

ePT

**Online Proficiency Testing (PT) or External
quality assessment (EQA)**

e-Tool for evidence-based corrective actions

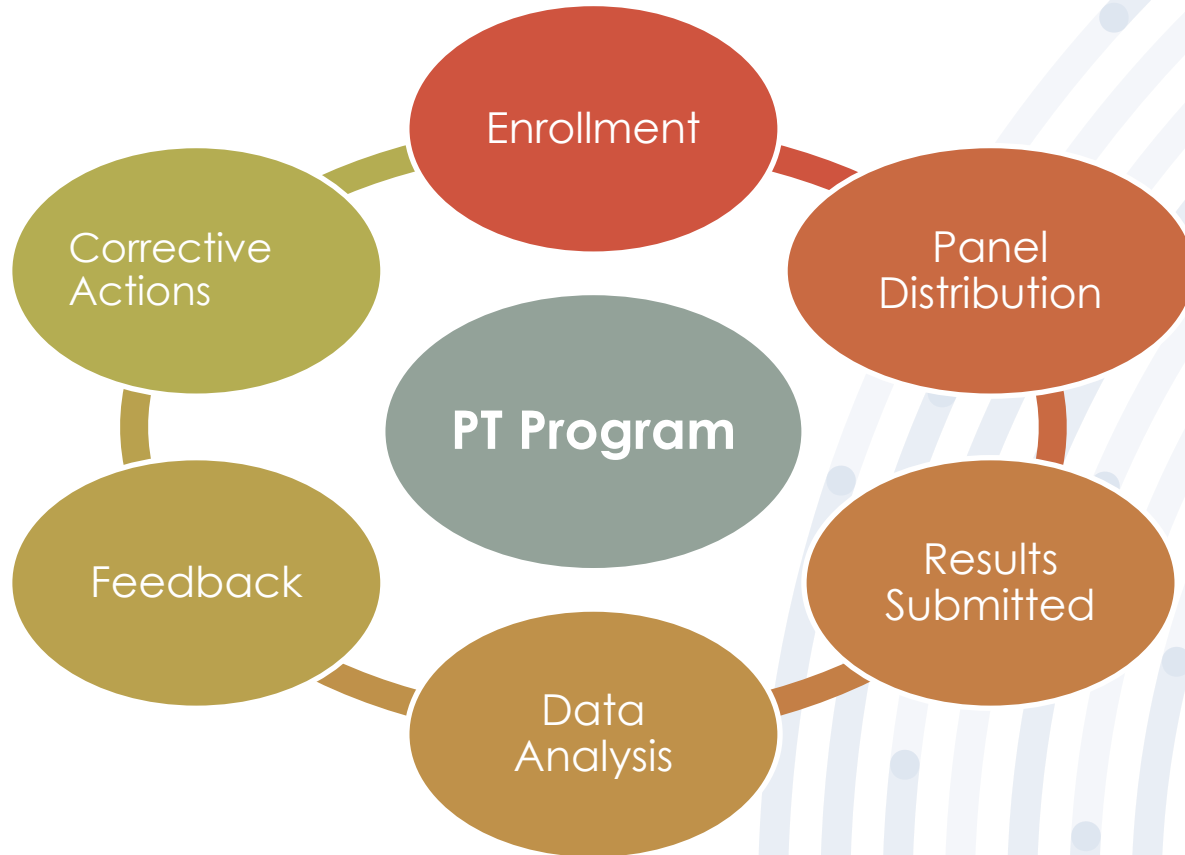
INTRODUCTION

What is ePT, and how can it help?

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Proficiency Testing (PT) or External quality assessment (EQA) is the challenge of the effectiveness of a laboratory's quality management system.

