User's Guide

Khyber Pakhtunkhwa D-Talk EMR and LMIS

USAID Funded GHSC-PSM, Pakistan

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1. INTRODUCTION

D-Talk Program is determined to reduce diabetes and also providing free insulin to diabetic patients who could not afford it. D-Talk Program, Khyber Pakhtunkhwa had implemented an information system with the help of implementation partner and Software vendor. Information system had multiple issues including sustainability. Software vendor was not providing bug fixing and post implementation support. Department of Health recommended GHSC-PSM project to D-Talk program, being a trusted implementation partner, D-Talk program had requested GHSC-PSM project to provide technical assistance in development of D-Talk EMR and LMIS. Objective is to digitize inventory, patient registration and insulin issuance to maintain optimal stocks of insulin, transparency, and real data visibility of diabetic patients for surveillance and planning.

1.1. Purpose

Main purpose of the system is to digitize patients and stocks for real time data visibility and evidence-based decision making. System has Configuration Management Module, Product profile, Patient registration, patient prescription, insulin issuance, inventory management, analytics / dashboard module and alerts / notifications module. Configuration Management Module will include but not limited to organization, products, etc., and admin users should be able to tailor system with configuration management module to the maximum.

Dynamic search to track and view patients' details. Role based access control to allow users to access data as per their allowed access. System will be for D-Talk Program KP health facilities, district staff and Provincial procurement team. System will be implemented in 22 health facilities.

- System has different roles like Administrator, Strategic users, and data entry users.
- System is simple to use for all type of users.
- Medium sensitive application.
- Education level required is basic skill to operate computer.

1.2. Document Organization

This User's Manual provides guidance on the usage of the Khyber Pakhtunkhwa D-Talk EMR and LMIS. The remaining sections are organized as follows:

- **Section 2. Prerequisites:** Provides details on any prerequisites in using and understanding this document.
- **Section 3. Software Overview:** Provides a brief overview of the application functionality and system architecture.
- **Section 4. Getting Started:** Provides information for all user roles on tasks required prior to accessing and using the Khyber Pakhtunkhwa D-Talk EMR and LMIS.
- **Section 5: Usage Guidelines:** Provides instructions, tips, and suggestions on how to use the application.
- **Appendix A. Acronym List:** Lists the acronyms used within this document.

- **Appendix B. Message Table:** Provides a list of all error, validation, and other system messages a user may receive through the use of the application.

2. PREREQUISITES

To understand this user manual, basic Supply chain, Diabetic Insulin and its treatment knowledge are pre-requisite.

End user must have basic computer skills like using the browser and navigating between different tabs, etc.
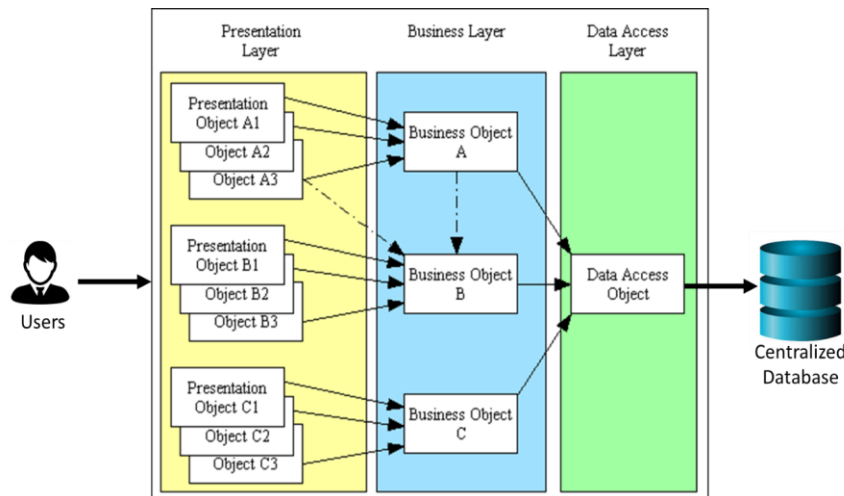
3. SOFTWARE OVERVIEW

3.1. Application Functionality

The newly developed system has a dynamic configuration management that manages the master data like suppliers, products, diabetic complications, oral drugs, etc. In addition to the main module of D-Talk Patient registration, prescription, insulin issuance and LMIS modules have also been included in the system to ensure the smooth running of the system. System not only meets the D-Talk requirements, but its architecture is flexible to support EMR and LMIS functionalities of any vertical health program. It allows D-Talk Program to register patient, enter his/her prescription (diabetic complication, proposed insulin products, strengths, and doses) and insulin issuance. In addition to the core modules, system has logistics management, transactional reports, analytics, and dashboards for each administrative level. The System can be scaled for nationwide and for other vertical programs.

