

# Patient Experience of Care (PEC)

Software and use of  
information manual



health

Department:  
Health  
REPUBLIC OF SOUTH AFRICA

## **Acknowledgments**

The National Department of Health is hereby acknowledged for allowing its data to be used for demonstration and training purposes. It is important to note that the data does not represent the current situation in the country and therefore cannot be used to infer the quality of information or health care services provided by the Department of Health.

Last Updated: *August 2017*

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## Abbreviations

PEC	Patient Experience of Care
DHIS	District Health Information System
webDHIS	Web-based District Health Information System
NDoH	National Department of Health
URL	Uniform Resource Locator

# Chapter 1. Introduction

## 1.1 Background

As part of monitoring the quality of services provided by the department of health, there is an expectation that the experience of patients at health facilities be assessed on an annual basis. To meet this expectation, the Quality Assurance Directorate at the National Department of Health (NDoH) has set in motion processes to conduct annual Patient Experience of Care (PEC) surveys.

There are two PEC tools that HISP (Health Information Systems Program) has set up in webDHIS (Web-based District Health Information System) - the purpose of the 1<sup>st</sup> PEC tool is to provide a vehicle for the capture, analysis and reporting of PEC surveys conducted at health facilities in the country. It is accessed using the following URL - <http://pec.dhis.hisp.org>

The 2<sup>nd</sup> tool has been set up for training purposes and is accessed using the URL - <http://pec.dhis.hisp.org/training>

This guideline explains the aspects of webDHIS capturing and reporting that are unique to the PEC. The generic aspects of the use the webDHIS are covered in the DHIS2 Foundation manual.

For guidance on how to conduct the PEC survey, please refer to the guideline created by the NDoH – National Guideline On Conducting Patient Experience Of Care Survey - <https://www.knowledgehub.org.za/elibrary/national-guideline-conducting-patient-experience-care-survey-public-health-establishments>

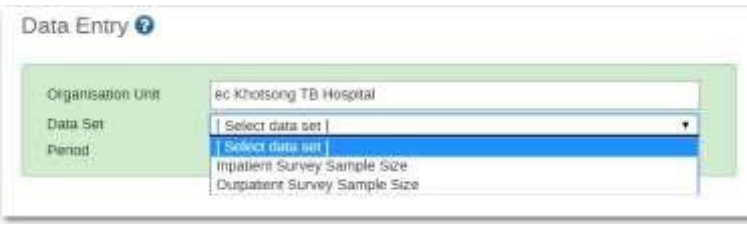
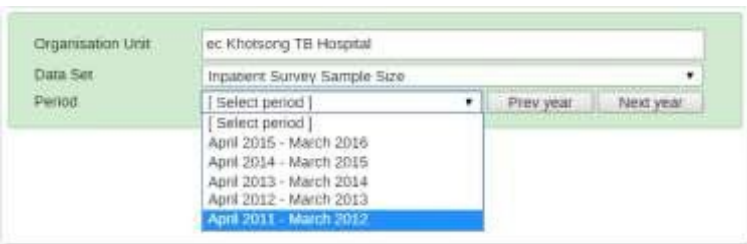


## Chapter 2. Capturing PEC data

In the PEC database, use is made of 2 types of data capturing – data entry and tracker capture. **Data entry** capture is used before the survey commences to determine the sample size and **Tracker capture** is used to capture the data that has been collected.

### 2.1 Data Entry

In order to conduct a PEC survey, one needs to know what the sample size for the facility is. The sample size is generated by the PEC database using the PHC headcount for PHC facilities and OPD headcount and In-patient discharges for hospitals. It also uses the number of days the facility is operational per week. This data must be captured before the survey is done to know how many patients need to be interviewed and to generate sufficient questionnaires for the survey. For information on how to access the data entry screen please refer to the DHIS2 Foundation manual.

	<p>Select the Data Set – note all facilities will have access to the <b>Outpatient Survey Sample Size</b> data set. Hospitals will also have access to the <b>Inpatient Survey Sample Size</b></p>
	<p>Select the appropriate financial year in which the survey was conducted</p>

**Data Entry**

Organization Unit:

Data Set:

Period:

Outpatient Survey Sample Size

Data Element	Value
Number of days operational per week	<input type="text"/>
OPD headcount - total (fyear)	<input type="text"/>
PHC headcount - total (fyear)	<input type="text" value="5773"/>

Indicator	Value
Sample size per day for survey OP	<input type="text" value="Infinity"/>
Sample size for 5 day survey OP	<input type="text" value="Infinity"/>

The only field that needs to be captured is **Number of days operational per week**. Other fields will be pre-populated.

**NOTE:** Once a survey has been captured for a facility, this data will be stored as semi-permanent data and will not need to be re-captured unless there is a change.

Indicator	Value
Sample size per day for survey OP	<input type="text" value="2.2"/>
Sample size for 5 day survey OP	<input type="text" value="11.1"/>

The sample size will be generated indicating how many patients must be surveyed per day and for the 5 days in total.

## 2.2 Tracker Capture

Questionnaires will be captured in the **Tracker Capture** module once the survey has been completed. For information on how to access the **Tracker capture** screen please refer to the DHIS2 Foundation manual.



