April 4 - 8 | Denver, Colorado

2025 | ASCLD Symposium

Project Management in the Forensic World

Leslie Parke PMP, CQA

Signature Science, LLC

What Do I Know About Project Management?

- Managed projects for 30+ years
- Credentialed PMP since 2011

Project Management Institute.

THIS IS TO CERTIFY THAT

Leslie E. Parke

HAS BEEN FORMALLY EVALUATED FOR DEMONSTRATED EXPERIENCE, KNOWLEDGE AND PERFORMANCE IN ACHIEVING AN ORGANIZATIONAL OBJECTIVE THROUGH DEFINING AND OVERSEEING PROJECTS AND RESOURCES AND IS HEREBY BESTOWED THE GLOBAL CREDENTIAL

Project Management Professional (PMP)®

IN TESTIMONY WHEREOF, WE HAVE SUBSCRIBED OUR SIGNATURES UNDER THE SEAL OF THE INSTITUTE

Jennifer Tharp | Chair, Board of Directors

Pierre Le Manh | President & CEO

PMP® Number: 1406178

PMP® Original Grant Date: 24 April 2011

PMP® Expiration Date: 24 April 2026

Topics to Cover

- General Project Management definitions and relevance to forensic labs
- Project Management processes and objectives
- Example ‘projects’
  - Finite validation effort
  - Ongoing laboratory operations management

Standard Definitions

- Per the Project Management Institute
  - Project: A unique product, service, or result that has specific objectives
  - Project Management: the application of knowledge, skills, tools, and techniques to project activities to meet project requirements www.pmi.org
- Project Manager role
  - Being a Project Manager means integrating a variety of disciplines in order to meet the project's objectives – including finance, human resources, and quality assurance

SOUND FAMILIAR?

Roles and Responsibilities

Project Manager

- Main POC for client/stakeholders
- Manage budget for each task
- Staff tasks with people with appropriate skillsets
- Identify risks and mitigations
- Establish & manage plans to meet project objectives

Crime Laboratory Director

- Main POC for stakeholders
- Manage budget for each discipline
- Staff each section with appropriate skillsets
- Identify risks and mitigations
- Establish & manage plans to meet lab's objectives

General Project Management Processes

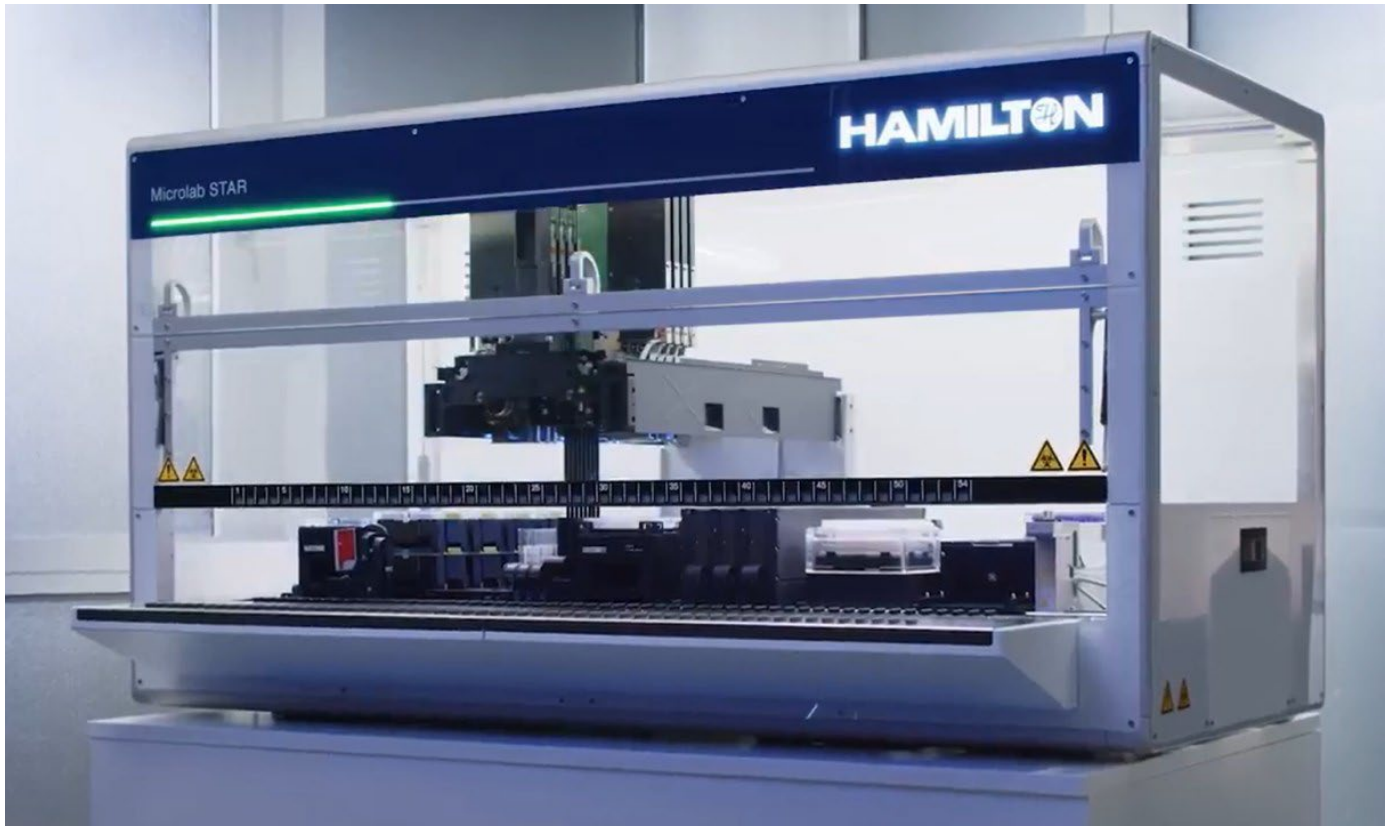
- Initiation
  - Activities performed to define a new project
- Planning
  - Activities required to establish the project scope, schedule, objectives, staffing and tasks required to achieve the project objectives
- Execution
  - Tasks required to complete the work according to the project specifications
- Monitoring/Controlling
  - Activities to track, assess, and regulate the progress and quality of the project
    - Make changes as needed to achieve project objectives in the required timeframe
- Closing
  - Finalizing all activities/deliverables and formally close the project

