Companion Document for the Competency Guidelines for Public Health Laboratory (PHL) Professionals

This document accompanies the Competency Guidelines for Public Health Laboratory (PHL) Professionals (publically available at http://www.cdc.gov/mmwr/preview/mmwrhtml/su6401a1.htm?s_cid=su6401a1_w), developed through a collaboration between the U.S. Centers for Disease Control and Prevention (CDC) and the Association of Public Health Laboratories (APHL). The guidelines represent the first-ever comprehensive set of competencies for laboratory professionals. The adoption and implementation of the competencies represent an opportunity to enhance employee knowledge, skills, and abilities, as well as improve organizational capacity. The Guidelines are a resource to foster continuous quality improvement of the entire PHL system.

The competencies are divided into fifteen (15) domains, or topic areas, which are categorized as *general, cross-cutting technical,* or *specialized* as depicted in Figure 1. The Competency Guidelines can be applied both at the individual and organizational levels; and they are menu-based, allowing for selection and utilization based on the needs of the end-user.

Figure 1. Competency Guidelines: Domains

What are Competencies?

- Statements that outline the *knowledge, skills, or abilities needed* to successfully perform work functions.
- Statements that answer the question, "What should an individual with particular job responsibilities be able to do?"

How Can Competencies be Used?

Benefits of adopting and implementing competencies pertain to a range of activities, including supporting human resource management, professional development, enhancement of organizational capacity, and advocacy for the profession.

For example, competencies can help managers and human resource professionals:

- create position descriptions (e.g., for a Biosafety Outreach Officer*),
- conduct staff evaluations*,
- establish career ladders, and
- conduct promotion assessments.

Who Can Use the Competency Guidelines?

- Scientists working in PHLs
- Trainers / Educators
- Leaders and Managers
- Human resources personnel
- Laboratory personnel working in other organizations such as clinical, academic, private research, or veterinary laboratories

* An example position description for a Biosafety Outreach Officer that is based upon the PHL Competency Guidelines is available at http://www.aphl.org/mycareer/lablead/Pages/default.aspx. A competency assessment tool for performing staff evaluations, further described on pg. 2, is also available at this website. Additional resources and tools to aid in competency implementation will be posted to this website as they are developed.

Competencies also contribute to the usage of common and consistent expectations and terminology across the laboratory system, which will help standardize the personnel management process.

A competency-based approach allows organizations to identify gaps in employee knowledge, skills, or abilities, and develop a "treatment" such as an organizational professional development plan to address those gaps. This process is displayed via the 8-step Infinity Cycle in Figure 2, created by the International Food Protection Training Institute (IFPTI).

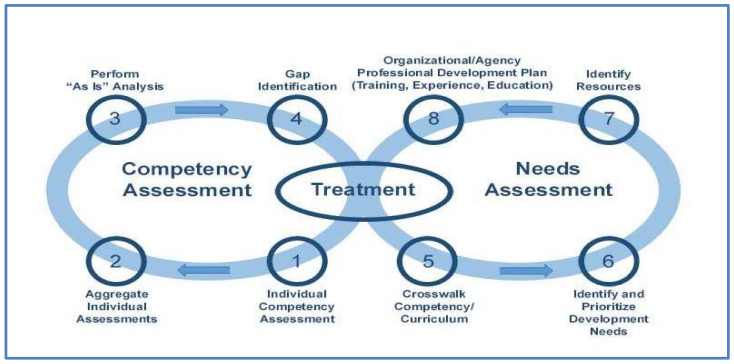

Figure 2. IFPTI's Infinity Cycle

The first step in the Infinity Cycle is to conduct an individual competency assessment via a competency assessment tool such as the one developed for use with the published PHL competency guidelines (sample depicted in Figure 3 and available at www.aphl.org).

POSITION:	TECHNICIAN								E = Expected
EMPLOYEE:	JANE DOE								C = Current
DATE OF REVIEW:	2/26/2015								
Select	Domain	Competency	Sub-competency	None	Beginner	Competent	Proficient	Expert	Areas for Improvement
X	QMS	QMS 6.00 Laboratory equipment	QMS 6.03 Maintenance process			E,C			
X	QMS	QMS 6.00 Laboratory equipment	QMS 6.04 Instrument and equipment calibration	C		E			X
X	QMS	QMS 7.00 Process management	QMS 7.01 Workflow processes			E,C			
X	QMS	QMS 7.00 Process management	QMS 7.02 Process control			E,C			
X	QMS	QMS 7.00 Process management	QMS 7.03 Method Validation and performance verification processes		C	E			X
X	QMS	QMS 8.00 Documents and records	QMS 8.01 Document management system			E,C			
X	QMS	QMS 8.00 Documents and records	QMS 8.02 Records management system			E,C			
X	QMS	QMS 9.00 Information management	QMS 9.01 Confidentiality			E,C			
X	QMS	QMS 9.00 Information management	QMS 9.02 Security			E,C			
X	QMS	QMS 9.00 Information management	QMS 9.03 Information Integrity			E,C			
X	QMS	QMS 10.00 Nonconforming event management	QMS 10.01 Management of nonconforming events (NCEs)			C	E		X
X	QMS	QMS 10.00 Nonconforming event management	QMS 10.02 Documentation of NCEs			E,C			
X	QMS	QMS 10.00 Nonconforming event management	QMS 10.03 Investigation and root cause analysis		E,C				
	QMS	QMS 10.00 Nonconforming event management	QMS 10.04 Notifications of recalls and technical bulletins		E,C				
	QMS	QMS 11.00 Assessments	QMS 11.01 Quality assessment plan		E,C				
	QMS	QMS 11.00 Assessments	QMS 11.02 External assessments		E,C				

Figure 3. Competency Assessment Tool

This type of assessment tool can be used by an individual to self-assess his or her proficiency level (None, Beginner, Competent, Proficient, or Expert) related to a specific knowledge, skill, or ability and determine any areas for improvement. By comparing periodic self-assessments with a supervisor's assessments of the employee, gaps can be identified. Once staff development needs are recognized and prioritized, potential "treatments" for individuals such as courses or other training activities, mentorships, job shadowing, or coaching may be used to address competency gaps. Managers can also aggregate individual assessments to assess whole teams, departments, or other organizational components. After the treatment is administered, the Infinity Cycle can be repeated to ensure continuous workforce development and organizational improvement.

Competency Implementation

Application of the Competency Guidelines can create and maintain an environment supportive of professional development and can help enhance the capacity of an organization to perform its varied functions. Successful implementation of these guidelines will depend on available resources and on the demonstration of their usefulness. Sustained effort in these areas will be critical to strengthening the workforce and its ability to support and manage the national laboratory system.

APHL welcomes examples illustrating use of the PHL Competencies in the laboratory. As you read through these examples, please consider what examples you have that can be shared with the broader community of Laboratory Competencies users. Examples can be sent to PHLcompetencies@aphl.org.