence the decision of an individual contemplating a change in their work environment. Factors that are taken into consideration include personal and lifestyle factors, financial considerations, working conditions, management styles, professional advancement opportunities, geographical location, and workplace safety (Fried & Fottler, 2011).

Every organization faces different challenges in its efforts to retain valued employees. The success of a retention program depends on the ability of the organization to correctly determine the causes of turnover and to enact strategies that appropriately target these causes. (Fried & Fottler, 2011, p. 229)

Malone (2011) quoted Glenn, CEO of Pathology Services in North Platte, Nebraska as saying “Retention is as important, if not more important, than recruitment because once you get a good person, you want to keep them. And the most important element in retention is the employer-employee relationship” (p. 2).

### **Background of the Problem**

The growing shortage of medical technologists (MTs) is a clearly defined problem. This shortage has caused laboratory directors to develop creative methods to staff laboratories and the lack of action taken by human resources managers in response to this shortage has resulted in ineffective retention strategies.

## **Research Questions**

1. What retention strategies are being used by laboratory directors to mitigate staffing shortages within the clinical laboratory?
2. Are there certain strategies that are more unique and innovative than others?

## **Significance of Study**

The clinical laboratory staff plays a crucial role in overall patient care. The medical technologist performs testing that assists physicians in the detection, diagnosis, and treatment of diseases. It is crucial to patient care that there is an adequate supply of properly educated and trained medical technologists to continue to provide quality patient care.

## **Purpose of Study**

The purpose of this study was to evaluate different methods for improving retention used by the leaders in clinical laboratories throughout the United States. The study was intended to identify and investigate the most unique and innovative methods for retention and to assist laboratory and human resource managers as they develop policies that reduce turnover.

## **Delimitations**

This research was limited to clinical laboratories throughout the United States that are determined to be using unique and innovative strategies of retention. While other professionals work in the clinical laboratory, the research is limited to medical technologists.

## **Limitations**

Results of this research were based on the participation of individuals interviewed.

## **Assumption**

It is assumed that information provided by the hospital laboratory directors is accurate.

## **Operational Definitions**

Clinical Laboratory Scientist: Interchangeable title for Medical Technologist (Chapman, Franks, & Lindler, 2005).

Medical Technologist: An individual who has earned a bachelor's degree in Medical Technology from an accredited college or university or a bachelor's degree in a life science followed by additional training in medical technology from an accredited training program (Williams & Lindbergh, 1975).

Medical Laboratory Scientist: An interchangeable title for Medical Technologist (Kaplan & Burgess, 2010).

Employee Retention: The act of retaining current employees (Fried & Fottler, 2011).

Turnover: The number of employees who have left an organization in relation to the number who have stayed. The turnover can be either voluntary (when an employee chooses to leave) or involuntary (when the employer initiates the separation) (Fox, 2012).

Laboratory Director: The individual responsible for the overall operation and administration of the laboratory, including the employment of competent qualified personnel (Clinical Laboratory Improvement Amendments, 2006).

Laboratory Manager: An interchangeable title for Laboratory Director. A Laboratory Manager may also be an individual laboratory section manager that reports to the Laboratory Director. They are all a part of the laboratory management team.

## CHAPTER 2

### LITERATURE REVIEW

The role of medical technologists in human health can be traced to 1500 B.C. when the identification of intestinal parasites was first performed. This identification required a sophisticated knowledge and is handled today in the parasitology department of the clinical laboratory. The writings of Hippocrates (460-370 B.C.) indicated he had knowledge of diseases including tuberculosis, malaria, mumps, and anthrax. During the Medieval period (1096-1438) diagnosis of disease states were made by evaluating the appearance and odor of urine. There were many other discoveries and inventions such as the microscope that led to improved laboratory testing and laid the ground work for the development of the clinical laboratory that we know today (Williams & Lindberg, 1975).

Medical technology has been defined as “the application of principles of natural, physical, and biological sciences to the performance of laboratory procedures which aid in the diagnosis and treatment of disease” (Williams & Lindberg, 1975, p. 1). Complex and moderately complex laboratory procedures are performed in a clinical laboratory by medical technologists, individuals who play a vital but often overlooked role in the health care system. They help detect and diagnose disease states as well as monitor the progress and results of treatment. They also examine and analyze body fluids, cells, and tissues and help prepare blood products for transfusion and assure the proper selection of those products. Most patients relate the laboratory to the person who draws their blood and are generally unaware of the individuals behind the scenes who analyze those specimens using automated techniques as well as complex visual analysis (Chapman, Franks, & Lindler, 2005). Approximately 70% of patient care decisions

made by physicians are based on results provided by the clinical laboratory (Kaplan & Burgess, 2010).

### **Medical Technologist Education**

The entry level education of a medical technologist or medical laboratory scientist is usually a bachelor's degree in Medical Technology or Clinical Laboratory Science. This is an intense and rigorous program similar to that of a premedical curriculum that includes courses in biological science, chemistry, and mathematics. Completion of a National Accrediting Agency for Clinical Laboratory Science (NAACLS) accredited Medical Laboratory Science program is also a requirement (ASCP Board of Certification, 2012). The American Society for Clinical Pathology offers certification for the laboratory professionals (Kaplan & Burgess, 2010).

