

**The Pacific Northwest Laboratory Medicine Sentinel Monitoring Network  
Final Report of the Findings of Questionnaire 5 - Waived and PPMP Sites  
Testing Personnel Turnover**

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## EXECUTIVE SUMMARY

High turnover of personnel can affect both the quality and productivity of an organization's performance. Some of the direct outcomes of high turnover are short-staffing, high numbers of unseasoned employees and having to quickly train new people. All of these have the potential to affect the quality of the work performed.

This study evaluated turnover rates of personnel performing CLIA-waived testing in waived and provider-performed microscopic procedures (PPMP) sites. A total of 1127 individuals were evaluated in 148 sites.

In October 2002, a questionnaire was mailed to the 240 waived and PPMP testing sites that participate in a data-gathering network in Washington State. Participants were asked to provide the following information:

- The current number of individuals who perform waived testing
- The number of individuals who separated from employment in the past year
- The number of individuals hired in the past year
- The current number of open positions for personnel who will do waived testing
- The length of time necessary to train a new employee to perform waived tests

Twenty-one different types of personnel were performing waived tests in these settings with registered nurses, licensed practical nurses, medical assistants and medical doctors being the most common testing personnel.

In the past year, 36% of all respondents had at least one individual separate from employment and 46% hired at least one new employee. Twenty-two percent had one or more current open positions for personnel who would do waived testing.

Testing personnel turnover rates averaged 9.5% with a range of 0 to 120%. Turnover rates were higher for medical assistants (16.8%) and licensed practical nurses (13.0%), and were lower for registered nurses (8.7%).

When asked how long it took to train new employees to perform waived tests, 32% of the responses were less than one hour and 77% were one day or less. Many respondents commented that training was not applicable or that minimal time was needed to train new employees because they already know how to perform waived testing from another job or because they are trained in school.

## **BACKGROUND**

### **Clinical Laboratory Improvement Amendments (CLIA) and test categorization**

To improve the quality of clinical laboratory testing in all sites conducting the testing of human specimens for the assessment of health or the prevention, diagnosis or treatment of disease, the United States Congress passed the Clinical Laboratory Improvement Amendments of 1988 (CLIA). Implemented in 1992, the CLIA regulations set minimum standards for clinical laboratory testing, taking into account different levels of testing technology complexity.

Tests categorized by CLIA as “moderate” or “high” complexity are subject to standards for: personnel qualifications and responsibilities; quality control; quality assurance; and record keeping. Laboratories that perform moderate and/or high complexity testing must undergo on-site inspections and participate in an approved proficiency testing program.

Under CLIA, a “waived” test is a simple laboratory examination or procedure that has an insignificant risk of an erroneous result. Testing sites that perform only waived tests must obtain a Certificate of Waiver and follow the manufacturer’s instructions for performing the waived test, but are otherwise relieved of the regulatory requirements associated with tests of higher complexity.

### **The Pacific Northwest Laboratory Medicine Sentinel Monitoring Network**

With the passage of the CLIA regulations, studies were mandated to assess the quality, accuracy and reliability of laboratory testing results and the extent and nature of laboratory-related problems and errors. In 1995, in response to this mandate, the Pacific Northwest Laboratory Medicine Sentinel Monitoring Network was created, through a cooperative agreement between the Washington State Department of Health and the Centers for Disease Control and Prevention (CDC), to gather information about clinical laboratory practices in hospital, independent and physician office laboratories. As of October 2002, the network comprised 570 clinical testing sites performing waived, provider-performed microscopic procedures (PPMP), moderate- and high-complexity testing. To date, 24 questionnaires have been released to the network. The network has provided interest groups (physicians, laboratorians, manufacturers, educators, consumers) and regulators with information on trends in the practice of laboratory medicine.

Full text reports of the findings of these studies and references to published journal articles can be found on the CDC Website at: <http://www.phppo.cdc.gov/dls/mlp/pnlmsmn.asp>

## METHODOLOGY

To evaluate turnover rates of testing personnel in waived and PPMP sites, a questionnaire was sent to the 240 network participants categorized as waived or PPMP. (Appendix A)

### **Respondents**

One hundred forty-eight network participants returned a completed questionnaire in time for analysis, a 62% response rate.

Using U.S. Census Bureau designations, 74% were characterized as urban and 26% as rural. The following types of clinical settings were represented: Physician office laboratories (POLs), clinics, nursing homes, pharmacies, hospital ancillary services, home health agencies, rehabilitation centers, health departments, occupational health programs, family planning clinics, community health clinics, student health clinics, dental offices, and Women, Infant and Children (WIC) programs.

## FINDINGS

### **Current mix of backgrounds of waived testing personnel**

Using a list of health care personnel education and training backgrounds, participants were asked to list the number of individuals for each background type who currently performed waived testing.

A total of 1127 individuals were listed as currently employed. There was an average of 8 testing personnel per site, with a range of 1 to 65. The most common testing personnel were registered nurses, licensed practical nurses, medical assistants and medical doctors. Table 1 shows the backgrounds of the waived testing personnel in these sites.

