

40 Lab Metrics You Need to Track

The Top Business KPIs, Compliance, and Productivity Measures to Level Up Your Lab

Key Points

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(888) 680-5834

sales@qbench.com

[QBench.com](https://qbench.com)

Why Track Metrics in a Lab?

As they say, what gets measured gets managed.

If you aren't tracking any KPIs in your lab, it's difficult to benchmark progress or identify bottlenecks.

The KPIs we collected are measures of lab performance, including its activities, processes, and services.

Tracking the right KPIs ensures that your lab is running smoothly, instruments are correctly calibrated, and your test results are accurate.

What gets measured gets managed.

Unlock the full potential of your lab with these essential metrics.



This guide, complete with definitions, is designed to help you make informed decisions and enhance your lab's performance. While a lengthy list of metrics may seem overwhelming, we'd recommend walking through these to benchmark your lab and spot the immediate areas for improvement. This will give you a plan you can follow and a way to start tracking and demonstrating improvement.

Business Metrics

1. Monthly, Quarterly, and Yearly Orders

Track the number of orders broken down by the past month, quarter, and year to help your lab identify demand patterns and seasonal trends and better allocate resources (and staff) to keep up with demand.

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3. Revenue per Sample/Analysis

While tracking revenue overall, it's essential to keep track of where your revenue is coming from. Keeping an eye on revenue per sample/analysis gives you insights into the profitability of your lab's services and can help you better allocate resources.

4. The Total Cost of Sample Analysis for Each Test Performed

While tracking revenue overall, it's essential to keep track of where your revenue is coming from. Keeping an eye on revenue per sample/analysis gives you insights into the profitability of your lab's services and can help you better allocate resources.

5. Customer Retention

How many customers keep using your lab's services over time? Keep an eye on the percentage of customers who continue to use your lab's services over time.



Lab Operations Metrics

1. Sample Throughput

Sample throughput tracks the number of samples processed in a given period.

This gives you an overview of your lab's capacity and volume. Tracking this at different intervals throughout the year allows you to spot trends and allocate resources accordingly.

2. Turnaround Time (TAT)

A core metric for any lab: how long does it take to go from sample receipt to result delivery? TAT is a critical metric for customer satisfaction and operational efficiency, indicating how quickly the lab completes its analyses.

3. Test Volume

Similar to sample throughput, keep an eye on the total number of tests performed within a specific timeframe. This metric helps understand the demand for different test types and plan resource allocation accordingly.

4. Reagent and Supplies Inventory Turnover

As you run through reagents and supplies, you must have a way to measure your inventory usage and status. Inventory management

ensures your lab operates without delays and helps you manage storage costs. We recommend investing in a LIMS (lab information management system) to manage inventory.

5. Equipment Utilization

Labs invest millions of dollars into specialized equipment. To maximize your return on that investment it is important to optimize how equipment throughout the lab is used, ensure peak productivity, and minimize idle time for maintenance or calibration.

6. Equipment Calibration and Maintenance

Equipment calibration and maintenance are critical as well to ensure your lab equipment and instruments are all functioning correctly and in working order. Failure to measure this leads to delays and inaccurate test results.

7. Specimen Rejection Rate

The percentage of samples rejected due to improper collection, labeling, transport, or storage. Reducing this rate improves operational efficiency and reduces wastage.

Quality Assurance/Quality Control Metrics

1. Accuracy and Precision

Accuracy and precision get easily mixed up, but there is an important difference between them. Accuracy refers to how close the test results are to the true value, whereas precision refers to how repeatable the results are. Both accuracy and precision are critical for ensuring the reliability of lab tests. Some call the repeatability over time “reliability” rather than precision.

2. Control Sample Test Results

The analysis of control samples with known values alongside patient or environmental samples to ensure the testing system is working as expected. Deviations in control sample results can indicate potential issues with test accuracy.

3. Occupational Health and Safety Incidents

It's a good practice to keep up on health and safety incidents in your lab, especially for some industries where lab techs can come into contact with hazardous materials. A lower number indicates a safer working environment for lab personnel and fewer compliance issues.

5. Error Rates

Not only do errors lower the productivity of your lab, they can put the lives of those who depend on your test results in danger. For example, a clinical lab will go to great lengths to measure the error rates in tests to ensure accurate results and patient safety. No matter your industry, staying on top of error rates and reducing errors can help your lab remain productive.

6. Error Reduction Rate

In addition to tracking your error rate, it's worth tracking the rate at which errors are reduced through automation or other process improvements. By automating key systems, you can minimize human errors and increase the accuracy and reliability of laboratory results.

7. Calibration Verification

This measures regular checks to ensure that instruments are accurately calibrated according to manufacturer specifications and industry standards. Proper calibration is critical for accurate test results. Adherence to scheduled preventive maintenance for

Quality Assurance/Quality Control Metrics

laboratory equipment to prevent unexpected failures and ensure consistent performance.

control failures, which impacts the overall efficiency and reliability of lab operations.

8. Corrective Actions for Quality Control Failures

This measures the timely identification and correction of issues leading to QC failures, including the implementation of corrective actions and monitoring their effectiveness.

9. Document Control and Record Keeping

It's a good practice to keep up on health and safety incidents in your lab, especially for some industries where lab techs can come into contact with hazardous materials. A lower number indicates a safer working environment for lab personnel and fewer compliance issues.