### **Medical Technologist Shortage**

There has been discussion for many years regarding the shortage of medical technologists. While somewhat dated, *The Health Manpower Source Book* forecasted that by 1980 there would be a 28% shortage of laboratory technologists. It was indicated at that time that the number of graduates from AMA approved Medical Technology programs was not keeping pace with the growing work force needs (Williams & Lindberg, 1975). The Bureau of Labor Statistics (BLS) estimated 13,200 new medical technologists would be needed yearly through 2010 to replace retiring workers and to meet the rising demands for laboratory testing (Becker, 2003). In the *Occupational Outlook Handbook*, 2010-2011 edition, the Bureau of Labor Statistics projected that job opportunities for laboratory professionals would increase by 14% between 2008 and 2018, and that the number of job openings would continue to exceed the number of job seekers (BLS, 2010).

The American Society of Clinical Pathologists (ASCP) has conducted a biennial wage and vacancy survey since 1988. In the 2009 survey the overall vacancy rate for staff level certified medical technologists was 10.4%. This was the highest of all the surveyed positions (ASCP, 2009). The 2011 vacancy survey collected staff and supervisory level data. According to the 2011 survey, vacancy rates across the nation were highest for blood banking (11.6%), histology (9.81%), and chemistry (8.62%) (ASCP, 2011).

One factor that influences the supply of clinical laboratory workers is the number of new graduates. However, the number of clinical laboratory science programs has been declining since 1975. There were 791 MT programs in 1970 and by 2003, approximately 70% of these programs had closed leaving only 240 programs in the country. There are many factors that contributed to the closures, including the decreased attractiveness of the career choice, the advent of prospective payment systems (PPS), and budget cuts. Most of the closed programs were hospital-based (Chapman et al., 2005).

Data from NACCLS indicates that nearly 25 hospital-based programs closed each year from 1995 to 1997. The advent of prospective payment systems (PPS) for hospitals, which changed their basic cost and revenue functions, is the most cited reason for the decline of hospital-based clinical laboratory training programs. Therefore, the revenue that had previously been used to support training was no longer available (Chapman et al., 2005).

The supply of clinical laboratory scientists is decreasing in contrast to other health professions. For example:

- From 1975 to 2005, nearly 500 accredited MT programs were closed across the country and the number of graduates fell from 6,121 to 2,070 during the same time period (Kibek, 2008).

- The American Society of Clinical Pathology Board of Registry 2003 survey indicated 72% of the laboratory workforce was 40 years of age or older, with the majority close to retirement (Bennett, 2008).
- Nearly one half (43%) of all clinical laboratories nationwide struggle to hire laboratory personnel (Bennett, 2008).
- The US Bureau of Labor Statistics (BLS) projects that by 2014, an additional 81,000 technologists and technicians will be needed to replace retirees; 68,000 will be needed to fill new positions (Kibek, 2008).
- The BLS estimates a 17% growth rate in the field of clinical laboratory science. They also estimate that there are 167,000 medical technologists employed today in the United States and that by 2016, 21,000 more will be needed. The U.S. Department of Health and Human Services predicts an additional 138,000 workers will be needed with only 50,000 expected to be trained in areas including phlebotomy and histotechnology (Kaplan & Burgess, 2010).

The staffing issue in hospitals is at a critical level. Much of the attention has been focused on nursing, however, other health care professions are experiencing shortages. The shortage appears to be getting worse and it is creating increased staffing costs and affecting access to care (McGuire, Houser, Jarrar, Moy, & Wall, 2003). The medical technologist shortage is a reality. Laboratory directors and human resources management must develop creative methods of retention for the staff they now have currently employed.

### **Turnover**

Employee turnover, the departure of employees from an organization, is a reality that is dealt with by managers and administrators. It can be voluntary turnover such as leaving for other



employment, personal reasons, or retirement, or it can also be the result of termination, layoffs, illness, or death (McConnell, 1999).

Every time an employee leaves a position there are direct and indirect costs such as recruitment, selection and placement costs, on the job training, and the possibility of separation costs. “Turnover consumes resources that could be much more appropriately applied in fulfilling the organization’s mission” (McConnell, 1999, p.7).

Working conditions contribute to high turnover rate of clinical laboratory workers. Because of the staff shortages and decreasing hospital revenues, the workers are expected to do more with fewer resources. Employees list salary, lack of recognition, poor benefits, and limited advancement opportunities as reasons for dissatisfaction and for why they are likely to leave the profession (Beck & Doig, 2005).

### **Retention**

With training programs closing down, baby boomers preparing to retire, and budgets being cut, laboratory directors and hospital administrators must develop creative strategies to retain employees. Retention of existing employees is as important as recruitment of new ones. Attracting a good employee is only part of the equation. Retaining them is the other part. With the obvious shortage of medical technologists in the field there is a need to study the retention practices of clinical laboratories (Malone, 2011).

There are numerous studies of retention programs and an abundance of theories as to what element is most important. Beck and Doig (2005) found that many employees left to take a new laboratory job or move for family reasons; however, the most important retention factor listed by the laboratory managers was salary. There has been little response from hospital

administrators in regards to the shortage of laboratory personnel. If the issue of salary is not addressed, laboratory employees will continue to leave (Beck & Doig, 2005).

Malone (2011) found that the employer-employee relationship was another retention element of importance. In another study, researchers found that while salary was important, what employees want is respect and recognition of their skills and the contributions they make to an organization. Satisfaction is a major factor in an employee's decision to stay or leave an organization and work environment goes hand in hand with job satisfaction (McQuire et al., 2003).