System will provide following user levels: System Administrator, Data Entry Operator and Provincial User.

With D-Talk EMR and LMIS, manual record will be digitized for enhanced data visibility for evidence-based decision making.

3.2. Software Architecture

Application is based of web architecture. Application data is stored at centralized database for real time data input and visibility. It has three layers for data security, ease of use and real time information.

4. GETTING STARTED

The user manual is designed for three type of major user roles: Administrator, Data Entry Operator and Strategic users.

4.1. Prerequisites

To use this system, end user must have desktop / laptop / tablet or mobile device with minimum 0.5GB usable memory and internet browser. System must have minimum 1MB internet connectivity. System must be connected while end user access the application by typing in the following URL: http://175.107.63.111/~insuldckp/
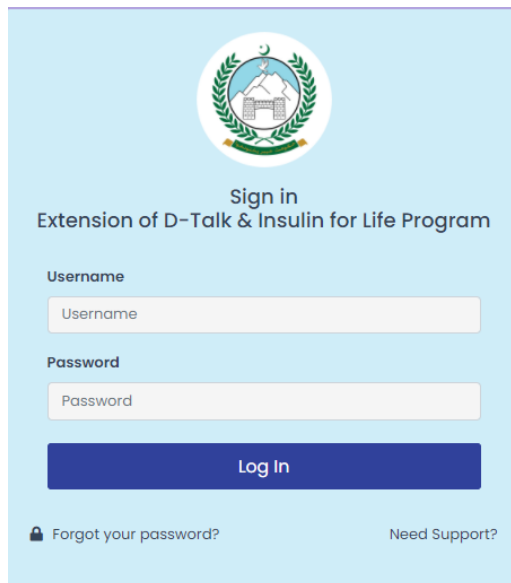
4.2. Obtaining Access Rights

To obtain the login for the application, end user must contact their respective Department Health Officer or D-Talk Program director, Khyber Pakhtunkhwa.

4.3. Logging in for the First Time

If you are logging the first time, please make sure that your device is connected with internet. Open your web browser and type in http://175.107.63.111/~insuldckp/ , enter your login and password and press the login button. After successful login, you will see a menu at your left side. You can use your menu to access the required functionality, like accessing the data entry form or search the record, etc.

4.4. Obtaining Assistance

If you require any assistance, please do send email at support@lmis.gov.pk or contact your D-Talk Program officer.

5. USAGE GUIDELINES

User must have the either of the following browsers to use the application.

1. Google Chrome (Windows, Mac, Linux, Android, IOS)
2. Mozilla Firefox (Windows, Mac, Linux, Android, IOS)
3. Internet Explorer 9 and above (Windows)

Before You Begin...

It is recommended to use the application with Google Chrome or Mozilla Fire Fox. Older generations of browsers are also supported; however, their use can lead to issues with on-screen formatting and display.

5.1. First time or Recursive use

Step 1: Make sure your machine is connected to internet and have suffice bandwidth (Min 1MB up and download)

Step 2: Open the available web browser, in the address bar type in the following:

http://175.107.63.111/~insuldckp/

Step 3: Login page will be loaded. Enter your username and password and press login button.

Confidentiality:

Please make sure that you do not share you login and password with anyone.

Step 4: After successful login, application will load the menu on the left side of your interface. Menu will be as per your access rights. If your role changed due to any reason, please do inform the concerned department, or contact our service desk by sending an email at support@lmis.gov.pk
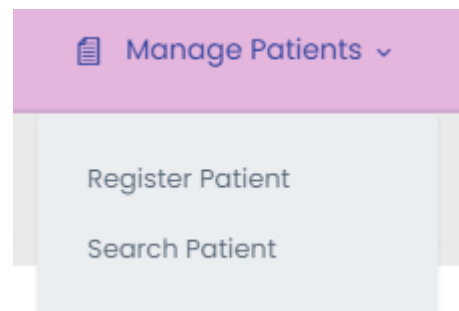

Password Reset

Please regularly change your password and use combination of Alphabets, digits, and special characters. Strong passwords are more than eight characters. To reset the password, please click your username on right top, select change.