## Chapter 3. PEC reports

Once the data has been captured in the PEC database, instant charts and tables can be generated in the reporting module to view and analyze your data. These are valuable for giving feedback to the stakeholders.

In the PEC database, the following indicators are available:

- PEC Survey rate
- PEC Survey rate per level of care
- PEC satisfaction rate
- PEC satisfaction rate per level of care

### **PEC specific indicators:**

- Satisfaction rate per priority area (Overall and by Inpatient and Outpatient survey done)
- Satisfaction rate per question within a priority area (Overall and by Inpatient and Outpatient survey done)
- Sample size for both Inpatient and Outpatient surveys
- Validity measure for both Inpatient and Outpatient surveys

## 3.1 PEC Pivot Tables

### 3.1.1 Create a New Pivot Table

From the Dashboard

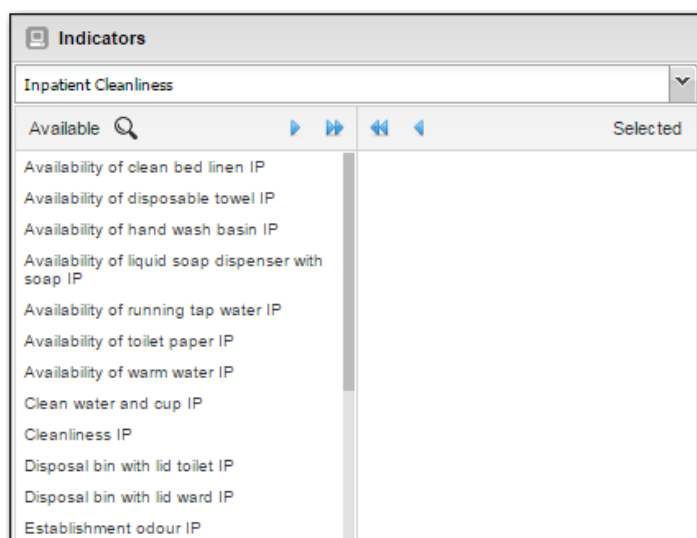
1. Click on the **Apps** menu.
2. Click on the **Pivot Table** App.
1. If you can't find it:
  - Type *Pivot* in the Search apps field
  - OR Click on the Up or Down arrows to search for it

Click on **Manage my apps** button if you would like to arrange the icons you use most frequently so that they are visible when you open the **Apps** menu.

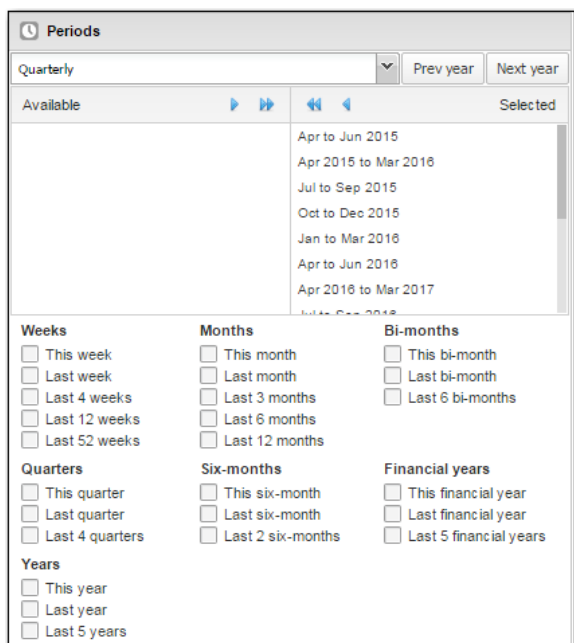
#### Web Pivot table

VERY IMPORTANT: For results from the survey to reflect please ensure that the analytics tables have been updated

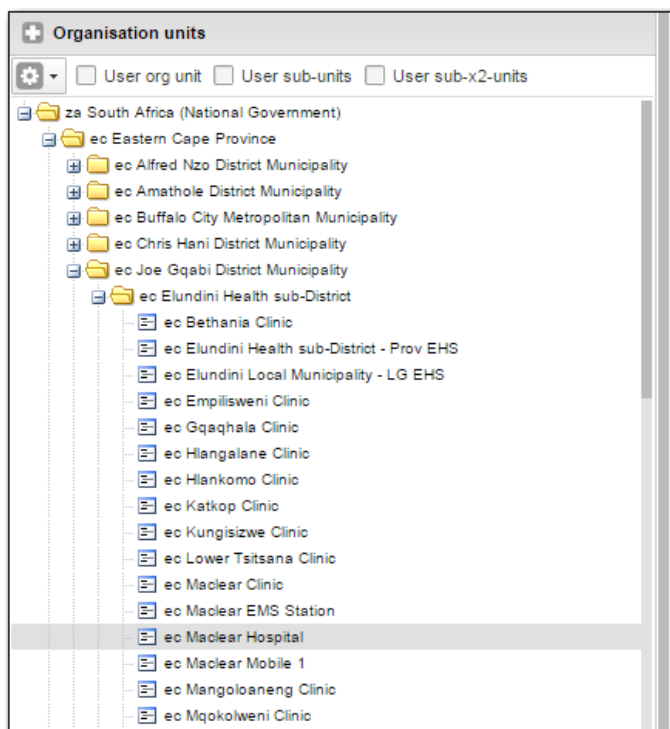
Create an Indicator Pivot as follows:



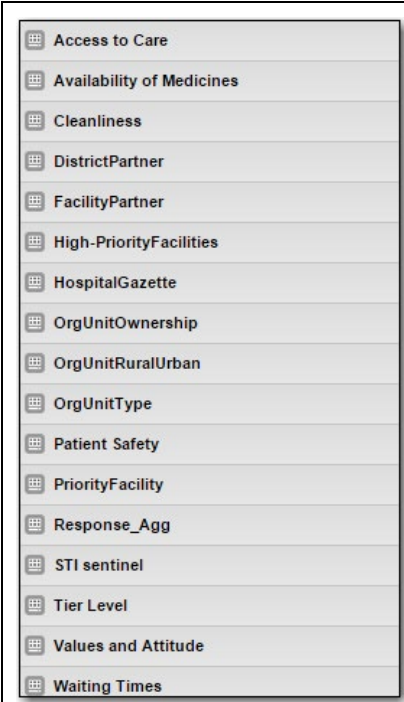
All the available data element/Indicator groups for the data set are listed in the **Available data elements/Indicators** group box. You can double click on a single one to move it to the **Selected** side. You can also highlight a few and then move them to the **Selected** side using the single right facing arrow. To select all the available ones simply click on the double right facing arrow. You can change their order by dragging and dropping. To de-select you can perform the same actions in reverse.



Select the Period either fixed (as in this case) or relative



Click **Organization units** and select your facility from the hierarchy.



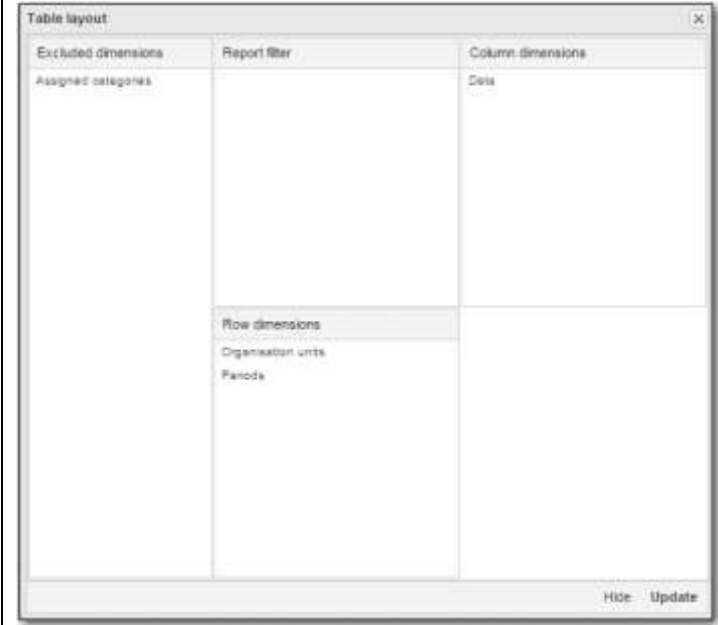
There are several other criteria that can be selected to further analyze the data, such as partner conducting the survey, ownership/type of facility, etc. These are optional additions.



Click on the **Update** button



Click on the **Layout** button to choose the **Dimensions** to be displayed

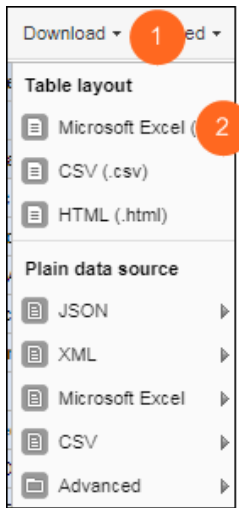


Move the parameters between the **Row** and **Column dimensions** and the **Report filter** by dragging and dropping. Click **Update** when finished.

Organisation units	Periods / Indicators	IP_overall satisfaction rate	Patient Experience of Care OP
1	Apr 2015 to Mar 2016	69.4	69.1
	Apr 2015 to Mar 2016	63.2	58.4
	Apr 2015 to Mar 2016	71.6	69.9

On the left, the display of a finished web pivot

This report can be downloaded in many different formats. In our example below are instructions on downloading to Microsoft Excel



1. Select **Download**.
2. Select **Microsoft Excel**

The image shows an Excel spreadsheet in Protected View. The data is as follows:

Data	Organisati	Period	Value
IP_overall	za South	Apr 2015 t	69.4
IP_overall	fs Free Str	Apr 2015 t	63.2
IP_overall	nw North v	Apr 2015 t	71.6
Patient Ex	za South	Apr 2015 t	69.1
Patient Ex	fs Free Str	Apr 2015 t	58.4
Patient Ex	nw North v	Apr 2015 t	69.9