Current strategies to address the staffing shortages in the health care industry have focused on recruitment, as hospitals use incentives such as flexible scheduling, relocation or sign-on bonus, tuition reimbursement, and lucrative benefit packages to attract individuals to a particular position. However, health care organizations need to address retention strategies (McGuire et al., 2003). Anderson and Pulich (2000) argue that retention of existing employees in the clinical laboratory is as important if not more so than recruitment of new employees. Health care organizations must be actively committed to retaining valued employees. "At all organizational levels, an awareness must be demonstrated that human capital is truly the most valuable of assets in the health care equation. It must be carefully selected, nurtured, developed, accommodated, and especially, retained" (Anderson & Pulich, 2000, p. 58).

Further research and study of the retention strategies being used by laboratory directors could prove to be a valuable tool in understanding the dilemma faced by the clinical laboratory. The focus has to be taken off of the baby boomers who are preparing for retirement. The focus has to be on the upcoming generation and methods of retaining them as well as advancing them (Malone, 2011).

## CHAPTER 3

### METHODS

#### **Overview**

The information in Chapter 3 is an overview of this study's qualitative research design. It includes information concerning the study's population and procedures for data collection. The data analysis procedures are also presented.

#### **Research Design**

This research identified and examined innovative strategies used by laboratory managers throughout the United States for retention of medical technologists. The effectiveness of these innovative strategies was evaluated by reviewing and synthesizing data gathered from interviews of laboratory directors who are using innovations and who were identified for this study. The purpose of the research was to find the most innovative and unique methods for addressing retention of medical technologists. The research was designed to seek the more unusual strategies in order to better understand the complexities of successful retention.

Data informing this research was collected from in-depth interviews with laboratory managers. This method was chosen for several reasons. There is a need to understand the individual experiences and decision making of the different laboratory managers who are the most knowledgeable source of data regarding the study's subject. They are able to provide rich details of their unique strategies. "In-depth interviews are used to uncover feelings and attitudes an individual has regarding a specific experience" (Cottrell & McKenzie, 2011, p. 236). "The best time to use in-depth interviews is when the topic is complex, the respondents are knowledgeable, and understanding of individual experiences is needed" (Cottrell & McKenzie,

2011, p. 237). Laboratory directors understand the impact of the shortage of qualified medical technologists and the complexities of retaining them.

### **Population**

The study's population was limited to managers of clinical laboratories in the United States. This is a diverse, geographically dispersed population.

### **Participant Selection Process**

A notice of the pending study (Appendix A) was posted at the Clinical Laboratory Management Association (CLMA) Annual conference and copies were distributed at various vendor booths and education sessions at the conference. The invitation provided an explanation of the research and asked for volunteers to submit unique and innovative retention strategies for review. Once the approval was granted from the Institutional Review Board (IRB) of East Tennessee State University (ETSU), an invitation to participate in the study (Appendix B) was distributed by contacting the leadership of major CLMA Chapters (Greater Los Angeles Chapter, etc.), and by soliciting volunteers from those participating in popular social networking websites such as Facebook sites of the National CLMA organization and local and regional CLMA Chapters.

### **Data Collection Procedures**

Interviews were scheduled with willing participants. The interviews were conducted using phone conversations, as well as the more advanced technologies of Skype and Tango. The purpose of the study was explained as well as the potential impact that participants could have on improving the retention of medical technologists. An informed consent document (Appendix C) was provided to and/or read to the participants prior to the interview process. The interviews were audio recorded and I took notes as well. A summary of each interview was prepared from

the notes. The tapes and notes were reviewed at the end of each interview and a summarized report compiled. The daily interpretive analysis was important because as time passes, it becomes more difficult to reconstruct information, especially when there are particular insights unique to certain respondents. The daily interpretive analysis followed a format of three parts: (1) Record (2) Analysis (3) Conclusions and Concerns. Appendix D is the script of questions that guided the interview process. Based upon the responses, the researcher asked additional questions in concert with this qualitative data collection method.

### **Data Analysis Procedures**

The information gained through the interviews was interpreted according to its contribution to understanding the main objectives of the study.

In order to strengthen the validity of the study it was originally planned that once the data had been collected they would be reviewed by a local laboratory director and the chair of the study's research committee, both nationally registered medical technologists and licensed by the State of Tennessee as Clinical Laboratory Supervisors. The researcher, laboratory director, and study's chair were to rank the responses based upon their perceptions of innovation and upon their opinions of the likelihood of the strategy's potential for transferability. The resulting rankings were to be averaged and interviews yielding the highest rankings would be used to provide data for results and conclusions for the study. However, due to the small number of participants in the study, it was not necessary to review and rank the responses. The interviews were conducted and the responses were noted and are included in the next chapter.

## **Research Questions**

The following questions guided the research, and data from participating laboratory directors framed results and conclusions of the study:

Question 1: What retention strategies are being used by laboratory directors to mitigate staffing shortages within the clinical laboratory?

Question 2: Are there certain strategies that have been more unique and innovative than others?

## CHAPTER 4

### RESULTS

#### **Data Collection**

The purpose of this study was to evaluate different methods for improving retention of medical technologists used by the leaders in clinical laboratories throughout the United States. The study was intended to identify and investigate the most unique and innovative methods for retention and assist laboratory and human resource managers as they develop policies that reduce turnover.