General Project Management Objectives

- Time/schedule management
- Cost control
- Quality management
- Resource management
  - People
  - Space
  - Equipment
- Risk Management

Example Project:

- Validation of a large-format DNA extraction robot



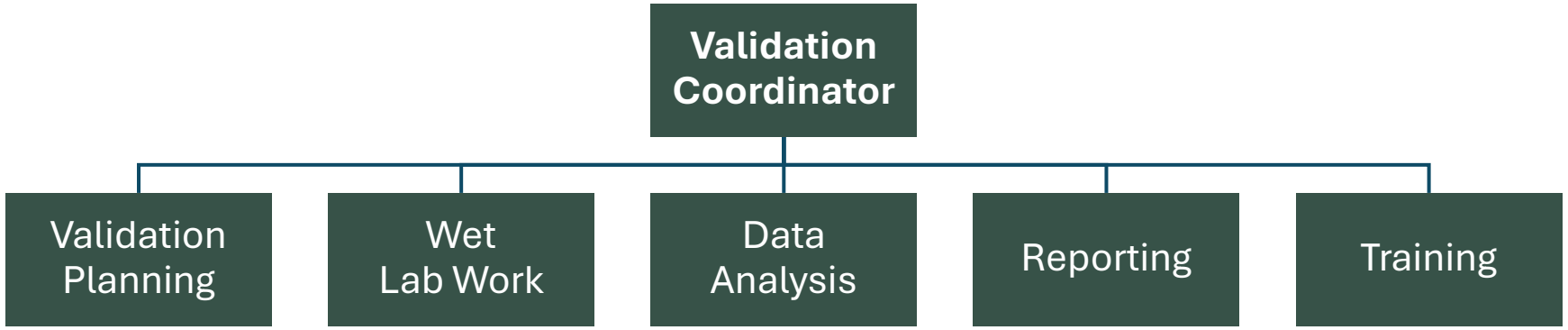
- **Initiation**
- Planning
- Execution
- Monitoring/Controlling
- Closing

Project Initiation – Develop Project Charter

- Assign the person to manage the effort (aka the Project Manager)
- Define the validation objectives
- Capture the high-level requirements
- Develop budget
- Identify approval requirements
  - Person who signs off on the success of the milestones and final validation

Validation Project Organization

- In this example, the Validation Coordinator is the Project Manager equivalent
- Each task could be led by individual Task Leaders who are responsible for their piece, but the Project Manager is accountable for execution of the overall effort



Project Initiation — Identify the Stakeholders

- Lab staff?
- Lab management?
- Customers?
- Board of Directors?
- Chief of Police?
- DA office?

Identifying **who** needs to know **what** helps drive the communication channels throughout the project

- Initiation
- **Planning**
- Execution
- Monitoring/Controlling
- Closing

Project Planning

- Collect requirements
  - Define the scope (e.g., perform differential and non-differential extractions and purifications)
  - Create the Work Breakdown Structure (WBS)
    - A project management tool that systematically breaks down a project into more manageable tasks
- Outputs from project planning stage:
  - Validation plan
  - Schedule and budget plans

Work Breakdown Structure (WBS)

Task 1: Planning

1.1 Determine robot's location
1.2 Identify needs for ancillary equip
1.3 Identify validation studies
1.4 Document criteria for success
1.5 Write validation plan
1.6 Approve validation plan

Task 2: Laboratory Work

2.1 Obtain validation samples
2.2 Obtain reagents
2.3 Perform contamination study
2.4 Perform sensitivity study
2.5 Perform Accuracy/Precision studies study
2.6 Perform nonprobative/concordance studies
2.7 Perform mixture study