Password reset option.

5.2. Data Entry User

If you are a data entry user, from menu select "Manage Patients" and then either select "Register Patient" to create new Patient or "Search Patient" to search for already entered patient or update its following information:

1. Gender
2. Address
3. Date of Birth
4. Contact Number
5. Picture
6. Diabetic Information
   a. Oral Drugs
   b. Complications
   c. Documentation Status

5.2.1 How to enter a new Patient?

From Main Menu select "Manage Patients" and then select "Register Patient". Data Entry Form is design keeping in view ease of use and control for data quality.

S#	New Fields	Example
1	MR#	29-210415-120500 (Auto creation)
2	Full Name	Maheen Ali
3	CNIC	61101-123456-0
4	Gender	Female
6	CNIC Father/Guardian	61101-234567-8
7	Father/Guardian name	Ali Khan
8	Province	Khyber Pakhtunkhwa
9	District	Charsadda
10	Tehsil	Charsadda
11	UC	Agra
12	Address	House 77, Street 90, Charsadda Road, Charsadda
13	Marital Status	Married
14	Diabetic Since	01/01/2000
15	Type	Type1
16	Using insulin since	01/02/2000
17	Oral Drugs	Configurable with Check box options ☐ Cova-H (80/12.5) ☐ Metformin (1/500) ☐ Gabica (75mg) ☐ Glyset (04 mg) ☐ Emglif (10mg) ☐ Trevia Met (50/1000) ☐ Roawin (10mg) ☐ Covam (05/80) ☐ Covam (10/160) ☐ Cova (80mg) ☐ Getformin (2/500) ☐ Trevia Met (50/500)
18	Complications	Configurable with Check box options ☐ HTN ☐ Retinopathy ☐ Neuropathy ☐ Nephropathy ☐ CAD ☐ Foot Ulcer ☐ Stroke ☐ E.D ☐ Primary Amputation ☐ Secondary Amputation
19	Documentation status	Configurable with Check box options ☐ CNIC Submitted ☐ Zakat Entitlement Submitted ☐ OPD Slip Submitted

Patient's Personal Data

MR Number: `200921-075411` ☐ Below 18years   **Full Name:** * `Mr. Ajmal Hussain`

CNIC / B-Form: `14301`   **Gender:** `Male`

> For patients Below 18 years of age, CNIC number of Father / Guardian is mandatory. ✖

CNIC of Father / Guardian / Husband: [ ]   **FULL NAME of Father / Guardian / Husband:** `M Sultan`

Province: `Khyber Pakhtunkhw` **District:** `Kohistan` **Tehsil:** * `Pattan` **UC:** `Jijal`

Address: `Soan Garden`   **Marital Status:** `Married`   **Date of Birth:** `1` `Septem` `1950`

Mobile Phone: `314`   **Upload Picture:** Choose File No file chosen

Diabetes Information

Diabetic Since: `mm/dd/yyyy`   **Type:** `Select`

Using Insulin Since: `mm/dd/yyyy`   **Zakat Entitled:**

Diabetic Since: `--Diabetic Since--`   **Insulin Since:** `--Insulin Since--`

Insulin 1: `Mixtard`   **Daily Units:** `25`

Insulin 2: `Humulin R`   **Daily Units:** `15`

Remarks: [ ]

Oral Drugs:
☐ Cova-H (80/12.5) ☐ Metformin (1/500) ☐ Gabica (75mg) ☐ Glyset (04 mg) ☐ Emglif (10mg) ☐ Trevia Met (50/1000)
☐ Roawin (10mg) ☐ Covam (05/80) ☐ Covam (10/160) ☐ Cova (80mg) ☐ Getformin (2/500) ☐ Trevia Met (50/500)

Complications:
☐ HTN ☐ Retinopathy ☐ Neuropathy ☐ Nephropathy ☐ CAD ☐ Foot Ulcer ☐ Stroke ☐ E.D ☐ Primary Amputation
☐ Secondary Amputation

Documentation Status: ☐ CNIC Submitted ☐ Zakat Entitlement Submitted ☐ OPD Slip Submitted

ote lmic.gov.pk/dtalk/nationts/edit/1

Save Patient Data

To save patient data, there are three options: Save and Register new Patient, Save and Issue Insulin and Save only. End user to click apt button as per requirement.