**Table 1 - Who performs waived tests?**

Background of personnel performing waived testing	Current individuals (N=1127)		Sites that employ personnel with the background (N=148)	
	Number	Percent	Number	Percent
Registered nurse (RN)	445	39	78	53
Licensed practical nurse (LPN)	261	23	53	36
Medical assistant (MA)	147	13	59	40
Medical doctor (MD)	112	10	61	41
Advanced registered nurse practitioner (ARNP)	55	5	35	24
Health care assistant	17	2	3	2
Counselor	15	1	1	<1
Physician assistant (PA)	13	1	10	7
Patient care technician	12	1	1	<1
Medical technologist	11	1	3	2
Pharmacist	11	1	6	4
WIC counselor	7	<1	1	<1
Midwife	6	<1	4	3
Nurse tech	5	<1	1	<1
X-ray technologist/technician	4	<1	1	<1
Other *	6	<1	8	5

\* Other personnel includes: Laboratory assistant, certified nursing assistant, dental hygienist, medical laboratory technician, office staff, medical student.

### **Separations, new hires, open positions**

Participants were asked to list the number of individuals who performed waived testing that separated from employment or were hired in the past year. They were also asked about the current number of open positions for personnel who would do waived testing.

Among all respondents, 36% had at least one individual separate from employment in the past year, 46% hired at least one individual in the past year, and 22% had at least one position currently open. Table 2 shows these rates for the most common testing personnel backgrounds.

**Table 2 - Separations, new hires, open positions**

Personnel background	Number of sites	Percent of sites that:		
		Had at least one person separate from employment in past year	Hired at least one person in past year	Had at least one current open position
RN	78	32	40	17
LPN	53	32	36	9
MA	59	31	39	14
MD	61	3	10	13
ARNP	35	0	17	0

### **Testing personnel turnover rates**

We asked for the number of individuals who performed waived testing who had separated from employment in the past year and the number of current open positions for personnel who would do waived testing as part of their employment. This information was used to calculate the turnover rate for each site, which is defined as the portion of personnel, expressed in a percentage per year, leaving their job, who will be replaced by new personnel requiring training.<sup>1</sup> The formula used to calculate the annual

<sup>1</sup> Sources: US Department of Labor-Job Openings and Labor Turnover (JOLTS) Report; and US Army Materiel Command (USAMC) Logistics Support Activity (LOGSA).

turnover rate was:

$[\# \text{ of separations in the past year} / \# \text{ of current testing personnel} + \# \text{ of open positions}] \times 100$

The average turnover rate for all respondents was 9.5%. Table 3 shows these rates for practitioners, non-practitioners and the top three testing personnel backgrounds.

**Table 3 - Turnover rates for waived testing personnel**

<b>Personnel background</b>	<b>Turnover rate (Percent)</b>
<b>Practitioners</b> (MD, ARNP, PA, Midwife)	2.3
<b>Non-practitioners</b>	13.4
<b>RN</b>	8.7
<b>MA</b>	16.8
<b>LPN</b>	13.0

### **New hire rates**

Participants were asked how many individuals who perform waived testing were hired in the past year. The rate of new hires was calculated as follows:

$[\# \text{ new hires in the past year} / \# \text{ of current testing personnel} + \# \text{ open positions}] \times 100$

The overall new hire rate was 13.4% in the past year.

### **Length of time to train new employees to perform waived testing**

Participants were asked "How long does it take to train a new employee to perform the waived testing performed in your facility?"

Thirty-two percent of the respondents stated that training for the waived tests they performed took less than one hour and 77 percent said it took one day or less. (Figure 1)

The time needed to train new employees did not correlate with the number or type of waived tests performed. (Table 4)