PROFICIENCY TESTING CYCLE



PT is a highly data-driven activity

PT Data helps in

- Measuring participant performance
- Measuring gap in testing quality
- Moving towards accreditation
- Identifying quality improvement initiatives
- Understanding quality of testing from participating laboratories

ROLES AND RESPONSIBILITIES

PT PROVIDER

- Train testing providers
- Provide PT panels
- Analyze PT results submitted
- Generate and review PT Reports
- Provide timely feedback to testing sites
- Provide guidance for corrective actions
- Conduct sites supervision

PARTICIPANT/TESTING SITE

- Verify panel components upon receipt
- Rehydrate DTS panel
- Test according to country algorithm
- Submit report within deadline
- Report problems with testing
- Review feedback report
- Implement corrective actions

SUPPORTING OFFICER

- Assist with training of testers
- Distribute DTS PT packs
- Collect DTS PT results forms from sites
- Assist with PT data entry and analysis
- Distribute DTS PT feedback report to sites
- Assist with providing corrective actions
- Assist with site visits

What is ePT?

ePT is a web-based software application, used to manage Proficiency Testing with the following objectives :

- Provide early warning for systematic problem.
- Increase confidence in the quality of a laboratory's performance.
- As a quality indicator for stakeholders at various levels.
- Quality evaluation and improvement of the testing process.
- Demonstrate employee competency.
- To monitor trends in results.

Key Advantages

- Reduce overall turnaround time for PT
 - Web-based system reduces postal delay in getting panel response to PT Provider
 - Helps PT participants in receiving PT Result and relevant corrective actions on time
- Identifying relevant corrective actions
 - Identify corrective actions for PT Provider to improve quality of testing
- Easy reporting analysis and data management for PT Program
 - Retains and provides historical data
 - Useful reports/analysis to help both PT provider and participants

Common PT challenges and solutions

How can ePT help in overcoming PT challenges?

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CHALLENGE 1

High workload for PT provider to enter responses, evaluate and respond with the reports (individual and final)

Challenge 1 : High Workload

CHALLENGE

Usually, there are thousands of participants participating in the PT Program across the country. These participants send the paper-based result to the PT provider. Entering all responses on an Excel sheet, evaluating responses, creating reports using mail merge, and sending takes more than 3 months, and has no time to work on corrective action before the next shipment.

HOW ePT CAN HELP

- Participants can respond online, or PT Hub can enter data for PT participants to reduce the data entry workload for PT providers.
- Evaluation is done by clicking the button and the result can be shared online to reduce turnaround time for the PT program.



CHALLENGE 2

Large volume of participants, widely distributed in the country

Challenge 2 : No. of participants across the country

CHALLENGE

PT programs have participants across the country/region.

Real-time tracking of the status of response rate is difficult with the manual system. This limit the ability to make necessary correction in the program in real-time and decreases the participation rate.

HOW ePT CAN HELP

- During the response time, ePT provide statistics of the number of response and generate reminder as e-mail for a participant not responded. This helps to increase the response rate of the PT program.
- ePT provides historical information on the PT performance of a participant. It also provides regional performance. This helps the program manager to arrange workshops and training for improving PT performance.

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CHALLENGE 3

Results depend on specific testing algorithm, especially for HIV Diagnosis and Recency testing. This creates challenges in response in the evaluation of the response.

Challenge 3 : Evaluation of Responses

CHALLENGE

HIV testing algorithm is specific to the country. It depends on multifactor such as sensitivity and specificity of test kits and the prevalence of disease in the country. This adds a layer of complexity to the evaluation and provides corrective action to participants.

HOW ePT CAN HELP

- ePT algorithm for HIV diagnosis is customizable and can support the country's National algorithm.
- It can also be adapted for combo tests as Syphilis + HIV diagnosis or HIV diagnosis + RTRI.
- Currently, it supports multiple PT programs such as HIV diagnosis, HIV recency, COVID-19, VL, EID, and TB. The system has the capacity to add different PT modules in this system.



CHALLENGE 4

Poor internet and limitation of
computer system

Challenge 4 : Poor Connectivity

CHALLENGE

Some of the testing sites suffer from poor internet or do not have any internet connectivity. This makes it difficult to use an online system for shipment reporting.

HOW ePT CAN HELP

- ePT is an online system that requires some connectivity for the participant. It is designed for low bandwidth setting. It is also available as an Android app that participants can use for reporting PT data.
- Hub & Spoke model for PT program enables remote sites to report PT results to the Hub. The Hub can print a PT response form, send the form along with the sample, collect the response and enter the response into the ePT system.