An invitation to participate in the study was posted on Facebook sites for the Clinical Laboratory Management Association (CLMA), the CLMA Greater Los Angeles Chapter, CLMA Six Rivers, and the CLMA Minnesota Chapter for 6 weeks. After 6 weeks and repeated invitations to participate, there were no responses to the invitation. Participants were recruited for the study through referrals, direct contact, and e-mail. I asked for assistance from my Committee Chair because of the lack of response from the Facebook postings.

Information for the study was collected through one-on-one individual interviews with three laboratory directors from three different facilities. Their management experience ranged from 13 to 28 years. One of the participants had been at the same facility for 13 years, one for 34 years, and one for 36 years. Two of the participants were from Tennessee and one was from California. They all served in different aspects of laboratory management before becoming directors.

Once I got confirmation that an individual was willing to participate in the study, I scheduled an appointment with him or her. I explained the nature of the study and the time

commitment needed for the interview. The interview was set up for a time that was convenient for the participant and in a location that would offer privacy.

Before the interview began, I again explained the nature of the study and gained their verbal consent. I offered to provide them with a written consent form if they preferred; however each one declined. I explained that the interview would be tape recorded and that I would also be taking notes; however, no names or specific reference to a person or facility would be used. The names used for the participants in this study are pseudonyms. I answered any questions the participants had about the study and/or confidentiality. Once all of that was completed, I turned on the recorder and began the interview. When the interview was complete, I reviewed my notes and transcribed the recorded interview.

The research questions for this study were 1) What retention strategies are being used by laboratory directors to mitigate staffing shortages within the clinical laboratory? And 2) Are there certain strategies that are more unique and innovative than others? The findings section of this chapter is a compilation of the participants' words on how they are dealing with the medical technologist shortage in their own facilities and their thoughts and ideas on how to plan for the future.

### **Findings**

None of the participants were currently experiencing any affect from the shortage of medical technologists. Barb indicated that her facility had been affected by the shortage but that “at the moment we are not having a shortage. We have in the past and used recruiters to recruit from out of state that ended up not working out. We had to hire contract labor for a temporary period, but at the moment with some reduction in force, we have not had as much issue.”



Sally indicated that her facility had “no trouble hiring, but we’ve done some things to help it along.”

Fran’s comment was “Not dramatically at this point. We have a number of senior staff at this point in time. Of course, we are blessed with some local Medical Technician and Medical Technologist programs that serve as feeder programs for us.”

When the participants were asked about the turnover rate, all three participants indicated the rate was very low or even zero. Sally indicated “CLS stay for a really long time.”

### **Retention Strategies Used to Entice Medical Technologists to Stay**

Sally spoke in great detail about how she is attempting to keep the medical technologists already employed with them.

We started a training program a couple of years ago. We are affiliated with a large university. We have changed our practice. Prior to about 4 years ago, we only hired CLSs with five years of experience. We have changed that now and we will hire new CLSs. And we have a hire ahead strategy where we see how many CLSs we anticipate will retire in the next 5 years, year by year, and we open up jobs early for those people. So for example, we anticipated there would be one and a half people retiring in 2014, so in 2013 we opened up 1.5 Full Time Employees (FTEs) early. We worked with our union because we are a unionized area for CLSs here. We worked with them so that if someone comes to our facility with so many years of experience they get hired in to the company at a higher level of pay and a higher step so they don’t come in as an entry level step one. They come in based on the years of experience up to step three or four. Their experience outside of our facility gets counted as experience inside of our facility.

She went on to say that,

For the students that we have, we offer them an intern job upon completing their training to bridge them until they are licensed. And then when they are licensed, if they stay with the company they get seniority with pay and vacation based on when they started the internship even though they are not a facility employee for the year of training. So for example, we had a student that finished in September 2012 and they became licensed and became part of the CLS staff and that was a benefit position in 2013 but because she stayed with us the whole time, she was considered a two year employee instead of a one year employee. We haven't had any trouble hiring. I think part of the reason why is because we are in the part of California that has a cheaper living. We have a number of people that want to transfer here so even if we didn't do all of this we have so many people within our system that want to transfer to this area. We won't have a problem. Fran's laboratory is a partner of a larger organization and pointed out the following. They have recently put in some employee recognition type programs and some service awards and some of those kinds of programs in place. Again, that's not only for our technologists but it is for the entire personnel base. That's been rolled out recently. In addition, you have your annual merit increase program although the increase is based on the organizational viability.

Barb mentioned benefits as well as other factors.

Benefits, even though people gripe about them, is one strategy. I think there are some good benefits from the facility itself. Retirement is one of them. They offer a good retirement as far as percentage of salary that they give. Incentives to stay as well is that most of your good employees will stay, especially the younger generation, if they feel engaged and connected. They have to feel the fit. I think our facility is small enough to

have the family atmosphere, but we're large enough to be able to offer a challenge to most of the employees. Taking the time to actually train and mentor is very important.