[Save & Register New Patient] [Save & Issue Insulin] [Save Only]

5.2.2 How to search and update Patient?

From Main Menu select "Manage Patients" and then select "Search Patient".

Screen visible to end user has the following:

1. Search dropdown to select data field to be searched: MR#, Patient name, Mobile Number and CNIC

2. Search Text box for end user to enter value to be searched for.

3. Search output table with Name, MR. Number, NIC Number, Mobile Number, Type and Action.

4. Action Column with Edit, Issue Insulin, View/Print, Patient History Buttons.

   a. **Edit:** By clicking this button, end user can view same form which was used for data entry. But, in edit mode, end user can view entered values and then can edit, if required to.

   b. **Issue Insulin:** By clicking this button, end user can issue insulin to patient.

S#	Data Field	Detail	Example
1	Issuance Date	Select from calendar	01/01/2021
2	Empty Vials Return	Enter number of empty vials returned.	10
3	Notes / Remarks	Enter any details for future reference / record	Lost few empty vials
4	Item Name	Auto populated as per configuration	Cova (80mg)
5	Batch Number	Auto populated as per FEFO	GP1024
6	Expiry	Auto populated as per Batch Number	2021/01/01
7	Stock Available	Auto populated as per Batch Number	40
8	Issuance Limit	Auto populated as per configuration	30
9	Issuance Quantity	End user to enter quantity	30
10	Next Issuance Date	Auto populated as per configuration	2021/01/10

	Issuance Date *		Patient*		Empty Vials Returned *		Notes / Remarks / Observation	

Issuance Date *	Patient*	Empty Vials Returned *	Notes / Remarks / Observation
S User Manual.doc - Compatibility	Mr. Ajmal Hussain-14301 ▾		

#	Item Name	Batch Number	Expiry Date	Stock Available	Issuance Limit	Issuance Quantity	Next Issuance Date
1	Cova (80 mg)	GP1204	2023-09-30	8,966	30		
2	Cova-H (80/12.5)	GP1205	2023-09-30	9,261	–		
3	Covam (05/80)	GP1202	2023-09-30	9,335	–		
4	Covam (10/160)	GP1203	2023-09-30	9,325	–		

5.2.3 Stock Management – Acknowledge Receiving

User interface displays the list of items sent by Provincial Store. End user after confirming the physical stock, check box item(s) he/she has received and press Approve Records to acknowledge the stock received.

Pending Stock Received

Copy   Excel   PDF   Column visibility ▾   Search: [   ]

No.	Transaction Number	Item / Product	Issuance Date	Reference Number	Issued By	Batch	Quantity	Action
1	I-0337	Cova (80 mg)	2021-04-16	PO 123/01	Project Office	GP1204	100	☐
2	I-0337	Cova-H (80/12.5)	2021-04-16	PO 123/01	Project Office	GP1205	200	☐

Showing 1 to 2 of 2 entries   Previous 1 Next

                                                                 Approve Records

5.2.3 Stock Management – Search (Receive or Issue)

If end user would like to view already entered stock receive or stock issue data, he/she can opt for Search Receive or Search Issue as per requirement. User interface shows all possible records and allow end user to copy records, export to excel, export to PDF and adjust column visibility. Also end user can dynamically filter records by enter any word(S) in search box.