The document will open in **Protected view** – select **Enable editing**

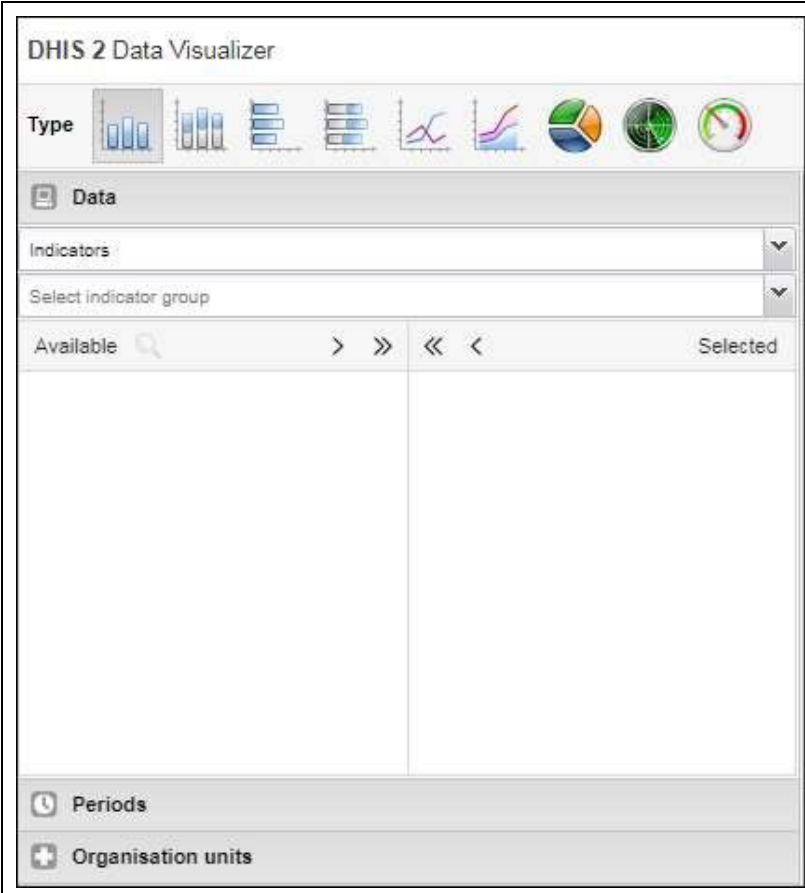
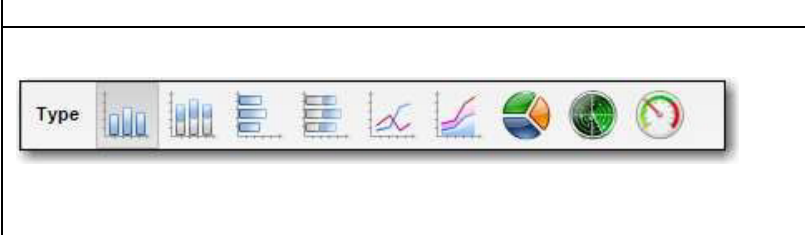
The screenshot shows the Microsoft Excel interface. The 'Insert' tab is active in the ribbon, and the 'PivotTable' button is highlighted with a red circle and the number '2'. Below the ribbon, the 'Create PivotTable' dialog box is open. It has two main sections: 'Choose the data that you want to analyze' and 'Choose where you want the PivotTable report to be placed'. In the first section, the 'Select a table or range' radio button is selected, and the 'Table/Range' field contains the text 'Provincial Tertiary Hospital, N'ISA\$1'. In the second section, the 'New Worksheet' radio button is selected. At the bottom of the dialog box, the 'OK' button is highlighted with a red circle and the number '3'. To the right of the dialog box, there is a list of three steps: 1. Select **Insert**, 2. Select **Pivot Table**, and 3. Select **OK** from the next window.

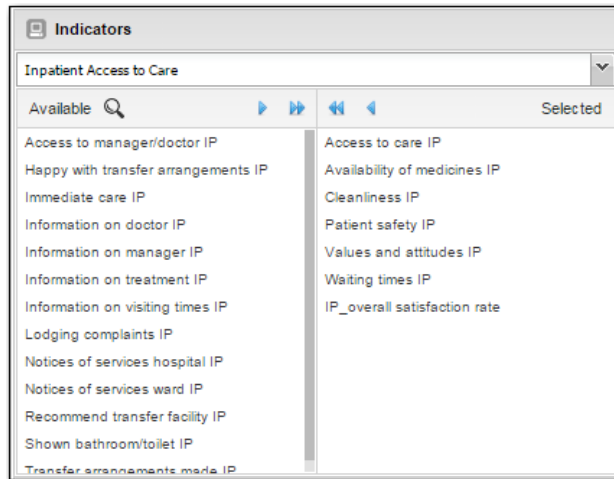
Sum of Value		Data	
Organisation unit	Period	IP_overall satisfaction rate	Patient Experience of Care OP
	Apr 2015 to Mar 2016	63.2	58.4
	Apr 2015 to Mar 2016	71.6	69.9
	Apr 2015 to Mar 2016	69.4	69.1

You can then manipulate the data in the fields to get the layout you require.