### **Retention Strategies for Medical Technologists Nearing Retirement**

Many of the medical technologists in the field today will be reaching retirement age in the next 5 to 10 years. In response to whether there were any special retention strategies set up for medical technologists nearing retirement, Fran responded with a chuckle and said "The economy is taking care of that. We don't have to worry about it." She went on to say that

We have several employees that are probably not quite at retirement age. I don't really know when they will hit that retirement age, but it would be nice if we were able to work with them even in a PRN relief capacity and our company is very supportive of personnel in an as needed capacity. So we may be able to work something like that out with our senior staff. At this point we don't have anyone that has a pending retirement within the next 12 months. Most are not quite ready for retirement and they still want to work for the next few years. I have one that keeps telling me that she is going to retire in like 2 years. Our challenge is really, I think, as people retire is having that next level of leadership. I'm not so worried about having base staffing. I am worried about having qualified leaders. That is a big concern of mine. We've tried to have a succession plan, although it is kind of loose right now. We don't have anything really formalized but I am really worried about that. There are no new med techs coming in. We have a wonderful staff but the majority don't really care about being a manager. It is just not a career goal they have. They are thankfully, just satisfied with doing the technical work. It's hard to find those people, although I have a few, but they're not really ready to step into a true manager or supervisors' role.

Barb indicated her facility attempts to work with the older employees and their unique issues. “We try to work with them when there are health issues and we try to be flexible when they are dealing with aging parents. We do a good job of trying to stay fair to everyone but work around some of the problems of the aging worker.”

Sally said they haven’t offered them any means to stay.

Some of them want to come back and work on call. We actually discourage it because we find that the cutting edge is with new people, younger people. It seems like when we have had a few retire, we’ve been able to implement things faster and get with the program faster. With the Union, they have the ability to go on call or part time for shorter hours instead of retiring but they aren’t choosing to do that.

### **Complete Latitude**

Fran described the strategies she believed would be effective for her laboratory if given complete latitude to develop innovative retention strategies.

We talked about something like more of a formalized career plan. If there was some way that personnel could see themselves benefitting from additional education, I don’t know, put some kind of career path in place. It would be enticing to some of the younger folks coming into the field. If they knew that in X years they might be here, or they might have their master’s degree and if they had that it would award them something more defined. That might be an opportunity. I don’t know for sure because of the restraints we have within the hospital. It’s not like we could develop a molecular department or genetic division where people could specialize and go into something they would have an interest in. We actually do have that in our company but they would have to relocate.

Barb described what she believes is helping to retain the technologists at her facility. What I didn't comment on before is that one of the things to retain med techs that we all have to work on is identifying potential leaders. Our leadership has to come out of medical technologists, not medical laboratory technicians. We have worked hard over the years to build a good camaraderie between the MT and the MLT. Now that many of us in management are approaching retirement age, I think we have identified some potential med techs that we have taken under our wings and are mentoring. It's those people that we know have some potential leadership skills. They are not going to be born with it overnight, so we are trying to give them responsibilities that can help grow and shape them as leaders. The younger ones need to feel valued but they also need to feel challenged. That's the retention strategy for the med techs now. Every med tech that we have is usually put on more of a leadership growth. We encourage them to take management type classes and we are encouraging every med tech to get their supervisors license whether they want to be in management or not.

Sally had a different perspective for this question.

I think we have been pretty creative already and I really haven't had any problems. I can currently train up to 6 people a year and I only train 2. So I guess if I were to have a need I would just increase the number of students that I have. I'm actually very fortunate that I have staff that has embraced the program. I have a CLS that is a preceptor and students that work together. I have a student that starts in the fall and one in the spring that support each other and they are not competing against each other for a job when they graduate.

She went on to say,

I actually think California has an issue. They recently have approved MLTs in the state. It is a new thing to have MLTs here. We have not had them before. It has been just in the last 2 years for our company because that's when the contract allowed them to be here. Some of the labs in the community are struggling with what an MLT can do versus a CLS. It is kind of a new thing for us here. Is there a lot of friction between the MLTs and CLSs with the pay differences? The other thing the state is doing is changing the prerequisites for the CLS and making them less rigid. I don't see how this is going to help the situation.

After these questions were completed, the participants were asked if they would like to add anything else to the interview. Barb and Fran both had some closing comments.

Fran described what she considers a huge problem with retaining medical technologists. Regionally our laboratory pay scales are depressed. We are compared with others, even in our own partnership, and I know we are lower than other areas. I think at some point, somebody is going to have to wake up and realize that a medical technologist is just as valuable as an RN and paid appropriately. I think we are going to be a dying breed and it is going to be really hard to capture those really bright individuals we need in our laboratories if they don't have a pay scale that is comparable to your pharmacist, your RNs, and other folks. I don't know how we have ended up in the boat. We've allowed this to happen and I don't know how we have done this. We are going to have to address the retention issue soon, because like you pointed out the majority of our employees are reaching retirement age. I've got grids to show exactly what the age is of my employees and what their education levels are and it is pretty dramatic. At some point we are getting older and I don't know if we are all going to be in wheel chairs or what. But physically,

some people just won't be able to work. Basically, we've got a really good group of employees and they know each other so well. They work hard for one another. It's a good environment for people that like what they're doing. We are very blessed in that way.

Barb added another perspective.

There has been a shift. I thought more of us would be going out earlier but with the crashing economy, it has affected when people are going to retire. So our crisis has been shifted back just a little bit by a few years. People are staying longer. One of the things I would hope to do if there are no boundaries would be to have people who are retiring to go part time. I would like to be able to encourage the older to stick around and mentor the younger.

