Personnel are the most important laboratory resource. Critical to the implementation of the quality management system are people who possess integrity and recognize the importance of their work and participate in continuous improvement.

Laborators are important partners in healthcare.

Recruiting and retaining qualified staff is essential to laboratory quality. Failure to check the education qualifications and references for a new hire can lead to problems in the future.

As a Laboratory director it is important to:

- Hire an appropriate number of staff to cover workload.
- Verify that items on the job application are correct.
- Develop complete and thorough job descriptions for each employee.
- Train each employee in their specific duties.
- Provide orientation for new employees. Even with a credible background, differences between laboratories are common, so a manager needs to assure new employees have adequate orientation and training.
- Conduct and record competency assessments on all personnel. It is management’s responsibility to verify that trained employees are sufficiently competent to do their work.
- Provide opportunities for continuing education; new techniques or updates for existing methods can be introduced using continuing education courses.
- Conduct annual employee performance appraisals.
As a **Quality manager** it is necessary to:

- provide employees with orientation and training;
- keep track of employee records and make sure they are confidential;
- include policies relevant to personnel in the Quality Manual.

As a **Laboratorian** it is important to:

- participate in training and continuing education opportunities;
- request training that may be needed as job responsibilities increase;
- maintain records of personal professional development.

### Importance of motivation

Success or failure depends on the knowledge and skills of the people in the laboratory, and their commitment and motivation to do the job to perform tasks as described in the job description. **Motivated employees are more likely committed to their work.**

Elements of motivation vary for different people:

- some respond to concrete rewards such as bonuses and praise;
- some respond best to flexible work schedules that fit their responsibilities to home and children;
- most respond to recognition, and feeling that they are an integral part of the health-care team.

The manager can motivate the team by emphasizing that everyone’s job is important; whether it is performing testing, collecting specimens, making reagents, or managing the laboratory.

### Retention of staff

Migration and turn-over of staff have been described as major challenges in many countries. Apart from economic factors, the lack of good working environment and improper management practices can contribute to loss of staff. A good personnel management program can contribute to the retention of staff.
Management must establish appropriate personnel qualifications for all positions in the laboratory. These should include requirements for education, skills, knowledge, and experience. When defining qualifications, keep in mind any special skills and knowledge that are needed such as language, information technology, and biosafety.

Job descriptions give a clear and accurate picture of responsibilities and authorities for each staff position. Job descriptions should:

- lay out all activities and tasks that should be performed;
- specify responsibilities for conducting testing and implementing the quality system (policies and activities);
- reflect the employee’s background and training;
- be kept current and be available for all people working in the laboratory.

Job descriptions should be competency-based and reflect any skills needed. The requirements for each staff position may vary depending on the size of the laboratory and complexity of testing services offered. For example, in small laboratories with limited personnel, staff may have many responsibilities and perform many tasks, whereas in larger laboratories with more personnel, staff may be more specialized.

Remember, not only are clear job descriptions a guideline, but they can be used to formally assess personnel competency.

Orientation is the process of introducing a new staff member to the new work environment and to his/her specific tasks or duties.

Nothing is more frustrating to an employee than not knowing where to find the necessary resources.

Orientation is different from training.
Orientation of laboratory personnel should include the following aspects.

- **General orientation:**
  - A tour of the work place and introduction to all management and staff.
  - Information about:
    - how the organization fits into the medical community and/or the public health system;
    - key personnel and lines of authority;
    - the laboratory interaction with both users and customers of the laboratory;
    - the policies and procedures regarding facilities and safety.

- **Personnel policies:**
  - ethics
  - confidentiality
  - employee benefits
  - work schedules.

- An employee handbook that outlines the policies of the organization and information about the laboratory quality system. A copy of the employee’s job description and a detailed review of its contents. Employees should be provided with an overview of Standard Operating Procedures (SOP).

A checklist that addresses each aspect of the orientation is important. Ask employees to initial and date the checklist to document discussion of each topic (Annex 12-A).
**Definitions**

**Competency** is defined as the application of knowledge, skills, and behaviors used in performing specific job tasks (ISO 10015:1999).\(^1\)

Accurate laboratory test results depend on staff competent in performing a range of procedures that occur throughout the entire examination process.

**Competency assessment** is defined as any system for measuring and documenting personnel competency. The goal of competency assessment is to identify problems with employee performance and to correct these issues before they affect patient care.

**Overview**

This graphic is an illustration of the relationship between job description, competency assessment, and training.

An initial competency assessment may reveal the need for specific training of the employee. Competency assessment should be conducted at regular intervals during the employee’s tenure.

Competency assessments conducted either initially or periodically help to identify or prevent performance problems that may be solved through task-specific training.