## 3.2 PEC Data Visualizer

### 3.2.1 Create Chart

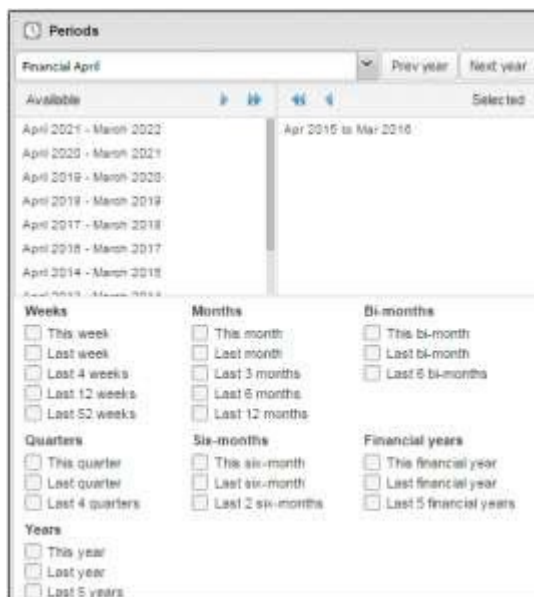
	<ol style="list-style-type: none"><li>1. Click <b>Data Visualizer</b> from the <b>Apps</b> menu item. The following window displays. You need to specify your criteria on the left side.</li></ol>
	<ol style="list-style-type: none"><li>2. Select an appropriate chart type depending on the type of information you wish to represent.</li></ol>
<ol style="list-style-type: none"><li>3. The visualizer module can display any number of indicators and data elements in a chart and data table. The next step is to select the indicators/data elements you require. Click the <b>Indicators/Data Element</b> header and select group, in our example the <b>Indicator Group – Inpatient Access to Care</b>. Double click on an indicator/data element in the <b>Available</b> window to move it to the <b>Selected</b> window.</li></ol>	



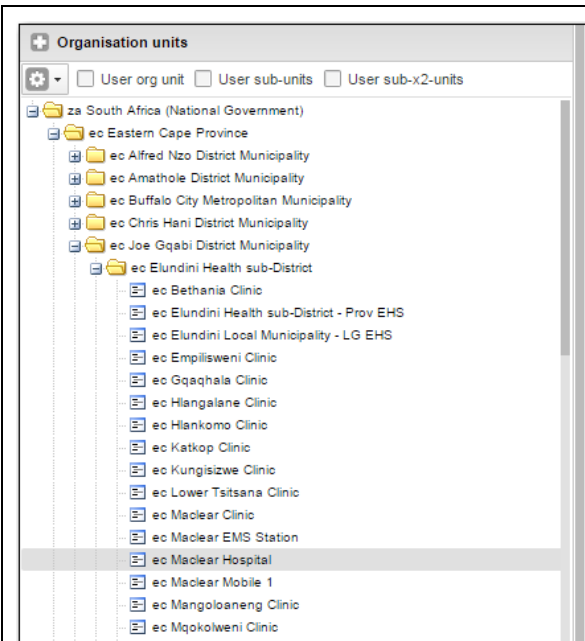
1. The next step is to select your periods. To select fixed periods, click on the **Periods drop down**, and make your selection - the names are self-explanatory.

To select relative periods, select a period from the options available. All periods are relative to the current date.

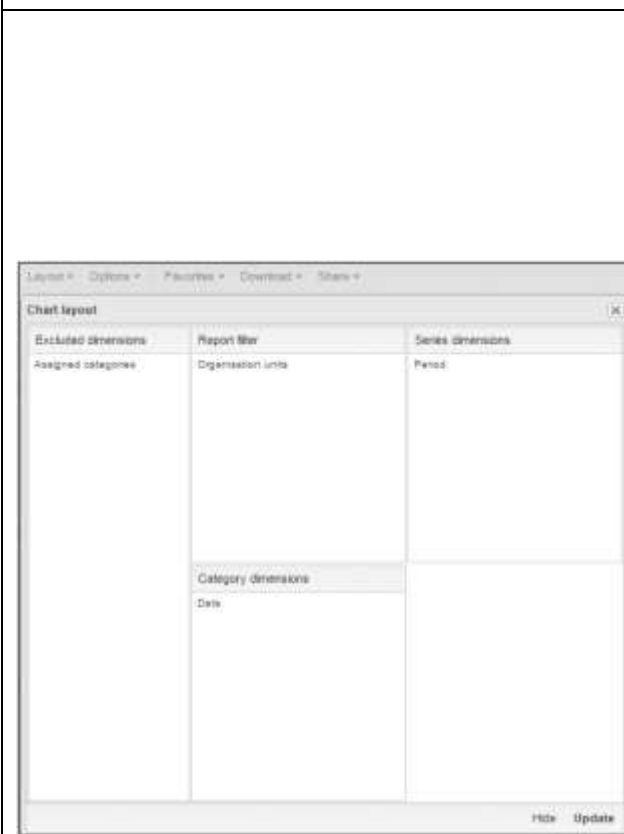
You can select any number of fixed periods from any period type. You are free to combine fixed periods and relative periods in the same chart. Overlapping periods will be filtered so that they only appear once.