10. Turnaround Time for QC Issues

Much like turnaround time for lab tests, the turnaround time for QC issues measures how long it takes to identify, address, and resolve quality control issues in your lab. This shows how responsive your lab is to quality

How Can a Lab Efficiently Measure All of These?

Get a QMS

For modern labs, a QMS (Quality Management System) can help manage quality assurance and quality control. QBench LIMS has an integrated QMS, bringing your lab data, metrics, and quality control under one roof.



Productivity and Efficiency Metrics

1. Automation Efficiency

Measures the effectiveness of automated processes in terms of time savings, reduced manual effort, and increased throughput. High efficiency indicates successful automation implementation.

2. Tests per Full-Time Equivalent (FTE)

This tracks the number of tests performed per full-time staff member. This metric is helpful in assessing staff productivity and optimizing labor costs. It can also be used to understand seasonality and demand changes throughout the year.

3. Instrument Utilization Rate

The percentage of time that instruments are in use versus the total available time. High utilization rates indicate efficient use of equipment. This can help you better allocate resources as well as budget for new equipment.

4. Reagent and Supplies Usage Efficiency

This tracks the consumption of reagents and supplies in relation to the number of tests performed. This

helps identify wastage and opportunities for cost savings.

5. Cost per Test

The total cost associated with performing each test, including labor, reagents, and overhead. This metric is crucial for financial planning and identifying areas where efficiency can be improved.

6. Operational Downtime

The amount of time that operations halt due to equipment failure, maintenance, or other issues. Reducing downtime is key to maintaining high levels of productivity.

7. Work Order Cycle Time

The amount of time that operations halt due to equipment failure, maintenance, or other issues. Reducing downtime is key to maintaining high levels of productivity.

8. Occupancy Rate

For labs that manage space and equipment booking, the occupancy rate measures the effectiveness of laboratory space and resource utilization. This can be especially useful in estimating staff growth.

Compliance and Safety Metrics

1. Data Integrity

Data integrity issues can lead to serious downstream effects and compliance issues. Ensure your lab's software and systems uphold data integrity and comply with relevant industry regulations and standards.

2. Regulatory Compliance Rate

The percentage of compliance with relevant local, national, and international regulations and standards. This includes adherence to protocols for lab practices, data management, and reporting.

3. Safety Incident Rate

The number of recorded safety incidents or accidents per a certain amount of time/lab hours worked. This metric is crucial for assessing the effectiveness of safety protocols and training.

4. Training Completion Rate

The percentage of mandatory safety and compliance training sessions completed by staff. This metric ensures that all personnel are up-to-date with the latest safety protocols and regulatory requirements.

5. Personal Protective Equipment (PPE) Compliance Rate

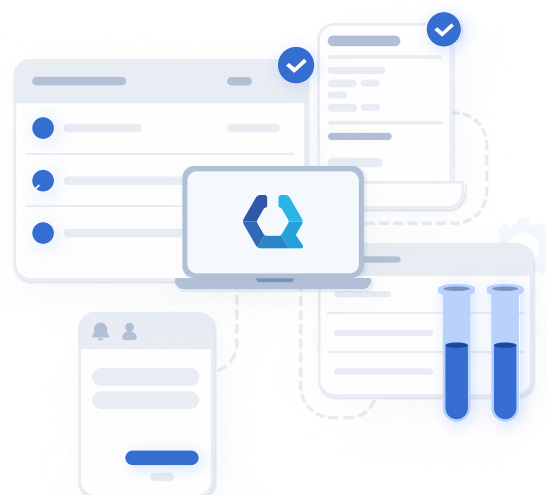
The rate at which staff comply with PPE requirements is critical for preventing exposure to hazardous materials and conditions.

6. Waste Management Compliance Rate

Adherence to protocols for properly disposing of hazardous and non-hazardous waste, including biological, chemical, and radioactive materials. This metric is key for environmental safety and compliance.

7. Chemical and Reagent Storage Compliance

Adherence to guidelines for the safe storage of chemicals and reagents, including proper labeling, segregation, and condition of storage areas.



Customer Satisfaction Metrics

1. Customer Satisfaction Score (CSAT) or Net Promoter Score (NPS)

A direct measure of customer satisfaction through surveys that ask clients to rate their satisfaction with the lab's services on a scale. It's a straightforward metric that provides immediate feedback on client perceptions.

2. Customer Complaint Resolution Time

The average time it takes to resolve a customer complaint is a critical customer satisfaction metric to track. Faster resolution times are generally associated with higher levels of customer satisfaction.

3. Quality of Customer Support

This measures the effectiveness, responsiveness, and friendliness of the customer support team. High-quality support is essential for resolving issues and maintaining positive customer relationships.

QBench LIMS comes with a customer portal, making it easy to provide a self-service way for customers to submit requests, view status reports, and more!

Need Help?

Embarking on the journey of tracking and optimizing these crucial lab metrics can seem daunting, but QBench is here to guide you every step of the way. Our cutting-edge LIMS, coupled with the expertise of our knowledgeable staff, offers a seamless solution for implementing robust tracking mechanisms that will not only elevate your lab's efficiency but also ensure its success. Let QBench help you harness the full potential of your lab operations, transforming data into actionable insights for unparalleled performance.



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