### **Summary**

This chapter summarized the comments of three laboratory directors from three different facilities and their impression of what needs to be done to retain medical technologists in the field. One director is in alliance with a large university and has not experienced the shortage as directly as the other two directors. The common thread among all of the directors is that medical technologists and clinical laboratory scientists have a tendency to stay for a long period of time at their place of employment. The problem that is foreseen by two of the directors is replacing the leadership that will be retiring in the next 5 to 10 years. All of the participants are interested in the outcome of this study and expressed concern about the future of the medical technologists.

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

The literature review of this study demonstrated the rising shortage of medical technologists and a need to examine the retention strategies being used by clinical laboratory directors throughout the United States. The primary focus and intent of this study was to find and analyze unique and innovative retention strategies for medical technologists. While developing methods and strategies to deal with the shortages of healthcare workers, the retention of employees is often overlooked. This study brought to light that there is not enough attention being given to the important aspects of retention.

#### **Conclusions**

When drawing conclusions to this study, it must be understood that the study was limited to the participation of individuals who agreed to be interviewed. An invitation to participate was posted on the Facebook pages of the largest and most active chapters of the Clinical Laboratory Management Association (CLMA). This included the Clinical Laboratory Management Association, The CLMA Greater Los Angeles Chapter, Six Rivers CLMA, and the CLMA Minnesota Chapter. The first invitation was posted on June 14<sup>th</sup> and I continued to post it every 2 weeks through July 30<sup>th</sup>. At the end of 6 weeks there were no responses to the invitation. The participants were from professional referrals. This in itself is an indication that there is not enough attention being given to the retention of medical technologists.

Currently none of the laboratory directors interviewed are seeing a turnover of medical technologists. This seems to be in direct conflict with the information found in the literature review. The US Bureau of Labor Statistics (BLS) projected that by 2014, an additional 81,000 technologists and technicians will be needed to replace retirees and that 68,000 will be needed to



fill new positions (Kibek, 2008). According to the Clinical Pathology Board of Registry in 2003, 72% of the laboratory workforce was 40 years of age or older, with the majority close to retirement (Bennett, 2008). The 2012 vacancy survey done by the American Society for Clinical Pathology showed the vacancy rates for staff (nonsupervisory) and supervisor positions were at least 2% lower compared to the 2010 survey (Garcia, Ali, & Choudhry, 2013). When the shortage of medical technologists was addressed, one director said she was not experiencing a shortage. The other two had a shortage issue in the past but currently are fully staffed. The assumption that there will be an increase in vacancies due to the baby boomer retirements has not happened yet. This delay is due partly to the economy that has led to budget cuts and workforce reduction. The Robert Wood Johnson Foundation published a report that stated the economic downturn has “created pressure on healthcare professionals to revise their career and retirement plans. Even with a current unemployment rate of 7.7% as of November 2012, the lowest it has been since 2009, it appears that many laboratory professionals nearing retirement age now tend to stay longer in the employed positions due to economic uncertainties” (Garcia et al., 2013). However, the impact of this demographic fact cannot be forever delayed and to not focus on efforts to encourage this pool of employees to work well into retirement would be shortsighted.

When faced with a shortage, one of the directors indicated she had to go outside of the norm and use a recruiter as well as hire contract labor. Contract labor can take the form of a single aging medical technologist working multiple jobs; thus when that person retires, two or more jobs are then open (the primary job and the job the technologist held as a contract worker). While this is a temporary solution, it could be the reason laboratory directors indicated no shortage of qualified laboratory professionals. If this is true, then the impact of the pending retirement of baby boomers has been poorly forecast. Although Sally, the director of the

California facility is not experiencing a shortage, her situation is not the norm. Her laboratory staff is made up almost entirely of clinical laboratory scientists (CLS). Her facility is affiliated with a large university that has a Clinical Laboratory Science program and this feeds future clinical laboratory scientists or medical technologists into that facility. The Clinical Laboratory Scientist training program at San Jose State University closed in the early 1990s as a result of the economic recession, but was reinstated in the fall of 2002 (Williams, 2002). In 1970 there were 791 Medical Technologist programs in the United States. By 2003 about 70% of these programs had closed, leaving only 240 programs in the country. The huge demand for clinical laboratory scientists (or medical technologists) was the catalyst for the re-instituting of the program. Because of state specific licensure laws, California lab directors have only recently begun to hire medical laboratory technicians (MLT) into the laboratory. Sally's facility is a unionized organization. She is not concerned about the same issues as Barb and Fran. Although there is a marked difference in educational requirements, Sally's concern is the pay difference between the CLS and the MLT and if it will cause problems between the staff members. The biggest problem that was brought out by Barb and Fran was the future leadership in the laboratory. The base staffing was not a concern. A medical technologist has a bachelor's degree with required science course work as well as additional 1 year training in an accredited program. A medical laboratory technician requires an associate degree in a Medical Laboratory Technician accredited program. They are certified as an American Society for Clinical Pathology (ASCP) MLT. They are certified by the boards that regulate the hospital laboratory. However, because of the varying complexity of laboratory testing, they are not allowed to do everything that a 4-year degree MT can do. The MLT can become a medical technologist with appropriate education and experience. Leadership positions can only be filled by a medical technologist and with the

majority of MTs reaching retirement age, there is no one coming up in the ranks. There is a lack of graduate level education specific to the clinical laboratory. Often a default path is a Masters of Business Administration (MBA) but without the appropriate clinical background it does not provide the necessary tools for clinical laboratory management.