Stock Issue Search

No.	Transaction Number	Issued To	Issuance Date	Product Name	Batch Number	Quantity
1	I-0319	mina-15602-5558260-9	2021-03-03	Cova (80 mg)	GP1204	30
2	I-0319	mina-15602-5558260-9	2021-03-03	Cova-H (80/12.5)	GP1205	30

Stock Receive Search

No.	Transaction Number	Reference Number	Receiving Date	Supplier	Product Name	Batch Number	Expiry Date	Quantity
1	R-0129	PO#1208-09	2020-12-01	Project Office	Glyset (04mg)	WS001	2023-11-30	6255
2	R-0128	PO#1197-1201	2020-12-01	Project Office	Cova-H (80/12.5)	GP1205	2023-09-30	9375
3	R-0128	PO#1197-1201	2020-12-01	Project Office	Covam (10/160)	GP1203	2023-09-30	9375

5.2.4 Reports

End user have been provided with three reports:

1. Stock on hand
2. Stock Issuance Report
3. Stock Receive Report

5.2.4.1 Stock on Hand

End user can view, filter, export to excel/PDF and adjust columns.

#	Center	Generic Name	Item Name	Batch Number	Batch Expiry	Quantity Available
1	SGTH Swat	Amlodipine+Valsartan	Covam (05/80)	GP1202	2023-09-30	9335
2	SGTH Swat	Amlodipine+Valsartan	Covam (10/160)	GP1203	2023-09-30	9325
3	SGTH Swat	Empagliflozin	Emglif	GP01	2023-06-30	18765
4	SGTH Swat	Glimepiride	Glyset (04mg)	WS001	2023-11-30	6225

5.2.4.2 Stock Issuance Report

End user can select the date from to and then press Search to view desired information. User can further filter the data by using search option. In addition, user can export data to excel / Pdf and also adjust columns.

Issuance Report

Date From	Date To	
mm/dd/yyyy	mm/dd/yyyy	**Search**

Copy   Excel   PDF   Column visibility ▾   Search:

#	Issuance Number	From	To	Issuance Date
1	I-0319	SGTH Swat	mina-15602-5558260-9	2021-03-03
2	I-0283	SGTH Swat	Aziz ul Hassan-15501-9566386-1	2021-03-03
3	I-0275	SGTH Swat	Mr. Ajmal Hussain-14301	2021-03-03

5.2.4.3 Stock Receive Report

End user can select the date from to and then press Search to view desired information. User can further filter the data by using search option. In addition, user can export data to excel / Pdf and also adjust columns.

Receive Report

Date From	Date To	
mm/dd/yyyy	mm/dd/yyyy	**Search**

Copy   Excel   PDF   Column visibility ▾   Search:

#	Transaction Number	From	To	Transaction Date
1	R-0129	Project Office	SGTH Swat	2020-12-01
2	R-0128	Project Office	SGTH Swat	2020-12-01
3	R-0127	Project Office	SGTH Swat	2020-12-01

5.2.5 Dashboard

End user can view its stock by clicking the dashboard from the menu.

STOCK STATUS

Center	Cova (80 mg)	Actrapid HM	Cova-H (80/12.5)	Covam (05/80)	Glyset (04mg)	Mixtard	Roawin (10 mg)	Covam (10/160)	Emglif	Gabica (75mg)	Getformin (1/500)	Insuget 70/30	Metformin (02/500)	Trevia Met (50/1000)	Trevia Met (50/500)	Actrapid vial test	Mixtard 30 vial (70/30 Biphasic HI)	Actrapid vial
Ayub Teaching Hospital	455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

5.3. Administrator

Basic purpose of Administrator to configure the application to tailor it as per organization needs. This role gives more power to business owners to maintain their application without need of IT resources.

a) Organization

b) User Management

c) Roles

d) Users

e) Location

f) Oral Drugs

g) Diabetic Complications

h) Suppliers

i) Generic Names

⊕ Add Facility/Center	⊕ Add Location	⊕ Add User	⊕ Add Products/Medicine
🔍 View Facilities/Centers	🔍 View Locations	🔍 View Users	🔍 View Products/Medicine
🔍 Manage Oral Drugs	🔍 Diabetic Complications	🔍 Diabetic Since List	🔍 Consuming Insulin List

Product Generic names : 🔍 View | ⊕ Add
Suppliers : 🔍 View | ⊕ Add

5.3.1 User Management

User management allows administrator to create users and assign pre-defined roles.

In user interface, administrator enters the user's full name, designation, Login ID, Password, Email, Contact Number, Province, District, Role, Status, and Center.

If current user information needs to be updated, administrator can use view option to search the specific user and then update the information.