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CHALLENGE 5

Electronic data repository and
tracking performance history

Challenge 4 : Poor Connectivity

CHALLENGE

Large numbers create challenges in tracking participating historical performance. This in turn creates challenges in identifying sites that require support for performance improvement.

HOW ePT CAN HELP

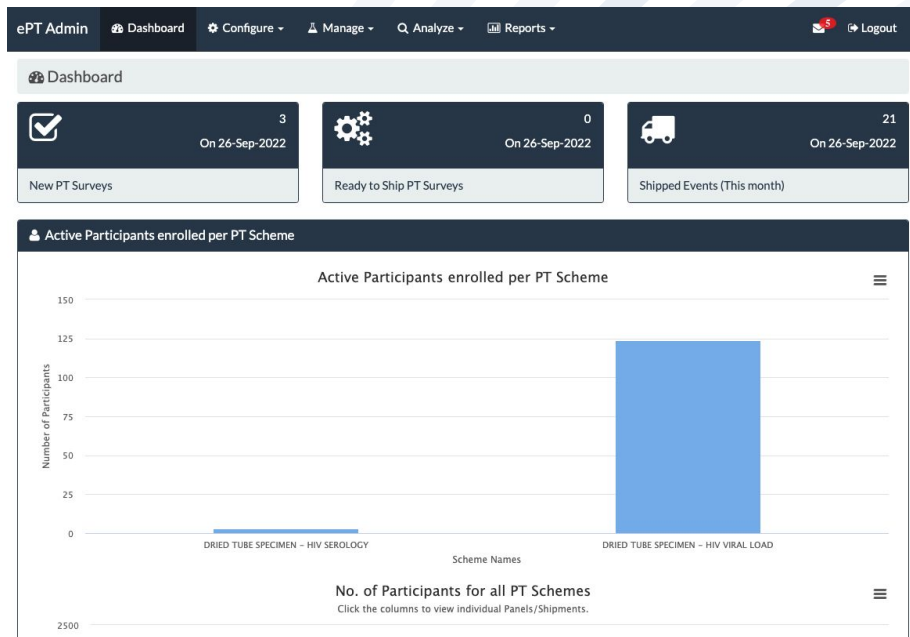
- ePT provides a data repository for PT. This enables the participant as well as PT provider to view complete historical PT performance.

PT Provider Demo

Let us take a quick look at ePT as a Provider

PT Provider Functionality

- Secure area to Manage PT
- Configure various aspects of system
- Manage Surveys/Shipments
- Analyze Responses
- Generate and Export Reports



Configuring System

- Manage PT Participating Agencies/Individuals
- Manage login access
- Configure System and Reports
- Manage administrative access for e-PT system
- Configure Test Kits, Assays etc.

The screenshot displays the ePT Admin interface. The top navigation bar includes links for ePT Admin, Dashboard, Configure, Manage, Analyze, Reports, and a Logout button. The 'Configure' menu is open, showing options for PT Managers, PT Participants, PT Participant Login, Participant Login Map, Pending PT Participants, Scheme Enrollments, Test Kits, and VL Assay. The 'PT Participants' option is selected, leading to a page titled 'List of All PT Participants'. This page features a 'Download as Excel' button, a '+ Bulk Import Participants' button, and an '+ Add New Participant' button. A search bar is present on the right. Below the buttons is a table with columns for Participant ID, Lab Name/Par Name, Test Kits, VL Assay, Mobile, Phone, Affiliation, Email, Status, and Action. The table lists various participants, including those from Malawi, with their respective test kits and VL assay settings. At the bottom, a pagination bar shows 'Showing 1 to 10 of 726 entries' and navigation controls for the first, previous, current page (1), next, and last pages.