2. Select the required facility.



Next you need to define which dimension of the data you want to appear as series, category and filter by clicking on **Layout** and then manipulating the dimensions. We have three main dimensions in the system:

- a) **Data:** Includes data elements and indicators, describing the phenomena or event of the data.
- b) **Periods:** Describes when the event took place.
- c) **Organization units:** Describes where the event took place.

**CHART OPTIONS** [X]

**Data**

- Show values
- Use 100% stacked values
- Use cumulative values

Hide empty categories: None [v]

Trend line: None [v]

Target line value / title: [ ] Target line title [v]

Base line value / title: [ ] Base line title [v]

Sort order: None [v]

Aggregation type: By data element [v]

**Events**

- Include only completed events

**Axes**

Range axis min/max: [ ] [ ] [v]

Range axis tick steps: [ ] [v]

Range axis decimals: [ ] [v]

Range axis title: Range axis title [v]

Domain axis title: Domain axis title [v]

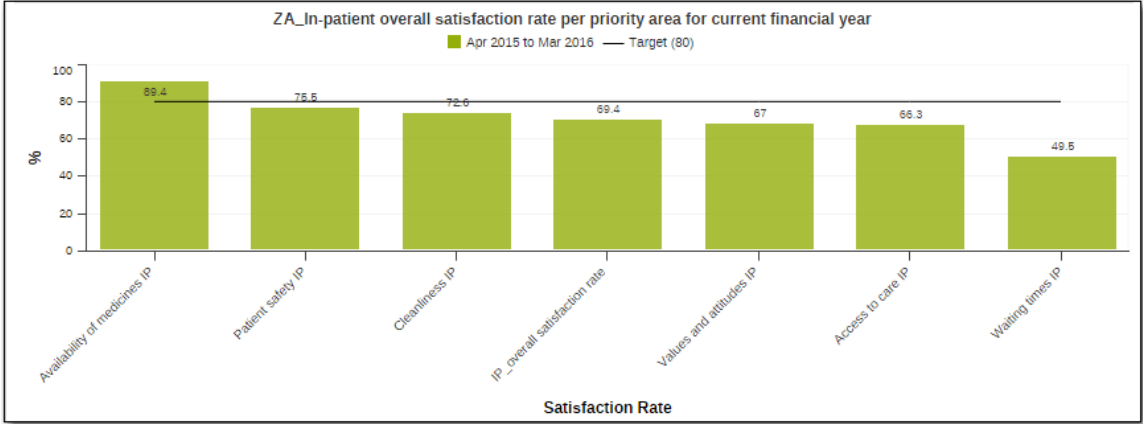
**General**

- Hide chart legend
- Hide chart title: Chart title [v]
- Hide chart subtitle: Chart subtitle [v]

Hide [Update]

3. Lastly, you can set various chart options by clicking on the **Chart options** header.

4. Click **Update** to create your chart.



### 3.2.2 Display data table

Indicators / Periods	Apr 2015 to Mar 2016 ↕
Access to care IP	66.3
Availability of medicines IP	89.4
Cleanliness IP	72.6
Patient safety IP	75.5
Values and attitudes IP	67
Waiting times IP	49.5
IP_overall satisfaction rate	69.4

After you have rendered a chart, you can display the data in a table by clicking on the **Table** button on the top centre menu. Choose the option “Open this chart as a table” This will show a table which can be sorted ascending or descending on any of the columns.

### 3.2.3 Downloading chart as image or PDF

After you have rendered a chart, you can save that view as a file and download it to your local computer by clicking **Download** on the top centre menu. You can save either as a PNG (image) or PDF file. If you choose PNG, you can insert the image into a text document as part of a report. This is useful for the feedback report to the facility.

### 3.2.4 Saving a Chart as a Favourite



Once you have rendered a chart you can save it as a favourite.

1. Click on the **Favourites** button on the top centre menu
2. Click Save as.
3. In the name field enter the desired name for your chart
4. Provide a description if you desire
5. Click on **Save**.

These favourite charts can later be included on your personal dashboard.

### 3.2.5 Exiting the data visualizer module

Click on **Home** to the right side of the top centre menu to exit the data visualizer module and return to the home page.

## 3.3 Dashboard



Each user can configure a personal dashboard.

To create our dashboard, we need to add objects to both sides as follows:

	<p>Click on <b>Apps</b> and select <b>Dashboard</b></p>
	<p>This is the dashboard screen</p>
	<p>Click on <b>Add</b></p>

**Add new dashboard**
✕

Name  Create

Give your **Dashboard** a name and then click on **Create**

over

---

Charts [See more hits »](#)

DB01\_L1\_IP overall satisfaction rates per priority area\_Current FY
Add

DB01\_L1\_OP overall satisfaction rates per priority area\_Current FY
Add

zOP 2.1: Overall Satisfaction rates per priority area\_EC\_2014/15 Financial Year
Add

Type in the Search field to find the Chart, Pivot or resource you would like to populate the dashboard with. You will see that all related items with a similar name will be displayed

Click on the Add button to populate your dashboard.