**Competency assessment methods**

Competency assessment methods include the following.

- Direct observation helps identify and prevent any performance problems:
  - The employee’s techniques are watched during the examination process, which allows the observer to see if the employee is following SOP.
  - To avoid subjectivity during a competency assessment, the observer uses a custom-designed checklist (Annex 12-B); checklists are used when there are specific, observable items, actions, or attributes to be observed.

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Observation is the most time-consuming way to assess employee competence, but this method is advised when assessing the areas that may have a higher impact on patient care.

- Monitor records, e.g., review worksheets and logs prepared by the employee.
- Review and analyze quality control records and results of proficiency tests performed by the employee being evaluated.
- Retesting or rechecking results to compare results among personnel; discrepancies should be resolved.
- Assess knowledge or problem-solving skills using case studies. Employees are asked to respond orally or in writing to simulated technical problems.

**Methods for determining personnel competency may need to be adapted to local customs and concerns.**

Policy writing for competency assessment is a critical quality systems issue and is the responsibility of the management. Each policy should be shared with everyone in the laboratory and assessments of all personnel documented.

An example of policy for competency assessment is: “Every employee shall regularly be assessed for competency for the tasks defined in his/her job description.”

Processes describe how the policy will be enacted. For example, the following questions should be addressed.

- **Who** will conduct assessments? Responsibility for conducting the assessment should be assigned to someone who has previously demonstrated competency in the area to be assessed. The responsible person must document and evaluate the results of the assessment.

- **What** will be assessed? Which job task or tasks and procedure performed in the pre-examination, examination, and post-examination testing process will be assessed? Critical competencies for each task should be identified. First-line supervisors should be involved in this step. Examples of critical competencies include:
  - patient identification
  - sample collection
  - evaluation of adequacy of samples
  - use of equipment
  - application of quality control procedures
- interpretation of results.

- **When** will assessments occur (annually or biannually)? It is important to develop a timeline for periodic assessment of each employee. A period of training and then assessment should be implemented for everyone as new procedures and equipment are introduced into the laboratory.

### Policies and processes should be reviewed annually and modified when necessary.

### Procedures

Procedures describe specifically how each element of the processes will be performed. An employee competency assessment would follow these procedures, as per examples given below.

1. The assessor contacts the employee in advance to inform him/her that the assessment will be done at a pre-arranged time.
2. The assessment is done while the employee is performing tasks using routine samples.
3. The assessment is done by a specified method previously described (e.g., Annex 12-B) and is recorded in a log book (e.g., Annex 12-C).
4. The results of the assessment are shared with the employee.
5. A remedial action plan is developed defining required retraining. The plan should be written and the manager must insure that the plan is understood by the employee. The plan should outline specific steps to be taken to resolve or correct the problem with related deadlines. Needed resources should be clearly outlined in the plan. For example, the employee may need an updated version of the SOP.
6. The employee is asked to acknowledge the assessment, related action plan, and reassessment.

If more than one person makes the same error even after training has occurred, consider root cause of error such as equipment malfunction and operating procedures ambiguity.

### Competency assessment documentation

Standard forms (Annex 12-B) should be generated in advance and used so all employees are assessed the same way. This will prevent employees from thinking that the assessments are biased.

All competency assessments must be recorded (Annex 12-C) showing date and results and should be kept in a place where they remain confidential. These records are part of a laboratory’s quality documents, and should be periodically reviewed and used for continuous improvement.
**Content Sheet 12-4: Training & Continuing Education**

**Definitions**

Training is a process to provide and develop knowledge, skills, and behaviors to meet requirements. In this context, training is linked to the job description and competency assessment and addresses identified gaps on specific tasks to be performed by the employee. Competency should be reassessed after any job-specific training.

Retraining is required when competency assessment reveals the need for improving an employee’s knowledge and skills.

Cross-training provides an opportunity for staff to acquire skills outside their own discipline. This allows for flexibility in shifting or reassigning personnel whenever needed; this may occur in crisis situations or with absences of staff due to illness or vacation.

Continuing education is an educational program that brings employees up-to-date in a particular area of knowledge or skills. Since laboratory medicine is constantly changing, keeping current takes effort on the part of both employee and management.

**Rationale**

Reasons for training and continuing education are to:

- achieve quality practices in the laboratory and produce accurate, reliable, and timely test results;
- help staff achieve personal career goals;
- improve the organization’s capabilities and achievement of quality objectives.

In laboratory medicine new testing methodologies and instruments are continuously introduced to the market place that could have implications for laboratory testing and improved patient care.

**Methods**

When planning a training or continuing education activity, consider:

- identification of training needs
- design of training
- provision of training
- evaluation of training results.