Participant ID	Lab Name/Par Name	Test Kits	VL Assay	Mobile	Phone	Affiliation	Email	Status	Action
	OSI	DTSHIV Serology Settings	VL Assay	26.00			informatics.com	Active	Edit
	ANC	SARS-CoV-2 Test Platforms		22.00			informatics.com	Active	Edit
		SARS-CoV-2 Gene Types		88.00			ormatics.com	Active	Edit
	VAT	SARS-CoV-2 Settings		68.00			Labsinformatics.com	Active	Edit
	4PO	ePT Global Settings		50.00			informatics.com	Active	Edit
	AN	PDF Report Settings		001.00			bsinformatics.com	Active	Edit
	K	Malawi		8			pt.Labsinformatics.com	Active	Edit
	K	Malawi		8			pt.Labsinformatics.com	Active	Edit
	U	Malawi		9			bsinformatics.com	Active	Edit
	RE	Malawi		9			pt.Labsinformatics.com	Active	Edit

Manage Surveys/Shipments

- Manage PT Survey
- Manage Testing panel in PT Survey
- Manage participants enrollment for a given panel
- Add/Modify reference result for a given panel
- Ship the panel to participant

ePT Admin Dashboard Configure Manage Analyze Reports Logout

PT Survey Shipments + Add New PT Survey

List of All PT Surveys

10 records per page Search:

See Shipments	PT Scheme	PT Survey Date	PT Survey Code	Shipment Code(s)	Status	Action
	Dried Tube Specimen - HIV Viral Load	09-Sep-2022			Shipped	
	Dried Blood Spot - Early Infant Diagnosis	09-Sep-2022			Shipped	
	Dried Blood Spot - Early Infant Diagnosis	08-Jun-2022			Shipped	
	Dried Tube Specimen - HIV Viral Load	08-Jun-2022			Shipped	
	Dried Tube Specimen - HIV Viral Load	14-Apr-2022			Shipped	
	Dried Blood Spot - Early Infant Diagnosis	14-Apr-2022			Shipped	
	Dried Blood Spot - Early Infant Diagnosis	10-Sep-2021			Shipped	
	Dried Tube Specimen - HIV Viral Load	10-Sep-2021			Shipped	
	Dried Tube Specimen - HIV Viral Load	16-Apr-2021			Shipped	
	Dried Blood Spot - Early Infant Diagnosis	15-Apr-2021			Shipped	

Showing 1 to 10 of 32 entries

« First < Previous 1 2 3 4 Next > Last »

Evaluation and Report Generation

- Evaluate participants responses
- Reviewing response rate and participant performance
- Generate reports for PT participants
- View/Export reports for a given shipment
- Edit and modify participant responses if needed

Shipments Under PT Survey EID2022-B (09-Sep-2022)

Shipment Code	Scheme	No. of Samples	No. of Participants	No. of Responses	Response%	Number Passed	Shipment Status	Action
	Dried Blood Spot - Early Infant Diagnosis	5	68	2	2.94	0	Shipped	View Evaluate Mail 66 Not Responded Participants

Analysis/Reporting

- Participants Performance Reports
- Corrective Actions Report
- Detailed Shipment Report
- Test Kit Usage Report
- Export/Download Data for Analysis

ePT Admin Dashboard Configure Manage Analyze Reports Logout

Shipment Report

Pick a Date Range (Optional) Select Scheme Type (Optional)

10 records per page

Participant Login (Optional)

Search:

[Shipments Report](#)
[Participant Response Report](#)
[Participant Performance Report](#)
[Corrective Actions Report](#)
[VL Sample Analysis](#)
[VL Assay Distribution](#)
[Annual Report](#)

PT Survey Code	PT Survey Date	Shipment Code	Result Due Date	Scheme	No. of Samples	No. of Participants	No. of Responses	Response %	Number Passed	Shipment Status	Download Summary Report
	09-Sep-2022		14-Oct-2022	Dried Tube Specimen - HIV Viral Load	5	137	1	0.73 %	0	Shipped	No Download Available
	09-Sep-2022		14-Oct-2022	Dried Blood Spot - Early Infant Diagnosis	5	68	2	2.94 %	0	Shipped	No Download Available
	08-Jun-2022		20-Jun-2022	Dried Blood Spot - Early Infant Diagnosis	5	19	18	94.74 %	10	Finalized	Summary All Reports
	08-Jun-2022		20-Jun-2022	Dried Tube Specimen - HIV Viral Load	5	27	26	96.30 %	14	Finalized	Summary All Reports
	14-Apr-2022		02-Jun-2022	Dried Blood Spot - Early Infant Diagnosis	5	49	48	97.96 %	44	Finalized	Summary All Reports