The screenshot shows a dashboard for '03. Free State' with a search bar containing 'DB01\_DQ\_15, Outpatient survey validity measure, Current FY'. Below the search bar are navigation tabs for provinces: 01. National, 02. Eastern Cape, 03. Free State, 04. Gauteng, 05. KwaZulu Natal, 06. Limpopo, 07. Mpumalanga, 08. Northern Cape, 09. North West. The dashboard displays three panels:

- Left Panel:** A table titled 'DB01\_DQ\_15, Outpatient survey validity measure, Current FY' showing data for various clinics. The table has columns for 'Data' and 'Outpatient Survey validity measure' with sub-columns for 'Apr 2016 to Mar 2017' and 'Apr 2017 to Mar 2018'. Rows include 'Adani Luthuli Memorial Clinic', 'Alkayaga Clinic', 'All Hope Clinic', 'Banyana Clinic', 'Bekkerskop Clinic', 'Batho Clinic', and 'Beyersburg Clinic'.
- Middle Panel:** A map of South Africa with red markers indicating the locations of the clinics.
- Right Panel:** A table titled 'DB01\_DQ\_15, Inpatient survey validity measure, Current FY' showing data for various hospitals. The table has columns for 'Data' and 'Inpatient Survey validity measure' with sub-columns for 'Apr 2016 to Mar 2017' and 'Apr 2017 to Mar 2018'. Rows include 'Bokeme Hospital', 'Bongani Hospital', 'Bophelo Hospital', 'Dandora (Dandora) Hospital', 'Dingisizwe Hospital', 'Dr JB Mofosi Hospital', 'Elsbeth-Rose Hospital', 'Enkayeni Hospital', and 'Fat Hluthembeni Hospital'.

### 3.3.1 Using the dashboard favourites as templates

One of the easiest ways to create your own favourites to populate your personal dashboard is to use the favourites in the public dashboard as a template.

Patient Experience of Care (PEC)

|

Explore | Resize | Share interpretation | Remove

DB03\_DQ\_L5\_Inpatient survey validity measure\_Current FY

Gov Province, Gov Municipality		
Data	Inpatient Survey validity measure	
	Apr 2016 to Mar 2017	Apr 2017 to Mar 2018
fs Boitumelo Hospital	59.1	0
fs Bongani Hospital	123.1	0
fs Botshabelo Hospital	0	0
fs Diamond (Diamant) Hospital	0	0
fs Dihlabeng Hospital	0	0
fs Dr JS Moroka Hospital	0	0
fs Elizabeth Ross Hospital	198.3	0
fs Embekweni Hospital	0	0
fs Fezi Ngumbentombi Hospital	371.3	0

From the public dashboard select the chart/table you will use as a template. Click on **Explore**. If you select a chart the **Data visualizer** will open and if you select a table, the **Pivot table** will open up

Data 1

Indicators

Select indicator group

Available <>> <<< Selected

Outpatient Survey validity measure

Periods 2

Organisation units 3

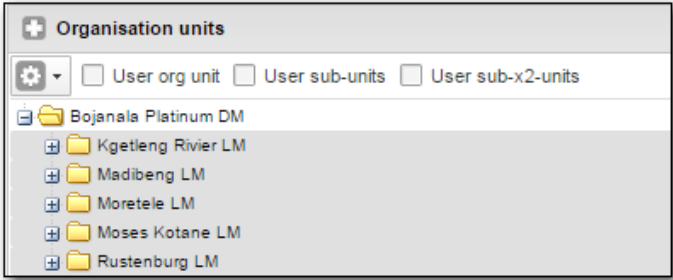
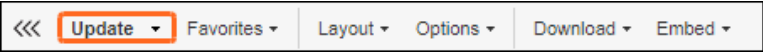
You can now remove the fields that you do not require in you chart/table and add the fields that you want. You can change one or more of the dimensions (e.g., Data, Periods and Organization units) by moving items on the right side singly using the single arrow or the whole list by using the double arrow

Organisation units

User org unit  User sub-units  User sub-x2-units

- za South Africa (National Government)
  - eo Eastern Cape Province
  - fs Free State Province
  - gp Gauteng Province
  - kz KwsZulu-Natal Province
  - lp Limpopo Province
  - mp Mpumalanga Province
  - nc Northern Cape Province
  - nw North West Province
  - wc Western Cape Province


In this example, the Organization unit is to be changed. This chart has been assigned to a particular user org unit group. To select a different org unit, 1<sup>st</sup> untick the **User org unit** box

	<p>Select the org units that you would like to display</p>
	<p>Click on <b>Update</b></p>
<p>Follow the steps outlined in 3.3 and 3.4 above to change the layout and table/chart options to what you would prefer to see. You can then save your work as a favourite as outlined in 3.4.4 above and add your favourite to your personal dashboard.</p>	

### 3.3.2 Using public dashboards for reporting

The PEC database is a national database and as such access to the dashboards has been limited according to the access rights granted to an individual user. There is a **national dashboard** to which only a national user will be given access. These users will be able to see data for the entire country. Similarly, a dashboard has been created for each province to which only provincial level users will have access. These users will be able to see data for their entire province. All users will be able to see the **User** dashboard, the **Registration** dashboard and the **Resources** dashboard. The dashboards have been set up to facilitate the reporting process. For QPR and APP reporting, tables have been added to the dashboards for reporting on the Survey rate and the PEC satisfaction rate by level of care. There are also tables and charts that can be used to provide feedback to stakeholders on both Inpatient and Outpatient survey results. The survey rate tables have legends that display the following colour coding:

- Green = 100%
- Amber = 70% to <100%
- Red = 0 to < 70%



Organisation unit	Period / Data	PHC fixed facilities that conducted a PEC Survey	PHC fixed facilities	PEC Survey Rate (PHC)
North West	Apr 2015 to Mar 2016	181	312.2	58

The satisfaction rate dashboards have legends that display the following colour coding:

- Green = 80% to 100%

- Amber = 60% to <80%
- Red = 0 to < 60%

\* DBQ5\_1.1&1.2\_OP satisfaction with access to care rate\_Current FY\_Target 100%

Organisation unit	Period / Date	OP_satis with opportunity to recommend transfer	OP_satis with receiving services	OP_satis with service times	OP_satis with transfer arrangements	OP_satis with access to care
North West	Apr to Jun 2015	33.8	81.7	78.4	58.1	81.2
	Jul to Sep 2015	37.3	83.8	76.3	58.2	81.2
	Oct to Dec 2015	46.2	78.8	80.1	57.2	77.3
	Jan to Mar 2016	52.5	82.4	88.2	78.3	77.3
	Apr 2016 to Mar 2018	54.3	82.5	75.2	84.1	80.4
	Jul to Sep 2016		50		50	50
	Apr 2016 to Mar 2017		50		50	50

### THE USER DASHBOARD

The user dashboard is visible to all users, but each user will see only the organization unit/s to which he/she has been assigned. This means that there will be some tables in the dashboard that will not display data for a specific facility level user. For example, a user from a district hospital will not see data for a regional hospital.

Explore | Resize | Share interpretation | Remove

DB11\_User level\_QPR\_PEC survey rate (District hospital)\_Current FY\_Target 100%

Organisation unit	Period / Date	District Hospitals that conducted a Patient Experience of Care Survey	District Hospitals - total	Patient Experience of Care Survey Rate (District Hosp)
fs Mafube Local Municipality	Apr to Jun 2016		1	0
	Apr 2016 to Mar 2017		1	0
	Jul to Sep 2016		1	0
	Oct to Dec 2016		1	0
	Jan to Mar 2017		1	0
	Apr to Jun 2017		1	0
	Apr 2017 to Mar 2018		1	0
	Jul to Sep 2017		1	0
	Oct to Dec 2017		1	0
	Jan to Mar 2018		1	0

Explore | Resize | Share interpretation | Remove

DB11\_User level\_QPR\_PEC survey rate (Regional hospital)\_Current FY\_Target 100%

Organisation unit	Period / Date	Regional Hospitals that conducted a Patient Experience of Care Survey	Regional Hospitals - total	Patient Experience of Care Survey Rate (Regional Hosp)
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The sample size tables have been set up for both inpatient and outpatient. These tables are used by the facility to monitor the number of questionnaires captured against the sample size.

Outpatient count of questionnaires captured towards sample

Period	Apr 2016 to Mar 2017	
Organisation unit / Date	Sample size for 5 day survey OP a	Output - Count of questionnaires a
fs Frontier Clinic	35.5	
fs Mafube Hospital	27.5	15

Inpatient count of questionnaires captured towards sample

Period	Apr 2016 to Mar 2017	
Organisation unit / Date	Sample size for 5 day survey IP	Inpat - Count of questionnaires
fs Mafube Hospital	3.3	3



The survey sample size tables in the user dashboard will display the data for the organization unit levels above facility level but are not intended for use at the aggregated level. Users at the aggregated levels can use the validity measure tables to check whether the survey is valid – that sufficient questionnaires have been captured to reach or exceed the sample size

The validity measure tables indicate the validity of the survey conducted – any survey where the number of questionnaires captured does not meet the sample size will be termed invalid and managers will need to follow up with the facility. These tables are colour coded as follows:

Green = 100% or above for a valid survey – it is possible for a facility to capture data for more than the required sample

Red = 0% to < 100% for an invalid survey

DB11_DQ_L5_Inpatient survey validity measure_FY 2015/16	
Data	Inpatient Survey validity measure
Organisation unit / Period	Apr 2015 to Mar 2016
ts Bongani Hospital	492.5
nw Thusong Hospital	275.5

DB11_DQ_L5_Outpatient survey validity measure_FY 2015/16	
Data	Outpatient Survey validity measure
Organisation unit / Period	Apr 2015 to Mar 2016
ts Allanridge Clinic	0
ts Bongani Hospital	679.8
nw Thusong Hospital	106.4

The validity measure tables are also available in the dashboards for National and Provincial level users so that managers can determine the extent to which the surveys conducted are valid and can be used for reporting.

The validity measure tables in the user dashboard are set up to reflect the validity of the survey per facility so the data at the aggregated levels will not make sense. Users at the aggregated level should use the “Explore” option and then filter on the level of facility to monitor the validity of the surveys conducted by facilities under their jurisdiction. As these tables were set up for the user organization unit, this option must be unticked in order to select the applicable facilities.