Task 3: Data Evaluation/Reporting

3.1 Assess results
3.2 Prepare tables/graphs
3.3 Prepare validation report
3.4 Approve validation report

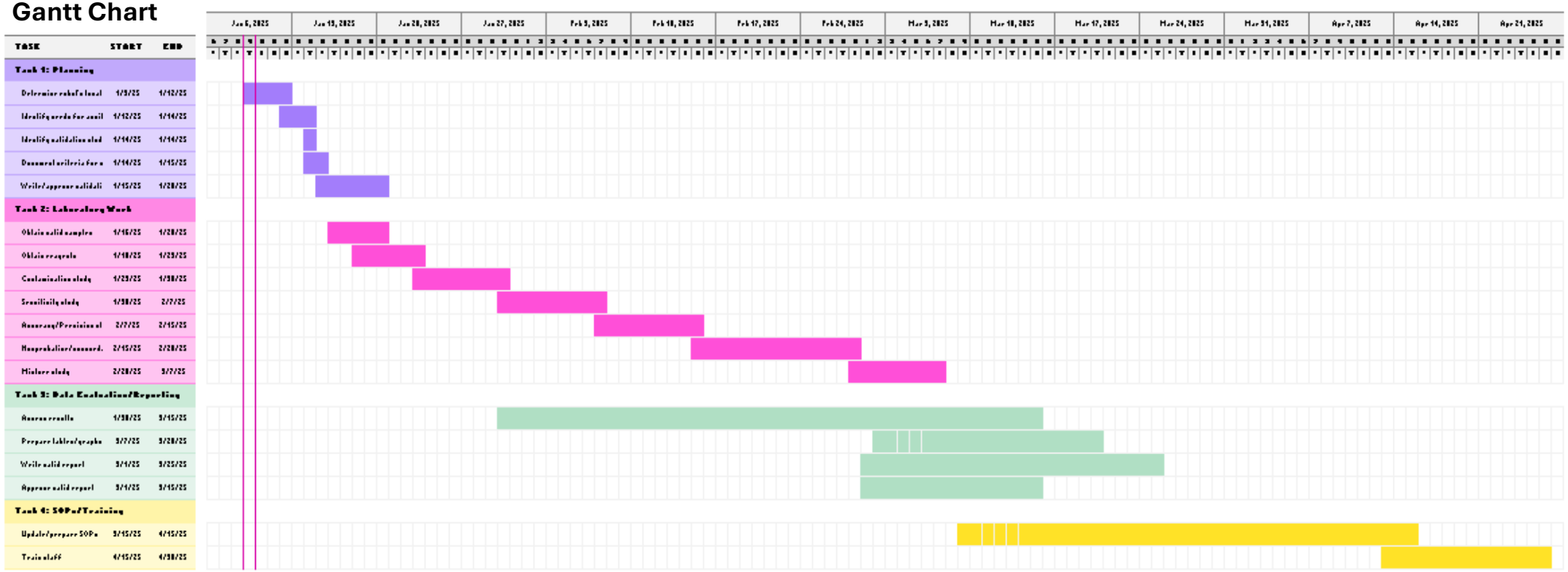
Task 4: SOPs/Training

4.1 Update/prepare SOPs
4.2 Perform staff training

"If you fail to plan, you are planning to fail."
– Benjamin Franklin

Project Planning — Develop Schedule

Gantt Chart



Project Planning — Develop Budget

- Estimate costs and determine budget
  - Labor hours needed (also helps with staff planning)
  - Materials

Chronologically, I did this piece during the justification process to get buy in from the Executives prior to purchasing the robot:

- Estimated cost of effort
- Estimated return on investment

Project Planning

- Plan quality
  - Initial quality considerations are baked into the validation plan
  - Also plan for ongoing quality following validation
    - What activities need to be done for preventive maintenance?
    - What quality actions need to be specified in the SOP?
- Plan communications
  - How frequent should meetings be held?
    - Base it on length of project and concentration of effort
  - What agenda topics should be covered each time?
    - Status updates (e.g., schedule, staffing), troubleshoot issues if needed
  - Who should attend?

These may change over the course of the project

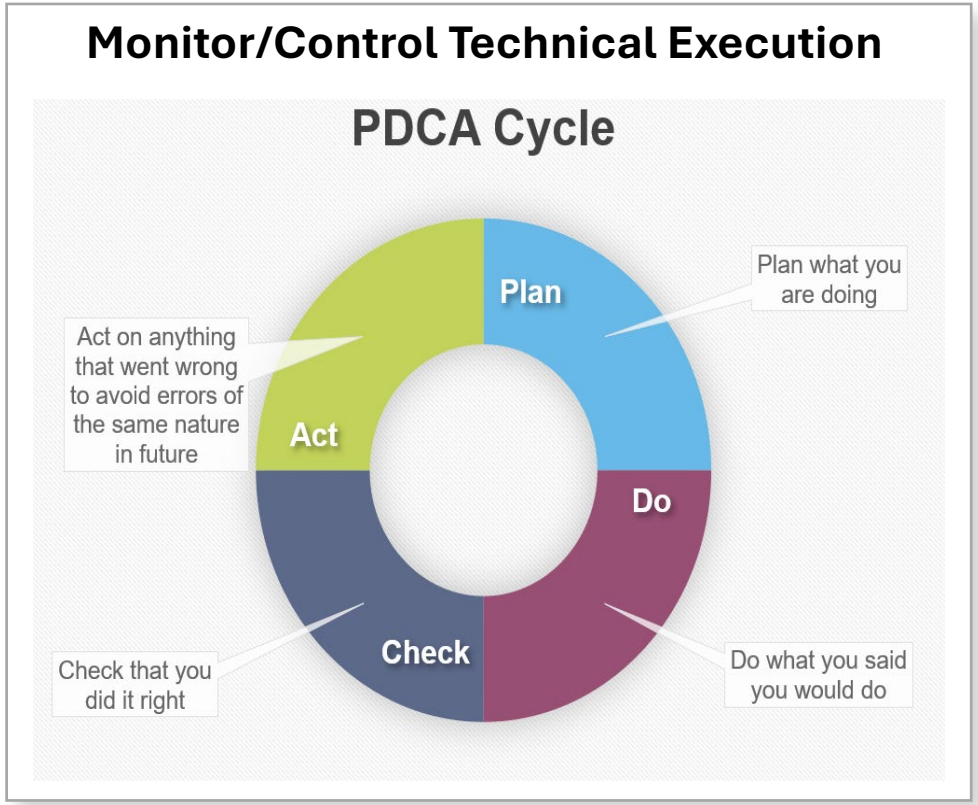
- Initiation
- Planning
- **Execution**
- **Monitoring/Controlling**
- Closing

