

Investigating Quality Indicators Guide^{XC04}

Additional Data may be given to participants upon request.

Testing Statistics –

Decrease in number of tests performed in Oct 20XX.

If you...

Review **Monthly Laboratory Reports** for the last 6 months –

Test Statistics show a reduction of tests completed by 17% for the month of October 20XX compared to the average of the past 6 months

Review the **Quality Indicator Monthly Summary** to determine what internal factors could explain why testing volumes down –

Staff at training, stockouts, and equipment down time all noted.

Review **patient / specimen register** –

Several patients left without having testing performed during the second week of the month.

Review **patient / specimen register** over the last 6 months to determine if drop in volume due to a decrease in the numbers of patients presenting (external factors) –

Number of patients presenting appears relatively steady.

Speak to Lab Tech #1 about the patients leaving during week 2 –

Tech states that patients left when there was a long wait during week 2. The long wait occurred because there was not enough staff to meet the demand for testing.

Assessment: Note that decreased testing volume may be related to external or internal factors and one month is not sufficient time for a trend to be established. However, it appears that a significant number of patients left during the second week of the month to raise suspicion that this drop may be related to inadequate staffing when one staff is away for training. Further investigation required.

What would you do?

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Equipment Down Time –

Hematology Analyzer is down three days out of 31 days.

If you ...

Consult the “book of life” / **equipment service record** for the instrument –

Over the previous 6 months, the Hematology Analyzer has received service monthly. Details of the repairs are not noted.

Look at the preventive **maintenance log** for the instrument –

Routine preventive maintenance has been performed intermittently from between 7-15 days per month for the past 6 months.

Phone call to other laboratories (in the district) **with the same instrument** –

They have had no service calls or malfunctions in the past 6 months.

Phone call to the service representative regarding the frequent service calls –

He states that the tubing reveals dried crystalline material indicative of inadequate cleaning and preventive maintenance.

Review the **Quality Indicator Monthly Summaries** for the last 6 months–

Instrument has been down for 2-3 days most months for the past 6 months.

Assessment: Inadequate routine and preventive maintenance contributed to frequent breakdowns of the hematology analyzer.

What would you do?

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Stock Outs –

Chemistry Reagents stocked out 6 days during the month of October.

If you...

Review **inventory stock card** –

Find Chemistry Reagents have not been inventoried since Jan 20XX. Prior to that date, Chemistry reagents had been in stock routinely.

Review **procurement records** –

Find that Chemistry Reagents were last ordered in Jan 20XX. No other requisitions noted. No worksheets available to determine how order amount was determined.

Review **Monthly Laboratory Report** –

Note that there is no data on number of chemistry tests performed in the last 8 months.

Assessment: Stock out of chemistry reagents related to inadequate inventory control; including lack of visual inventory count, lack of monitoring testing statistics, lack of adequate procurement documentation, and lack of proper forecasting.

What would you do?

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Turn Around Time (CD4)-

TAT increased by 15% in the second week in the month.

If you...

Look at **equipment preventive maintenance records** –

Note routine equipment maintenance checked off daily.

Review **inventory data** –

Note that reagents were in stock.

Review **Quality Indicator Monthly Summary** to evaluate staffing levels –

Note lab tech #3 at training this week. The other lab techs were trying to cover her workstation assignments and respond to customers' inquiries, and were unable to focus on the CD4 testing.

Assessment: TAT increased due to Lab Tech #3 being out for training – inadequate staffing.

What would you do?

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External Quality Assurance – Hematology EQA failed this month.

If you...

Investigate the **EQA result** –

Note that the results were not reviewed because they were submitted beyond the acceptable postmark date.

Investigate the **EQA result submission** –

Note that the report was postmarked two days after the deadline for submission.

Speak with performing lab tech (Tech #3) about the report –

The tech stated that she was on leave and she had completed the analysis immediately upon her return.

Speak with other lab techs (Tech #1 & #2) querying why the specimen was not submitted in a timely fashion –

State that Tech #3 is the best one to perform this analysis, so she does all the PT. When she is on leave, the specimen waits for her.

Assessment: EQA failed because it was not completed on time. However, the deeper issue is that one person is always doing the EQA. Therefore, the actual EQA for the whole laboratory is not being accurately evaluated.

What would you do?

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Number of Specimens Rejected –

Specimen rejection rates are increased each Monday.

If you...

Look at the **patient / specimen register** –

Note that the majority of specimens that are rejected on Wednesdays are from a particular rural HIV clinic.

Look at the **patient / specimen register** for the reason for specimen rejection –

No reason for specimen rejection is noted on the register.

Review the **patient / specimen register** for the past three months -

A pattern is noted. Most rejected specimens are from a rural HC IV in Mukono. These specimens are logged into the lab on Wednesday.

Visit to Mukono HC IV–

Note that one clinician has drawn all the rejected blood samples. He is on holiday on the day of the visit.

Assessment: Specimen rejection rates increased, but no reason is noted in the register. When investigated further, rejection is due to improper collection by one clinician at this particular rural clinic.

What would you do?

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Customer Satisfaction –

Complaints increased in the second week of the month.

If you...

Review **Customer Satisfaction Survey**-

Note Complaints are around lack of attention to the customer's needs

Review **QI Monthly Summary** for all other quality indicators –

Note that there are two significant changes that week. Chemistry reagents are stocked out and one tech is away at training. Either one or both combined may have contributed to the decline in customer satisfaction.

Assessment: Customer satisfaction decreased due to stock outs & decreased staffing.

What would you do?

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Service Interruption due to staffing issues –

Lab Tech #3 is out all of week 2 for training. Was service interrupted?

If you...

Review **Monthly Laboratory Report (Oct 20XX)** for monthly testing statistics –

Note that FBCs decreased from 348 to 217 for the month of October, 20XX. (See test statistics indicator for full discussion)

Review **Quality Indicator Monthly Summary** for technologist productivity & other indications of service level –

Note Technologist Productivity decreased from 8 of 8 TB smears to 5 of 7 TB smears per day during the second week of month.

Customer satisfaction evaluation shows increased complaints during week 2.

Talk with laboratory tech #2 regarding decrease in technologist productivity -

Indicated that she was covering three workstations during week 2 and was not able to concentrate fully on TB smears.

Assessment: Service was interrupted due to one staff being away at training, most likely. However, there were also problems with stockouts that week. And in addition, one may need to investigate why tech #2 had to cover 3 workstations. Was there proper cross coverage and work station assignment set up prior to the departure of Tech #3 to the training.

What would you do?

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Technologist Productivity –

Tech Productivity decreased from 8 of 8 TB smears to 5 of 7 TB smears per day.

If you...

Review **Quality Indicator Monthly Summary** for technologist productivity–

Note Technologist Productivity decreased from 8 of 8 TB smears to 5 of 7 TB smears per day during the second week of month.

Talk with Laboratory Tech #2 regarding technologist productivity–

Indicated that she was covering three workstations during week 2 and was not able to concentrate fully on TB smears.

Assessment: One technologist's productivity decreased due to another staff being away at training, most likely. However, there were also problems with stockouts that week. In addition, staffing issues need to be investigated. (See the service interruption due to staffing issues indicator for further discussion)

What would you do?