

ASCP Board of Certification Practice Analysis Report Diplomate in Laboratory Management (DLM)

For Development of
DLM(ASCP)
Content Guideline and Examination
for DLM Exam Publication January 1, 2024

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INTRODUCTION

The purpose of conducting a practice analysis (a.k.a. job analysis or job task analysis) is to provide the foundation of a certification examination by defining practice in a profession. The practice analysis provides evidence of content validation. It is required by psychometric standards and is considered best practice for high-stakes examination development. It also ensures the certification examination is fair, valid, job-related, and most importantly, legally defensible (Chinn and Hertz 2010)¹. The ASCP Board of Certification (BOC) conducts a practice analysis approximately every five years in accordance with ASCP BOC Policy and requirements of the accrediting body, ANAB (ANSI [American National Standards Institute] National Accreditation Board), under ISO/IEC 17024.

A practice analysis is a formal process for determining or verifying the responsibilities of individuals in the job/profession, the knowledge individuals must possess, and the skills and abilities necessary to perform the job at a minimally competent level. It provides a complete and modern understanding of the duties and functions of practicing laboratory professionals. The practice analysis process is carried out in the form of a survey that lists all the tasks thought to be completed by practicing laboratory professionals. The results of the practice analysis inform the specifications and content of the ASCP BOC certification examinations. This ensures that the examinations are reflective of current practices, and it helps guarantee that individuals who become certified are current and up-to-date on the state of practice and are competent to perform as certified laboratory professionals.

PRACTICE ANALYSIS PROCESS

The ASCP BOC conducted a practice analysis survey to inform the Diplomate in Laboratory Management (DLM) certification examination category.

The process for conducting a practice analysis consists of the following steps:

1. Survey Development
2. Demographics
3. Task Inventory – Skill Questions
4. Rating Criteria
5. Survey Construction
6. Pilot Testing and Revision
7. Survey Distribution
8. Survey Analysis
9. Committee Review and Discussion
10. Examination Content Guideline, Standard Setting, and Exam Publication

SURVEY DEVELOPMENT

During the 2021 ASCP BOC examination committee meeting, the Laboratory Management Examination Committee provided the input and discussion to develop a practice analysis survey. The committee members (subject matter experts) collectively discussed all pertinent aspects of their profession to design a concise survey to extract useful feedback from field professionals while maximizing response rate. The survey had two main components: demographics and task inventory with appropriate rating scales for each.

¹Chinn, R.N., and N.R. Hertz. 2010. *Job Analysis: A Guide for Credentialing Organizations*. Lexington: Council on Licensure, Enforcement and Regulation (CLEAR).

DEMOGRAPHICS

The demographic questions asked respondents about their experience, education, job title, type of facility, gender, age, etc. The purpose of these questions was to aid the committee in deciding whether the sample of respondents obtained was representative of the profession in general.

TASK INVENTORY – SKILL QUESTIONS

The committee developed a series of job-related task questions that formed the body of the survey. The survey had four major sections:

- Financial Management
- Operations Management
- Personnel Management
- Quality Management

RATING CRITERIA

The rating scale used for the job-related task questions asked respondents to indicate whether or not they currently performed specific tasks as part of their jobs. If the respondents noted that they did not perform a task, they were asked to indicate whether they were expected to have knowledge of the concept or protocol to perform their jobs.

SURVEY CONSTRUCTION

The practice analysis survey was created and delivered through Key Survey. Using an electronic tool allowed survey review and testing via the internet, email tracking of respondents using email addresses, and the ability to send email reminders for completion of the survey.

PILOT TESTING AND REVISION

The Laboratory Management Examination Committee tested a pilot version of the survey. They reviewed and revised different aspects of the survey (e.g., information correctness, grammar/spelling, survey branching). The pilot testing comments and edits informed the final version of the survey.

SURVEY DISTRIBUTION

The Laboratory Management Examination Committee determined that the survey should be sent to all current DLM certificants in the ASCP BOC Personify database. The survey was open for a 3-week period between November 3 – 24, 2021. ASCP BOC staff also directly emailed the survey to the Laboratory Management Examination Committee and encouraged the committee membership to disseminate the survey to their colleagues. Additionally, the survey link was posted on ASCP social media sites (i.e., Facebook, Instagram, and LinkedIn).

SURVEY ANALYSIS

The respondents were asked to answer all questions and rate all tasks in the survey. Any individuals not currently practicing (e.g., retired, unemployed, or simply not working in laboratory management) were removed from the practice analysis survey.

COMMITTEE REVIEW AND DISCUSSION

During the 2022 examination committee meeting, the Laboratory Management Examination Committee reviewed the practice analysis results. They agreed that the demographic results accurately reflected the DLM population (**Appendix A**).