Project Execution & Monitoring / Controlling

- Three components to monitor/control
  - Technical component
  - Budget component
  - Schedule component
- Outputs of project execution:
  - Validation data/graphs/tables
  - Validation report
  - SOPs

"There is nothing so useless as doing efficiently that which should not be done at all."

– Peter Drucker



From Citation ISO Certification (formerly QMS®)

Monitor / Control Budget

Snapshot of February monthly reporting

	Task 1: Planning			Task 2: Lab Work			Task 3: Data Eval/Report			Task 4: SOPs/Training		
	Planned	Earned	Actual	Planned	Earned	Actual	Planned	Earned	Actual	Planned	Earned	Actual
Month	Value	Value	Cost	Value	Value	Cost	Value	Value	Cost	Value	Value	Cost
Jan	7000	7000	7300	1500	1500	1800	500	500	550	0	0	0
Feb	7000	7000	7300	7500	6000	8000	4500	5500	5335	0	0	0
Mar	7000			10000			10000			5000		
Apr	7000			10000			10000			20000		
Variance		0%	4%		-25%	25%		18%	-3%			

- Earned Value Management System (EVMS): monitors the schedule and budget progress of the project each month
  - Planned Value – Monthly expense plan for each task
  - Earned Value – How much progress you made in each task each month
  - Actual cost – Actual expenses incurred each month

- Initiation
- Planning
- Execution
- Monitoring/Controlling
- **Closing**

Project Closeout

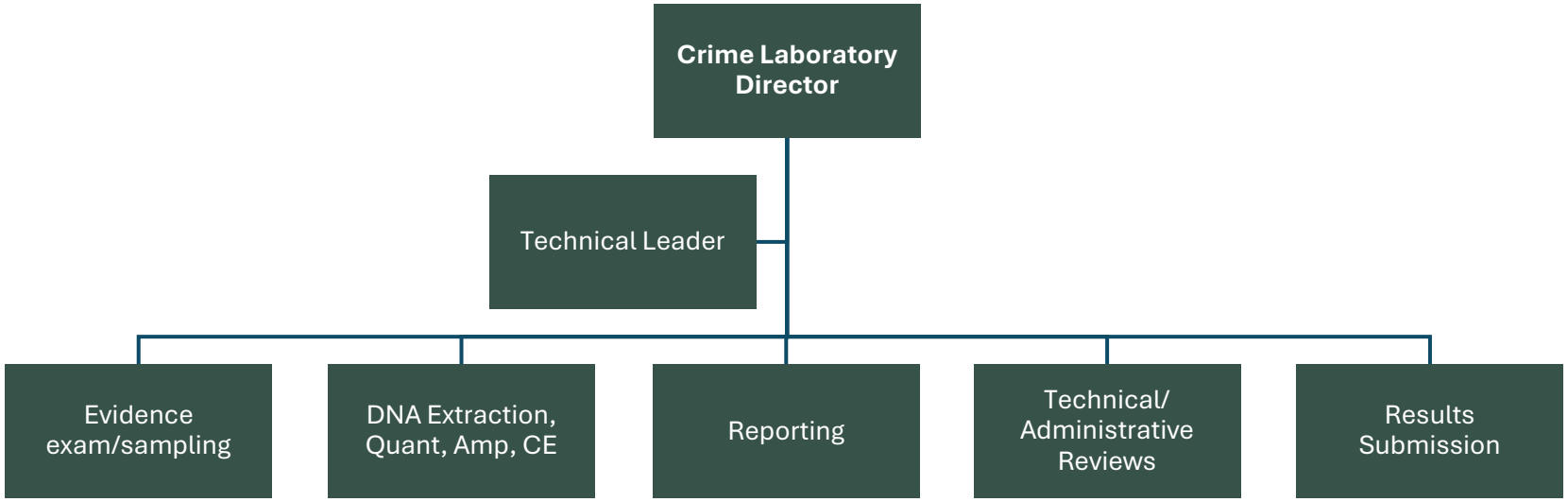
- Obtain acceptance by the customer or sponsor
  - Technical Leader sign-off of on training/competency testing
- Document any lessons learned
  - Sets things up for improvements for the next validation
- Update any organizational process assets
  - Update training curriculum, proficiency testing instructions
- Specific to forensics:
  - Ensure that data files are well named and organized
  - Discard amp plates, archive remaining extracts if available

Project Management

- SigSci Example: Laboratory Operations

Laboratory Operations Management (DNA)

- In this example, the Director is the Project Manager equivalent
  - Responsible for achieving the lab's overall objectives
- Much like the architect in a home building project, the Technical Leader is responsible for the technical component of execution