5.3.2 Center / Hospital (Facility)

To define, edit or update Center or Hospital (Facility), from configuration management, choose option "Center / Hospital". Select Province, District, Tehsil, UC, Center type (BHU, RHC, etc.) and enter name of center, facility code, contact person, contact person designation, contact number, address, longitude, and latitude. Press "Save" button to save addition or changes.

Add Center / Hospital

Province*
Select ▾

District *
Select ▾

Tehsil
Select ▾

UC
Select ▾

Center Type*
Select ▾

Full Name of center*

Facility / Center Code

Contact Person

Contact Designation

Contact Number

Address

Longitude

Latitude

Add

IR LMIS User Manual.doc - Compatibility   mn visibility ▾   Search:

No.	Facility / Center Name	Province	District	Facility Type	Action	
1	Project Office	Punjab	Peshawar	THQ	Edit	✕ Disable
2	Mardan Center	Punjab	Gujranwala	BHU	Edit	✕ Disable

5.3.3 Location (Organization)

To define, edit or update location, from menu choose "Location". Select Location level and system auto show fields required for that specific level. Enter all values marked with red asterisk (mandatory).

Add Locations

Location Level*
District ▾

Province *
Khyber Pakhtunkhwa ▾

Location Name *

Longitude

Latitude

Save   Reset

5.3.4 Product

To define, edit or update product, from menu choose "Product". Enter product name, select generic name, select strength, type, manufacturer, category and enter registration number, barcode, GTIN, description, no of items in once packet, no of packets in one carton, limit for issuance to patients, daily unit in single item.

5.3.3 Manufacture

To define, edit or update Manufacturers, from configuration management, choose Manufacturers. Enter the name of the manufacturer while system will auto generate its Code.

5.3.4 Supplier

To define, edit or update Suppliers, from configuration management, choose Suppliers. Enter the name of the supplier, while system will auto generate its code. End user can provide contact name , number , email and office address of main office and sub office, in addition to National Tax Number and General Sales Tax Number.

5.3.5 Category

Administrator can define categories as per organization needs. It can be as alphabets (A, B, C, etc.) or names like Vehicles, Furniture & Fixture, Land, etc.

5.3.6 Asset & Specs

Administrative can enter Asset Master data by Selecting Category, entering Asset Name, Specifications and Fiscal year.

5.3.7 Status

To define, edit or update Status, from configuration management, choose status. Enter the status while system will auto generate its Code.

Code *	Name *
Auto GID	

5.3.8 Purchase Type

Administrator can define Purchase Type as per organization needs. It can be as Local, Foreign, Free of Cost, Funded, etc.

Name *

5.3.9 Funding Source

Administrator can define Funding Source as Department of Health, USAID, WHO, etc.

Name *

5.4. Strategic User (Provincial / District)

Strategic user are the decision makers and need reports, analytics, and dashboards to make the decision. These are also available to other users but limited to their access role like Tehsil or Health Facility. Strategic users have wider access, normally at provincial or district level.

1. Reports
   a. Detail Report
   b. Summary at Glance
   c. User Detail (Logs)
2. Analytics
   a. Business Intelligence Tool

≋ Reports ⌄
   Detail Report
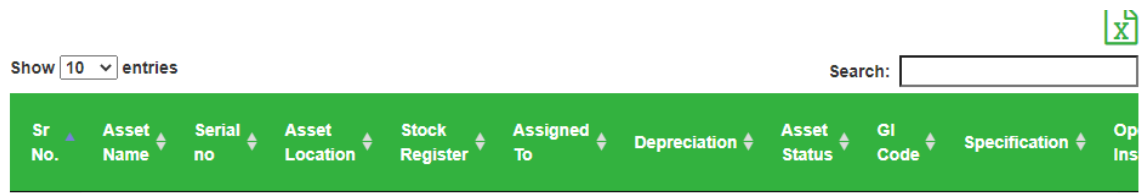   Summary at Glance
   User Detail

≋ Analytics ⌄

5.4.1 Detail Report

It allows user to select range of dates and type of information required from drop down:

   a. Asset Warranty Expired

   b. Repair Warranty Expired

   c. Manufacturer wise

   d. Status wise

   e. Funding Source Wise

   f. Supplier Wise

   g. Category Wise

   h. Purchase Type Wise

In output it shows all Asset related fields like Asset Category, Name, Manufacturer, Supplier, Etc. Report interface allows user for the following:

   1. Export the data into MS-Excel.

   2. Further filter the information by using search box.

   3. Sort Ascending / Descending of all columns via column header up / down arrows.
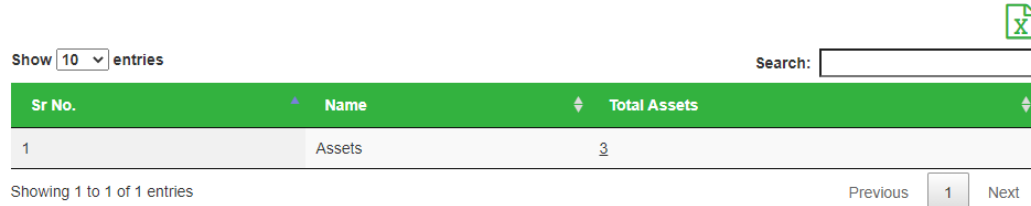

5.4.2 Summary at Glance Report

It allows user to select range of dates and type of information required from drop down:

   a. Asset Warranty Expired

   b. Repair Warranty Expired

   c. Manufacturer wise

   d. Status wise

   e. Funding Source Wise

   f. Supplier Wise

   g. Category Wise

   h. Purchase Type Wise

In output it shows summary with the following options:

   1. Export the data into MS-Excel.

   2. Further filter the information by using search box.

   3. Sort Ascending / Descending of all columns via column header up / down arrows.

4. Drill down to view details

5. **5.4.2 Summary at Glance Report**

6. It allows user to select range of dates and type of information required from drop down:
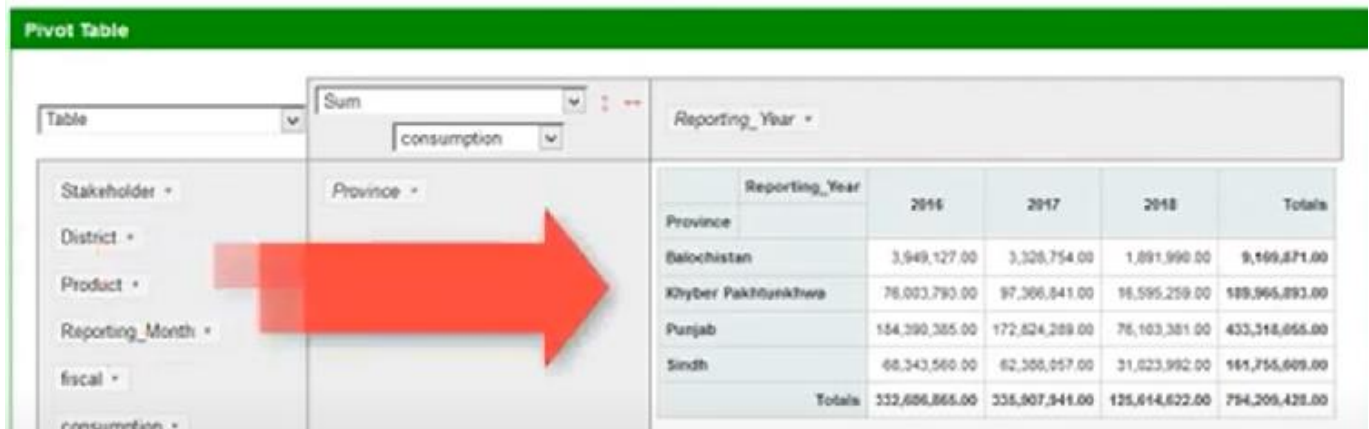

5.4.3 Business Intelligence Tool

This is free hand tool to create different data views and graphs by simply placing data elements in rows, columns, intersection. It also allows to filter the data elements even it is not selected in the data. Complete video tutorial on how to use the BI tool is available on the following link:

https://youtu.be/u3ueCS446_Y

APPENDIX A: ACRONYMS AND DEFINITIONS

Table 1: Acronyms and Definitions

Acronym	Definition
BI	Business Intelligence
Sys	System
Mgmt.	Management
DHO	District Health Officer
DG	Director General
KP	Khyber Pakhtunkhwa