### **Retention Strategies**

None of the participants indicated there is any retention strategies set in place for their facility. There are certain organizational constraints that prevent programs from being developed, especially if those strategies involve additional finances. For instance, the number of full-time employees (FTEs) in the clinical laboratory may be determined by the statistical workload indicator known as number of reportable tests. The California facility, which is unionized, has a hire ahead strategy that allows them to open up jobs early year by year in anticipation of the retirements. Is that something a nonunionized facility would consider doing? Sally described the career path set up for students that enables them to move into a full time position once they are licensed. Barb and Fran expressed a deep concern for the future leadership in the laboratory a need for a formalized career path. If an individual goes into an organization with the understanding of potential advancements and career moves within that organization, he or she is more likely to remain with them. There are sufficient medical laboratory technicians entering the field, however, as mentioned before, they are not eligible for management positions. Many hospitals have cut tuition reimbursement programs as a means of saving money for the organization. Those organizations that do have tuition reimbursement programs dictate which degrees and which institutions they will pay for. While certainly a method to the means of cost savings, this may drive MLTs and MTs to other professions. Often these tuition reimbursement programs are nursing oriented. While nursing is the single largest

professional workgroup in an inpatient environment, there is much frustration in the laboratory community due to the preference nursing receives. They are the largest body of professionals in the hospital and human resources spend the majority of their time and effort in addressing the needs and issues of the nursing staff. It is vital that more attention be given to the other allied health staff and the issues they are facing. If the laboratory staff is mentored, encouraged, and given opportunities to grow in leadership responsibilities, they are more likely to be more committed. It is important for individuals to feel valued and to fit into the work environment.

The participants also indicated there were no specific strategies to retain the medical technologists that are nearing retirement. Many of the retirement eligible MTs are not retiring due to the condition of the economy; however, it is still a looming crisis. The demographics indicate that the trend cannot be avoided and the pool of potential retirees is larger than the pool of graduates of schools of Medical Technology; therefore, not being proactive is being shortsighted. Barb indicated that our needs change as we grow older. Instead of dealing with children, older employees are dealing with personal health issues as well as issues with aging parents. Being flexible and working fairly with those individuals is important and can mean the difference in an individual retiring or continuing to work for several years postretirement eligibility.

## **Recommendations**

### **Recommendations for Changes in Practice**

Retaining talented medical technologists is imperative for ensuring competent and quality delivery of laboratory services. It is just as essential to retain and motivate the younger generation of medical technologists as it is to hire them in the first place. Professional

development and training opportunities are essential in order to develop leadership skills that will be used to advance the attitude and productivity of other team members.

While only one participant in this study mentioned the pay scale for medical technologists, this is something that must be addressed in order to attract the caliber of individuals needed in the laboratory. The medical technologist is a valuable part of the interdisciplinary healthcare team. Gone are the days when qualified applicants for Medical Technology programs had few options. Now options with more attractive salaries abound (pharmacy, physician assistant, osteopathic medicine, etc.) and individuals who are academically qualified to be laboratory scientists are pursuing other fields due to the financial considerations and the availability of the educational opportunities. We have to develop innovative ways to approach and deal with the reported shortage that exists. We are rapidly approaching a change in the workforce. Retention of employees can no longer be overlooked when developing strategies to deal with the shortage.

### **Recommendations for Future Study**

Because there were so few participants in this study, it is apparent there needs to be further research on retention strategies. Additional studies should be undertaken to examine the views of hospital and medical group practice administrators as well as the views of medical technologists.

### **Summary**

As Barb pointed out, the crisis has been pushed back a few years; however, it is inevitable. I think it should be noted that the low turnover rate could possibly be due to the dramatic changes in the healthcare system as well as the economy. The effects of the Affordable Care Act are yet to be seen. With more of the population insured, the volume of laboratory

testing may increase and adequate and competent workers will be needed to keep up with the increased workload in the laboratory.

As stated previously, laboratory directors are forced to do more with less; however, advances in laboratory testing in areas such as molecular diagnostics and cancer genomics will require a highly specialized professional within the Medical Technology field. These are sophisticated and complex tests that require qualified laboratory professionals. Companies are seeking qualified medical technologists to fill these positions that could become a problem for hospitals. These workers are in high demand and are getting paid more. Organizations must be committed to retaining the valued and competent employee. Innovative strategies must be in place to strengthen the retention of those employees. If competent laboratory professionals are not retained, there will be a decline in the quality of clinical laboratory services. There must be awareness at all levels of the importance of retention. It is as important, if not more so, than recruitment.

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## APPENDICES

### Appendix A

#### **Notice of Pending Study**

##### **Have you implemented innovative retention strategies at your laboratory?**

Researchers at East Tennessee State University invite you to participate in a study evaluating retention efforts targeting medical technologists. Specifically, the study seeks to identify strategies that are outside the norm and ones that you have found to be effective.

Data will be gathered via a brief telephone interview during the Spring and Summer of 2013 and the time commitment on your part will be minimal, however the benefit to the profession from your participation could be substantial.

Interested?

If you would like to participate in this important project, please contact the primary researcher, Ms. Kathy Small ([smallK@goldmail.etsu.edu](mailto:smallK@goldmail.etsu.edu)) or Dr. Randy Byington ([byingtor@etsu.edu](mailto:byingtor@etsu.edu)).