Activities can often be organized at low cost, for example:

- starting a journal club
- starting case study discussion groups
- watching videotapes and CDs
- researching a topic and presenting findings to colleagues
interactive self-study programs including e-learning freeware or printed courses

collecting and maintaining a set of teaching slides (e.g., haematology and parasitology).

This picture is from a laboratory with limited resources. It shows a staff member demonstrating how this laboratory approaches continuing education. The staff conducted education sessions once a week in this room.

Resources

Local resources—When organizing internal continuing education programs, local resources available from the healthcare community should be considered. Some of these resources include:

- quality assurance committee
- clinicians
- nurses
- pathologists
- infection control personnel
- epidemiologists / surveillance officers
- external assessors.

Each of these groups may offer specialized knowledge and experience they can share with laboratory staff. They can be invited to give lectures, lead discussions, and exchange information.

External resources—External continuing education programs can also be presented by topic experts such as those associated with:

- proficiency testing services
- manufacturers
- scientific societies
- World Health Organization
- U.S. Centers for Disease Control and Prevention
- nongovernmental organizations.
Content Sheet 12-5: Employee Performance Appraisal

**Periodic appraisal**

Employees should have a periodic formal appraisal of their overall performance. This is broader than competency assessment and includes the following elements:

- technical competency
- efficiency
- adherence to policies
- observance of safety rules
- communication skills
- customer service
- punctuality
- professional behavior.

**Feedback**

Appraisal can affect an employee’s morale, motivation, and self-esteem and should be conducted equitably for all employees. People respond to criticism differently even if delivered tactfully; therefore, consider unique approaches that match personality when counseling employees. Positive feedback, as well as suggestions for improvement, should be provided.

All identified problems should be addressed with the employee when they occur so that they can correct any issue before the formal evaluation. A periodical appraisal that is part of the employee’s record should not have items that were not previously discussed with the employee.

**Cause of poor performance**

Poor performance may not always be due to technical incompetence. Performance may be affected by:

- distractions, especially personal issues such as either a sick child or parent, or financial problems, can make the employee’s concentration difficult;
- excessive workloads that pressure or hurry the employee may cause them to inadvertently make errors;
- insufficient initial orientation or training;
- resistance to change—Some people may not want to use new procedures; “we’ve always done it this way, why change?”

The following factors could also contribute to poor results performance.

- Compromised sample—The laboratorian may or may not know that the sample arrived in the wrong preservative or was improperly stored.
• Absence of SOPs or failure to update them. Test kits may come with modified manufacturer’s instructions, and these modifications need to be reflected in the SOPs.

• Poorly written procedures such as omitting certain steps, including the wrong sequence of steps, or incorrect sample or reagent quantities can cause very serious errors and should always be suspected when several employees obtain erroneous results.

• Job descriptions that are not clear may be a source of error—For example, confusion about who has responsibility for calibrating an instrument could result in the calibration not being done; therefore, causing erroneous results.
Content Sheet 12-6: Personnel Records

Policy
Medical laboratories should maintain employee records that contain information integral to their laboratory-related work. Keep records of positions held and dates for each of these positions. This information is important for calculating employee benefits. All terms and conditions of employment should be a part of the personnel record.

What
Personnel information that the laboratory maintains may differ in different regions and settings. While a complete list of information may include the following, some parts may not be required in all regions and all settings:

- employment details;
- original application and resume;
- tests the employee is authorized to perform;
- conditions of continued employment;
- job description;
- both original and subsequent competency assessments;
- continuing education programs attended;
- personnel actions—corrective, disciplinary;
- leave records;
- health information including records of work injury or exposure to occupational hazards, vaccine status, skin tests if any;
- performance appraisals;
- emergency contact information.

Where
The personnel files should be kept in a secure site to protect confidentiality. Not all information needs to be maintained within the laboratory offices. Some institutions maintain a human resources/personnel department that may be responsible for employee records. Consider what is essential to be maintained in the laboratory itself such as emergency contact information or job descriptions.
Management of personnel is critical to the success of a quality management program. Several elements are important in this management process. Job descriptions should reflect all skills needed and accurately describe tasks, roles, and authorities. The competency of personnel will need to be evaluated at the time of hiring and on a regular, recurring basis. A very important part of the management process is to seek ways to attract qualified personnel, and to provide motivation and appropriate benefits and working conditions so as to retain staff.

- Personnel are the most important resource in the laboratory.
- Managers must create an environment that will fully support all laboratory personnel in order to maintain a high quality of laboratory performance.
- Continuing education is vital to personnel competency, but does not need to be expensive. New testing methodologies and instruments are constantly introduced to the marketplace, and employees need to update their knowledge and skills.