In general, tasks performed by at least 40% of the respondents were retained on the task lists and considered valid to be included on the examination. The committee reviewed all tasks performed by less than 40% of the respondents. If the committee determined that these tasks were critical to patient care and/or were up-and-coming in practice, then the task was retained on the task list and considered valid for the examination. If the task was considered outdated or too esoteric, then it was removed from the task list and not included on the exam. The committee decisions were compiled into the Final Task List for DLM (**Appendix B**) which was used to inform the exam content guideline and the content for the certification exam.

EXAMINATION CONTENT GUIDELINE, STANDARD SETTING, AND EXAM PUBLICATION

The Laboratory Management Examination Committee revised the DLM exam content guideline based on the Final Task List for DLM (**Appendix B**). They reviewed the content area percentages on the content guideline and determined no changes were needed. The committee reviewed the exam database according to the updated content guideline and deleted or revised questions accordingly. They wrote new questions to fulfill the content guideline, and reclassified questions according to the updated guideline. After this work was completed, the committee performed standard setting to determine the pass point of the exam, and the new exam was published.

Appendix A

DIPLOMATE IN LABORATORY MANAGEMENT (DLM)

Demographic Analysis

Total usable survey respondents: 183

Usable individual respondents met the following criteria:

- Currently employed as a director, supervisor, or manager in a clinical laboratory, blood/donor center, or research facility.

Summary of demographic results:

- ASCP BOC credentials: individuals may have multiple credentials. The most common credentials include:
 - 21% are DLM certified.
 - 78% are MLS certified.
 - 9% are MLT certified.
 - 9% are SBB certified.
- Highest level of education completed:
 - 54% have a master's degree or higher.
 - 44% have a baccalaureate degree or postbaccalaureate program certificate.
 - 2% have an associate degree.
- Years of experience:
 - Mean: 17 years
 - Minimum: 1 year
 - Maximum: 40 years
- Geographic Distribution: there are respondents from across the United States. The states with the highest response rate include:
 - 9% from Texas.
 - 7% from California.
 - 6% each from Maryland, Illinois, and Oklahoma.
- Facility:
 - 51% work in hospitals.
 - 24% work in independent (reference/commercial/private) laboratories.
 - 12% work in health systems.
 - 13% work in other types of facilities.
- Age:
 - Mean: 52 years of age
 - Minimum: 30 years of age
 - Maximum: 65 years of age
- Gender:
 - 75% are female.
 - 19% are male.
 - 6% chose not to answer.

Appendix B

DIPLOMATE IN LABORATORY MANAGEMENT (DLM)

Final Task List (topics kept on exam based on practice analysis results)

FINANCIAL MANAGEMENT	
1. Budget preparation (e.g., preparation, management)	
2. Capital equipment acquisition (e.g., return on investment [ROI], net present value, depreciation)	
3. Cost analysis (e.g., new tests, setting charges)	
4. Materials management (e.g., purchasing, inventory)	
5. Financial accounting (e.g., general ledger, accounts receivable/payable, financial ratios)	
6. Utilization management	
7. Labor resource management (e.g., FTEs, productivity)	
8. Contract negotiations (e.g., third-party payor, vendor, GPO)	
9. Cash flow analysis (e.g., balance sheet, income statement)	
10. Revenue cycle management (e.g., coding, billing, reimbursement)	
OPERATIONS MANAGEMENT	
11. Safety and emergency management	
12. Multidisciplinary activities (e.g., advisory groups, committees, PI projects)	
13. Informatics and data analytics	
14. Facilities management (e.g., space allocation, laboratory design, utilities)	
15. Equipment management	
16. Verification and validation of methods/tests (e.g., LDTs, EUAs)	
17. Strategic planning	
18. Project management	
19. Communication management	
20. Marketing and outreach	
HUMAN RESOURCE MANAGEMENT	
21. Recruiting/hiring and separation	
22. Engagement (e.g., motivation, employee recognition, continuing education)	
23. Staffing and scheduling	
24. Performance management (e.g., onboarding, training, behavioral expectations, competency assessments, evaluations, coaching, counseling, disciplinary action)	
25. Succession planning and staff development	
26. Organization structure / job descriptions	
27. Wage and salary administration	
28. Regulatory compliance (e.g., CLIA, FMLA, ADA, FLSA, EEOC)	
29. Conflict resolution	

QUALITY MANAGEMENT

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| 30. Performance improvement (e.g., workflow mapping, Six Sigma, Lean) |
| 31. Regulatory compliance and licensure (e.g., federal and state) |
| 32. Accreditation |
| 33. Risk assessment |
| 34. Risk management / medical-legal issue management (e.g., root-cause analysis, failure mode effects analysis [FMEA]) |
| 35. Auditing |
| 36. Quality assurance (e.g., quality planning, quality control) |
| 37. Document management |
| 38. Nonconforming events / corrective action and preventive action (CAPA) |