Project Management Processes

- Initiation
  - Activities performed to define a new project
- Planning
  - Activities required to establish the project scope, schedule, objectives, staffing and tasks required to achieve the project objectives
- Execution
  - Tasks required to complete the work according to the project specifications
- Monitoring/Controlling
  - Activities needed to track, assess, and regulate the progress and quality of the project
    - Make changes as needed to achieve project objectives in the required timeframe
- Closing
  - Finalizing all activities/deliverables and formally close the project

Laboratory operations focus here

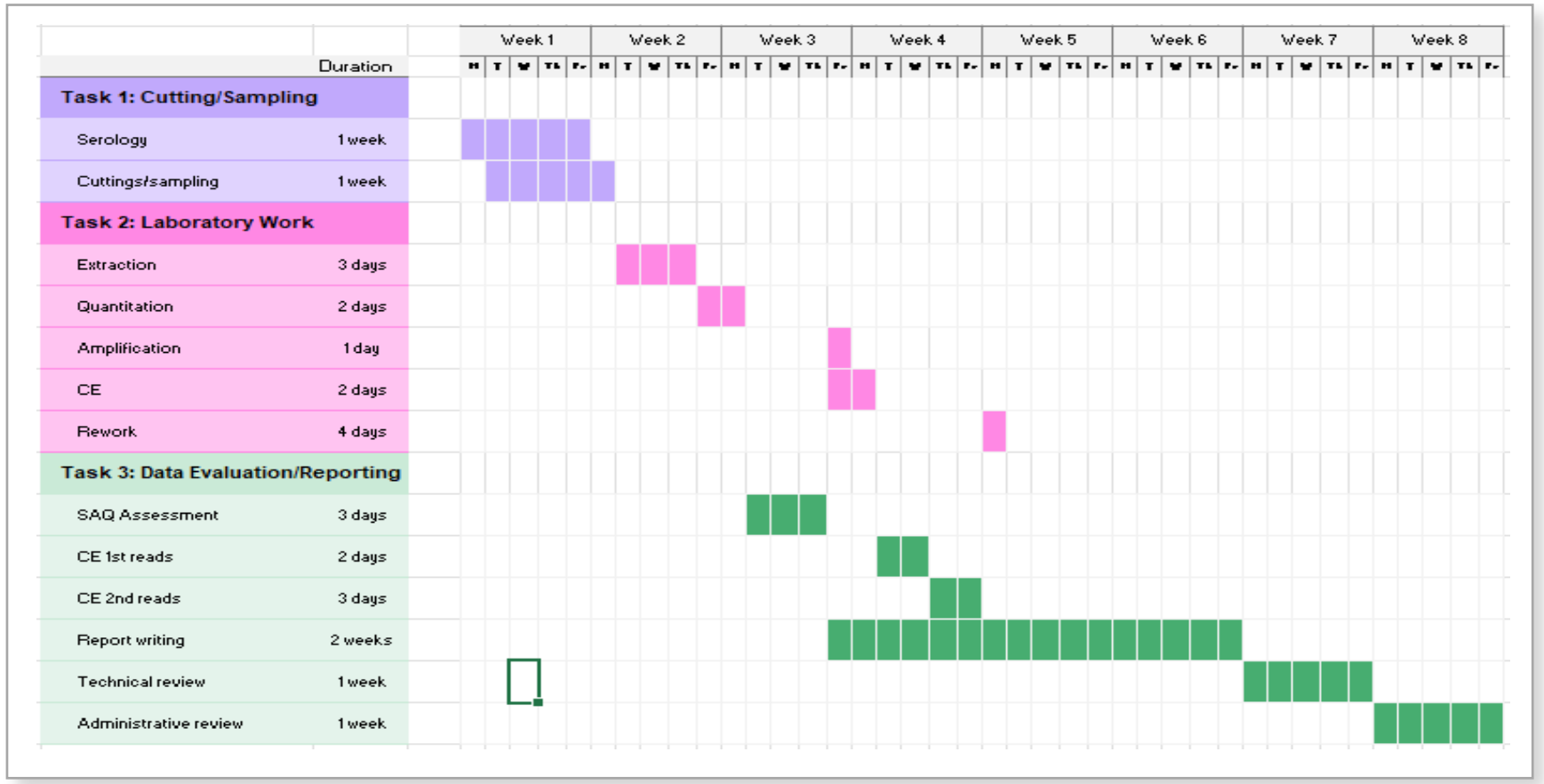
Laboratory Management Objectives

- Same objectives as managing a finite project!
  - Time/schedule management
    - Turn around times for testing
  - Cost control
  - Managing quality
    - Quality management
    - Audits
    - Corrective/preventive actions
    - Case & testimony reviews
  - Resource Management
    - Staff
    - Equipment
    - Space
  - Risk Management
    - Failure points
    - Mitigations

Schedule Management at SigSci

- Each batch of cases that arrives is managed like a discrete project
  - Focus is more on time/quality/resource/risk management than on budget
- Control mechanisms for schedule
  - Batch Lead role (similar to Task Leader on the validation project)
    - Primary person to ensure that their assigned batch is on track
    - Responsible for coordinating with Tasking Team
    - Ensure that non lab tasks are on schedule (e.g., making STRmix projects, parsing HID files)
  - Unit Manager role (acts as a Deputy Project Manager)
    - Work with clients to determine how many cases we can receive
    - Work with Evidence Manager on scheduling batches to stagger due dates
    - Work with Director to identify hiring and other resource needs