## Appendix B

### **Invitation to Participate in Research Study**

You are invited to participate in a research study on different methods for improving retention of medical technologists used by leaders in clinical laboratories throughout the United States. Your participation will involve a brief telephone interview. The interview is a major part of the data collection that will be used for this research. As a laboratory manager, you will be able to provide details of your unique strategies.

If you would like to participate in this important project, please contact the primary researcher, Ms. Kathy Small ([smallK@goldmail.etsu.edu](mailto:smallK@goldmail.etsu.edu)) or Dr. Randy Byington ([byingtor@etsu.edu](mailto:byingtor@etsu.edu)).

## Appendix C

### **Informed Consent Document**

Dear Participant,

Thank you for agreeing to this interview. Your comments are very valuable. This interview is informal and participation in this research is voluntary. I would like to make you aware that by participating in this interview, your informed consent is implied. If necessary, I can also provide you with an informed consent document for your review via fax, mail, or email.

I am completing my Master's thesis in Allied Health at East Tennessee State University, a doctoral research university in Johnson City, Tennessee. The research seeks information regarding innovative retention strategies for medical technologists. This interview is a major part of the data collection for my thesis and I am very interested in your input and comments. The purpose of this study is to evaluate different methods for improving retention of medical technologists used by the leaders in clinical laboratories throughout the United States. It is intended to identify and investigate the most unique and innovative methods for retention.

Results from the interview will be combined with other interviews to develop an understanding of the different retention strategies being used throughout the United States and determine if there are any strategies more effective and innovative than others. The possible benefits of the research will be to assist laboratory and human resources managers as they develop policies that reduce turnover of medical technologists. There are no direct benefits to you as a participant.

The methods that will be used to meet the purpose of this research include one-on-one interviews using the phone and other advanced technologies such as Skype and Tango. These interviews will be scheduled with you to assure you will not be inconvenienced and you will be

in a comfortable place in which you can speak freely. The interview will last about 20 to 25 minutes.

Our discussion will be audio-taped to accurately help capture your insights in your own words. The researcher is the only person who will review the taped conversations. The recorder will be turned off at any time upon your request. You also have the right to refuse to participate or withdraw from the study at any time with no penalty or loss of benefits. In the event you choose to withdraw from the study all information you provide (including tapes) will be destroyed and omitted from the study. The information gained through the interviews will be interpreted according to its contribution to understanding the main objectives of the study.

The possible risks of this research are minimal. There are no known physical, psychological, economical, or social and legal risks.

Though direct quotes may be used in the paper, your identity will be kept anonymous. No names will be attached to the data. To strengthen the validity of the study, once the data has been collected it will be reviewed by a local laboratory director, and the chair of the study's research committee, both nationally registered medical technologists and licensed by the State of Tennessee as Clinical Laboratory Supervisors. The researcher, laboratory director, and study's chair will rank the responses based upon their perceptions of innovation and upon their opinions of the likelihood of the strategy's potential for transferability. The resulting rankings will be averaged and interviews yielding the highest rankings will be used to provide data for results and conclusions for the study. The results of this study may be published and/or presented at meetings without using your name. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the East Tennessee State University

Department of Allied Health Sciences, and personnel particular to this research will have access to the study records.

You are encouraged to ask questions or raise concerns at any time about the nature of the study or the methods being used. If you have any research-related questions or problems, you may contact me at 423-863-5803 or email me at [smallk@goldmail.etsu.edu](mailto:smallk@goldmail.etsu.edu). My advisor is working on this research with me and you may contact him at [byingtor@etsu.edu](mailto:byingtor@etsu.edu). You may call the Chairman of the Institutional Review Board at 423-439-6054 for any questions you may have about your rights as a research subject. If you have any questions or concerns about the research and want to talk to someone independent of the research team or you can't reach the study, staff, you may call an IRB Coordinator at 423-439-6055 or 423-439-6002.

Thank you.

Kathy Small  
Primary Researcher

## Appendix D

### **Guide for Phone Interview**

#### **Introduction**

Thank you for agreeing to this interview. Your comments are very valuable. This interview is informal.

#### **Purpose**

I am completing my Master's thesis in Allied Health at East Tennessee State University, a doctoral research university in Johnson City, Tennessee. The research seeks information regarding innovative retention strategies for Medical Technologists. This interview is a major part of the data collection for my thesis and I am very interested in your input and comments. Results from the interview will be combined with other interviews to develop an understanding of the different retention strategies being used throughout the United States and determine if there are any strategies more effective and innovative than others.

#### **Procedure**

The interview will last about 20-25 minutes.

I will be audio taping as well as taking notes. You may stop the interview at any time.

I would like to make you aware that by participating in this interview, your informed consent is implied. I can also provide you with an informed consent document for your review if necessary.

1. How long have you been in laboratory management?
2. How long have you been at this facility?
3. Has your facility been affected by the shortage of Medical Technologists?
4. What is the turnover rate for Medical Technologists in your laboratory?

5. What retention strategies does your facility use to entice Medical Technologists to remain with you?
6. Tell me about retention strategies you are using to target Medical Technologists nearing retirement.
7. If given complete latitude to develop innovative retention strategies, what strategies do you believe would be effective for your laboratory?

Would you like to add anything else to this interview?

Thank you again for your time. My contact information is as [smallK@goldmail.etsu.edu](mailto:smallK@goldmail.etsu.edu) or you can reach me by phone at 423-863-5803.



VITA

KATHY S. SMALL

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