PT Participant Demo

Let us take a quick look at ePT as a Participant

Main PT Participant Functionalities

- Respond to PT
- Download reports
- Manage Profile

The screenshot displays the e-PT website interface. At the top, there is a navigation bar with a home icon, a link to "Request for EQA PT Enrollment", and a "Participant Login" button. The main content area features the e-PT logo and the text "EQA Proficiency Testing". Below this, a large blue box titled "Viral Load DTS PT Program" contains a diagram of the testing procedure. The diagram shows five DTS specimens being added to one vial of PBS, followed by instructions to open one tube at a time, add 1.1 mL of PBS, cap the tube, and vortex for 10 seconds. The final step is to perform testing immediately or store the sample at 2-8°C for 24 hours or -15°C or colder for up to one week. Below the diagram, there are two green buttons: "Click here for Participant Login" and "Request for EQA PT Enrollment". At the bottom, there is a "Welcome to [e-PT]!" section with a brief description of the program's purpose, and a "Publications/Resources" section listing several references.

Request for EQA PT Enrollment Participant Login

e-PT
EQA Proficiency Testing

Viral Load DTS PT Program

5 DTS specimens One vial of PBS

Open one tube at a time, add 1.1 mL of PBS, Cap tube, vortex 10 sec.

Perform testing immediately or store 2-8°C for 24 hrs or -15°C or colder for up to one week

Click here for Participant Login Request for EQA PT Enrollment

Welcome to [e-PT]!

Proficiency Testing enable laboratories to assess their performance in conducting test methods within their own laboratories when their data are compared against other laboratories that participate in the same PT.

Publications/Resources

- EQA PT Programs - EID VL
- Ramos et al CDC DTS VL PT JYM 2013
- Garcia et al - CDC EID PT Program JCM 2014
- Nguyen et al - CDC VL PT using DTS - JCM 2015

What Can We Do For You Through ePT?

PT Result Submission

- Enter PT Response for participant(s)
- View/Edit Previous responses
- Download form in PDF format to print

The screenshot shows the 'Report PT Data' interface. On the left is a dark sidebar with navigation links: Program Information, Dashboard, PT Result Submission (selected), View PT Result, Corrective Actions, All Schemes, Defaulted Schemes, My Account, Downloads, Contact Us, and Logout. The main content area has a title 'Report PT Data' and radio buttons for 'All Schemes', 'Active Schemes only' (selected), and 'Inactive Schemes only'. Below this are filters for 'Shipment Code' and 'Province', each with a dropdown menu and a 'Filter' button. A table displays data with columns: Shipment Date, Scheme, Shipment Code, Participant ID, Participant Name, Institute Name, Result Due Date, Response Date, and Action. The table contains four rows of data. The 'Action' column for each row has buttons for 'View/Edit', 'Enter Response', and 'Download Form'.

Shipment Date	Scheme	Shipment Code	Participant ID	Participant Name	Institute Name	Result Due Date	Response Date	Action
28-Apr-2022	Dried Tube Specimen - HIV Serology	2022-1	VL-EID-95	[REDACTED]	[REDACTED]	31-May-2022	28-Apr-2022	View/Edit
04-Mar-2022	Dried Tube Specimen - HIV Serology	DTS2022-1	VL-EID-95	[REDACTED]	[REDACTED]	31-Mar-2022	04-Mar-2022	View/Edit
01-Apr-2022	Dried Tube Specimen - HIV Serology	DTS0322-2	VL-EID-95	[REDACTED]	[REDACTED]	16-May-2022		Enter Response Download Form
28-Apr-2022	Dried Tube Specimen - HIV Serology	2022-1	VL-EID-335	[REDACTED]	[REDACTED]	31-May-2022		Enter Response Download Form



Thanks!

Any questions?