Schedule Management — Casework Gantt Chart



Schedule for a batch requiring a 60-day turn around time

Resource Management at SigSci

- Tasking Team
  - Daily stand-up meetings with lab staff to coordinate for following day
  - Set and monitor expectations (metrics) for work throughput
    - Cut 5 SAKs in a day
    - Extract 3 sets of possible semen samples per day
- Team Leaders (staff supervisors)
  - Work with Tasking Team on resource availability
  - Provide performance feedback and work with employees on goal setting
  - Recommend training on next methods (career development)
- Vendor Coordinators/Lab Managers
  - Address instrument and facility issues

Quality and Risk Management

- Identify failure points and plan for mitigating those if needed
  - Redundancy in equipment and trained staff
  - Service contracts for key instruments
  - Action plans for emergencies
- Look for opportunities to continuously improve quality/efficiency
  - Preventive actions
  - Corrective actions and responses to quality incidents
  - Observe lab operations for consistency between analysts and best practices

"One of the true tests of leadership is the ability to recognize a problem before it becomes an emergency."

– Arnold Glasow

Cost Management

- Labor costs
  - Mine data to look for keys to maximizing efficiency
  - Bring on new methods so fewer staff are needed to perform the work (e.g., large format extraction robot)
- Materials costs
  - Select methods that use bulk reagents if possible
  - Prepare reagents in house where possible (e.g., serology reagents)
  - Work with vendors for volume discounts

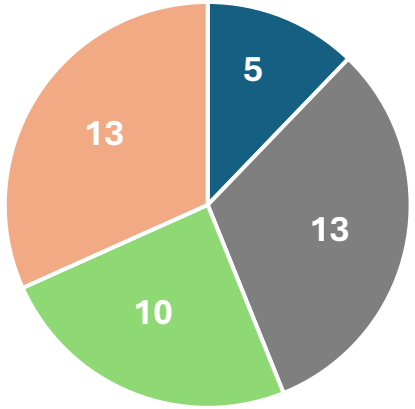
Example Data Mining

- Quality Incident Reports and Corrective Action Reports summarized to look for trends across years
- Timeliness of reporting results and responding to discovery requests
- Data assessed to monitor costs (labor and materials)
  - CostPoint software from Deltek used corporately, helps with compliance with DCAA timekeeping rules/regulations
    - Captures and allows Project Managers to project labor hours
    - Tracks materials expenses

Quality Incident Reports

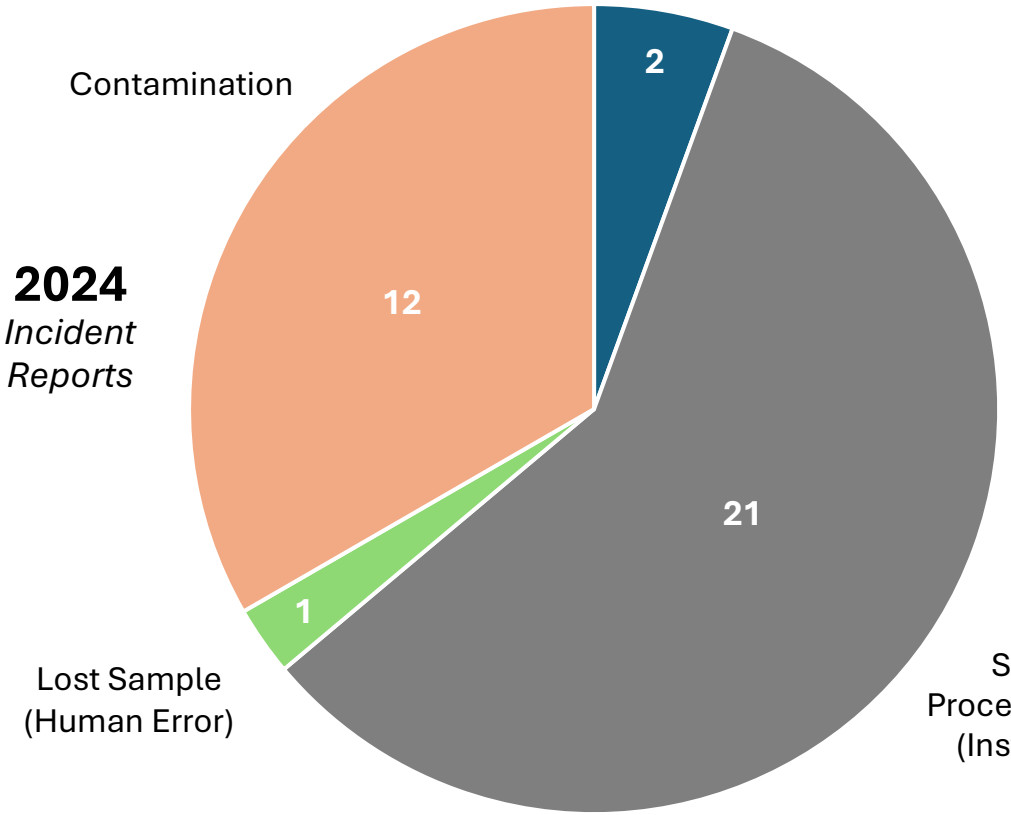
- Take a high-level look at errors (Incident Reports)
- Compare years to assess trends and progress