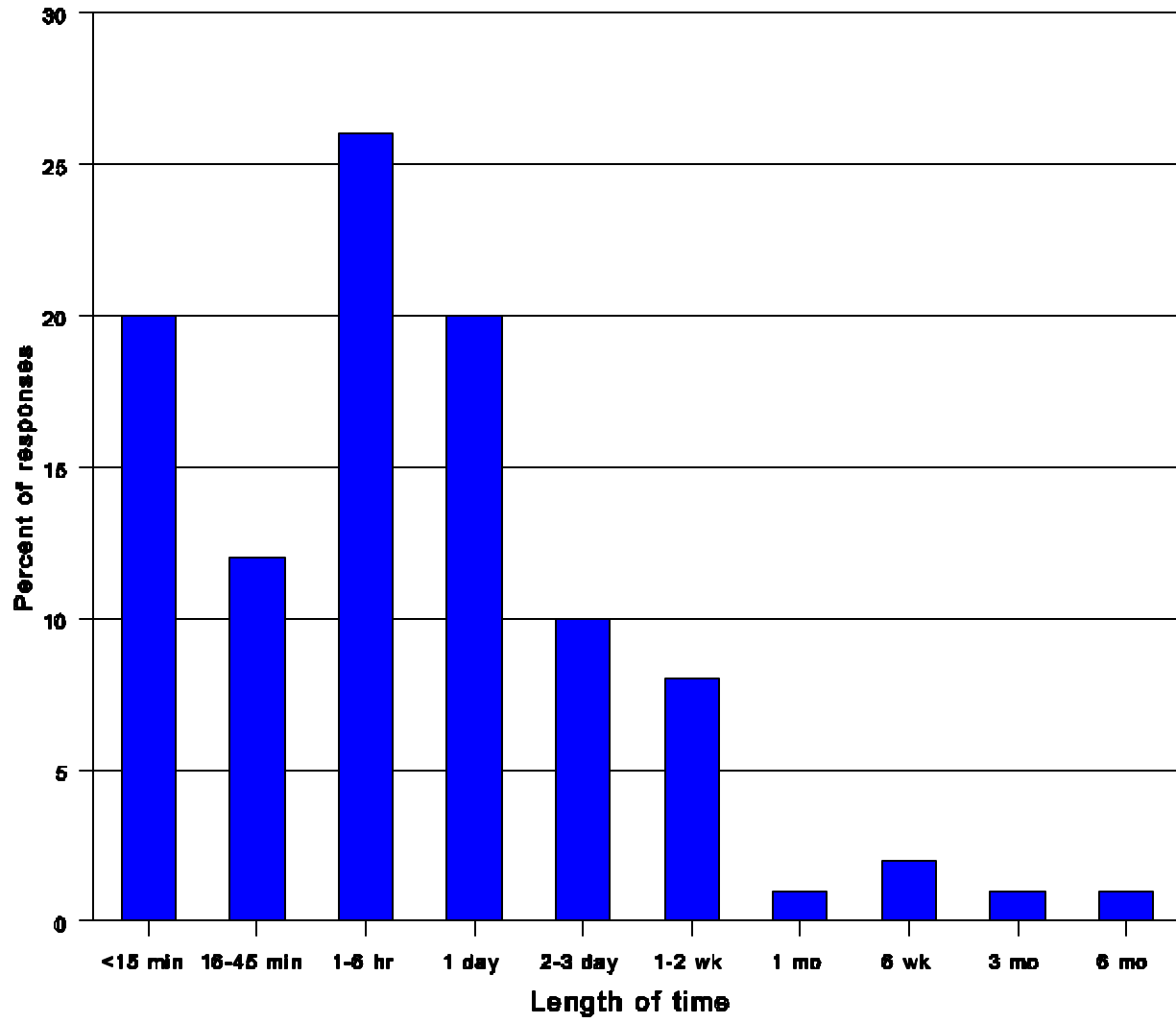


Figure 1 - Length of time to train new employees to perform waived testing



**Table 4 - Length of time to train new employees to perform waived testing**

<b>Number of different waived tests performed</b>	<b>Number of respondents</b>	<b>Range of responses on length of time to train new testing personnel</b>
1	13	10 minutes - 1 week
2	15	few minutes - 6 weeks
3	11	3 minutes - 6 months
4	13	a matter of minutes - 3 days
5	17	15 minutes - 2 weeks
6	11	10 minutes - 3 months
7	5	5 minutes - 6 weeks
8	6	10 minutes - 2 weeks
9	1	1 day

Many respondents commented that training was not applicable or that minimal time was needed to train new employees because they already know how to perform waived testing from another job or because they are trained in school. The following are examples of those comments:

“Most already know how”

“Minimal time - They are already doing in other clinics”

“Skills are taught in nurses training programs”

“RN and LPN are already trained”

“Most hires are trained, know how to perform test or similar one”

“Only tests are OTC type - there is basically no training involved”

“I do all the waived tests myself”

“We only do dip UA's”

“Depends on experience and job description”

“Trained in medical school”

“Don't do enough to require training”

### COMMENT

According to the Bureau of National Affairs, the average employee turnover rate is 14.4% annually.<sup>2</sup> Although the average turnover rate found in our study group of waived and PPMP testing sites was lower than this national average, a significant proportion of the respondents had lost staff (36%) or hired new staff (46%) in the past year. Each separation and new hire represents the potential for decreased productivity along with the need for training. According to our study respondents, their expenditure of time to train new employees on waived testing was relatively minimal, since a high proportion came with experience from a training program or from a previous job.

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<sup>2</sup> Source: Missouri Business Development Network “Reducing Employee Turnover”, at [www.missouribusiness.net/cq/2002/reducing\\_employee\\_turnover.asp](http://www.missouribusiness.net/cq/2002/reducing_employee_turnover.asp) (Accessed November 2002).

## Appendix A

<b>Laboratory Medicine Sentinel Monitoring Network</b>		
<b>October 2002</b>	<b>Questionnaire 5</b>	<b>Page 1 of 1</b>

Network identification code:

1. Please complete the following table to describe the personnel who perform waived testing in your facility.

Education, training background	Number of individuals who currently perform waived testing	In the past year, the number of individuals who perform waived testing that:		Current number of open positions for personnel that will do waived testing
		Separated from employment	Were hired	
Registered Nurse				
Medical Assistant				
Licensed Practical Nurse				
Advanced Registered Nurse Practitioner				
Physician Assistant				
Physician				
X-ray Technologist or Technician				
Pharmacist				

Medical Technologist				
Medical Laboratory Technician				
Other (describe):				

2. How long does it take to train a new employee to perform the waived testing performed in our facility?