2023
Incident Reports



Total IRs in 2023 = 41

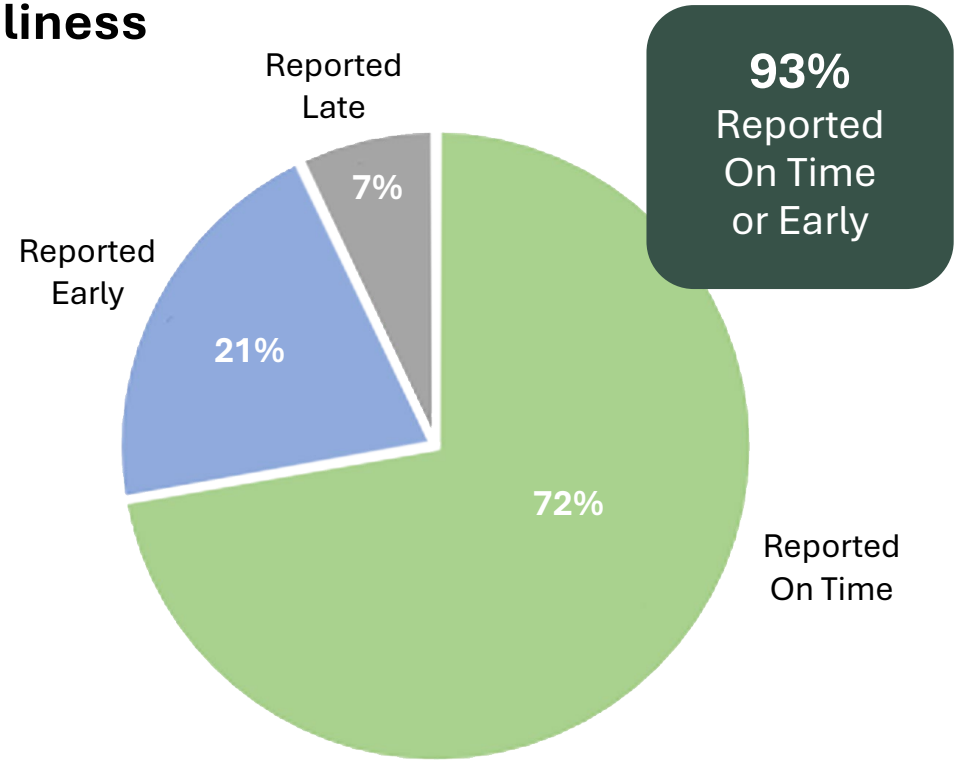
2024
Incident Reports



Total IRs in 2024 = 36

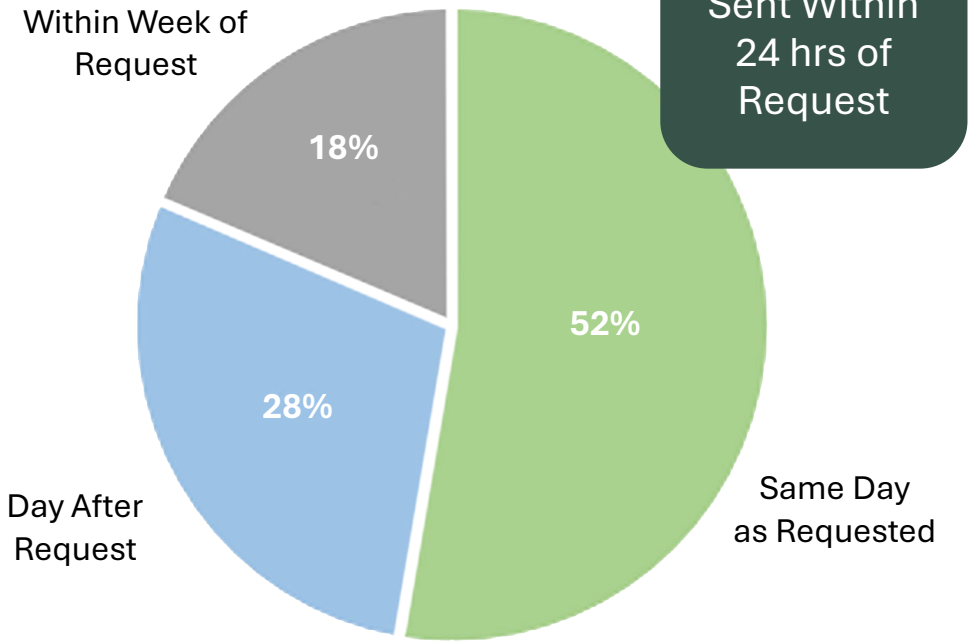
On Time Reporting Stats

CY2024 Reporting Timeliness



93% Reported On Time or Early

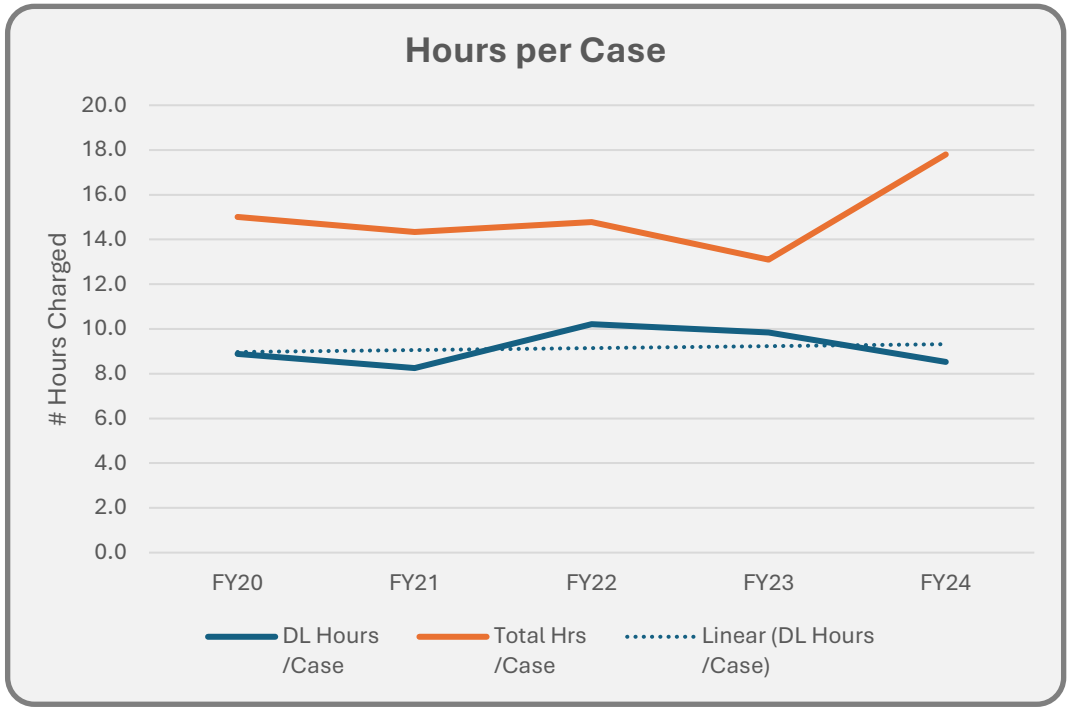
CY2024 Discovery Request Response Time



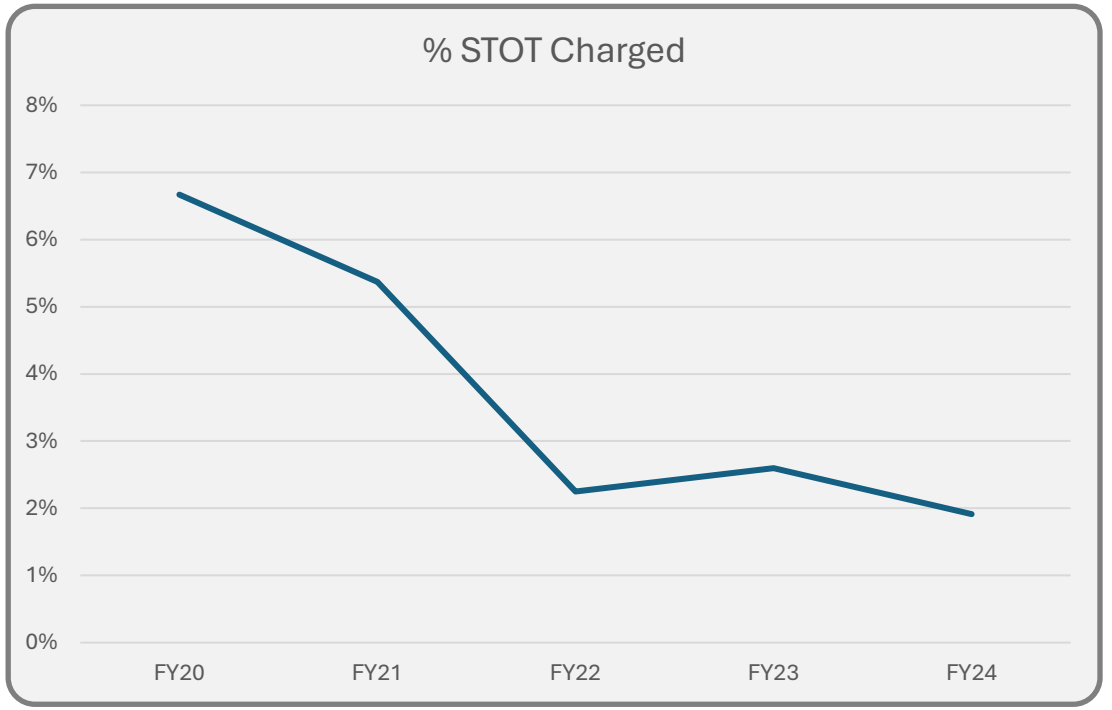
80% Sent Within 24 hrs of Request

Direct Labor vs. Overtime Labor

Looking for Trends in DL vs OH Hours



Assessing STOT Usage to Determine Appropriateness of Staff Level



Summary

- Project management is all about setting yourself up for success to help ensure that your objectives are met within your available working parameters (e.g., funds and timelines)
- Those same classic project planning and execution/monitoring processes can also help Lab Directors meet their objectives and ultimately satisfy stakeholder and end user needs

Leslie Parke PMP, CQA

signature science LLC

Contact Me

LParke@SignatureScience.com

Rate My Session

- Open event mobile app
- Click ‘Agenda’
- Click ‘Project Management in the Forensic World’
- Provide your rating and feedback on this session

Download This PowerPoint

- Open event mobile app
- Click ‘Agenda’
- Click ‘Project Management in the Forensic World’
- Follow prompts to download this deck as a PDF

AMERICAN SOCIETY OF CRIME LABORATORY DIRECTORS ASCLD