



# DHIS Level 2 Manual

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**USAID**  
FROM THE AMERICAN PEOPLE

Enhancing Strategic Information Project (ESI)



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# 1 ABOUT DHIS LEVEL 2 MANUAL

## 1.1 Introduction

The District Health Information System (DHIS) is a highly flexible, open-source health management information system and data warehouse. It is developed by the Health Information Systems Program (HISP) project in collaboration with universities and government administrations in SA and abroad.

The DHIS has been adopted as a National Routine Health Information System for South Africa in 1999. Depending on the level of implementation, the DHIS contains selected/prioritized aggregated routine data (by public health facility by month), semi-permanent data (staffing, equipment, infrastructure,

population estimates), survey/audit data, and certain types of case-based or patient-based data (for instance disease notification or patient satisfaction surveys).

The DHIS is translated into many international languages and used in different countries including South Africa, Malawi, Mozambique, India, Nigeria, Norway, Tanzania, Ethiopia, Vietnam, Namibia, Botswana, Swaziland, Zambia, Liberia, etc.

This manual has incorporated features of version DHIS140136 (Build 136).

## 1.2 Purpose of this manual

The manual has been developed and adapted for Office 2007 Users to provide a step-by-step guide to the use of some different advanced DHIS functions. It is presented in three (3) modules:

Maintenance

Data Entry Functions

Data Quality and Advanced Database Functions

## 1.3 Target groups for capacity building

- District and Facility Information Officers who are trained on DHIS Level 1 and use the DHIS on regular basis.
- Monitoring and evaluation staff who uses the DHIS.

N.B. Participants must have passed the DHIS Level assessment (Test normally done before the DHIS level2 training starts).

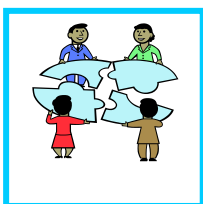
## 1.4 Duration

The course is presented over 4 days

## 1.5 Assessment

Continuous assessment will be done through practical exercises and a practical test done on the last day of the training.

**The following icons are used in the manual to assist you in your studies:**



### Group work

This is an opportunity for group members to communicate freely and openly with each other, to apply what they have learned.



### Concept clarification / definition

This icon is included to clarify important terminology and key concepts.



### Refer to internet link

## 1.6 Abbreviations

|                    |   |                                      |
|--------------------|---|--------------------------------------|
| DHIS               | : | District Health Information Software |
| HISP               | : | Health Information Systems Program   |
| NDoH               | : | National Department of Health        |
| OrgUnit / Org Unit | : | Organizational Unit                  |
| SA                 | : | South Africa                         |



## 2 MODULE 1: MAINTENANCE

### 2.1 ORGANIZATIONAL UNITS

#### 2.1.1 OrgUnit Search



In the DHIS Level 1 training you learnt how to search for an organizational unit using the CTRL+O short cut. This can also be done using the OrgUnit Search function where you also specify the search criteria.

#### Steps:

- i) Click **Maintenance** on control center.
- ii) Click **Organizational Units**.
- iii) Click **OrgUnit Search**.
- iv) Select the search criteria by filling the search form (Figure 1 display all organizational units that were opened after 1996-01-01).
- v) To change the root organizational unit, click **Browse**.
- vi) To change the search criteria, click **New Search**.
- vii) Click **Control Centre** to quit the search function.

The screenshot shows the 'OrgUnit Search' window in DHIS2. The left sidebar has 'OrgUnit Search' highlighted. The main area shows search criteria: 'Look Under' is 'Za South Africa (National Government)', 'Name' is empty, 'Group' is 'ALL', 'Opened After' is '1996/01/01', 'Closed Before' is empty, and 'Submits data' is checked. There are buttons for 'Browse...', 'Find Now', and 'New Search'. Below the search criteria is a table of results:

| Level | Name                        | Code | Valid From | Valid To   | Submits data                        | Comment   |
|-------|-----------------------------|------|------------|------------|-------------------------------------|---|
| 5     | kz Adams Mission Clinic     |      | 2008/05/01 | 9999/12/31 | <input checked="" type="checkbox"/> |   |
| 5     | kz Addington Gateway Clinic |      | 2004/01/01 | 9999/12/31 | <input checked="" type="checkbox"/> | Clinic been operational for years, but no usage |
| 5     | kz Amajuba VCT Clinic       |      | 2007/07/01 | 9999/12/31 | <input checked="" type="checkbox"/> |   |
| 5     | kz Amathasi Clinic          |      | 2001/01/01 | 9999/12/31 | <input checked="" type="checkbox"/> |   |
| 5     | kz Amaotana Mobile 1        |      | 2000/01/01 | 9999/12/31 | <input checked="" type="checkbox"/> |   |
| 6     | kz Amaotana Mobile 2        |      | 2000/01/01 | 9999/12/31 | <input checked="" type="checkbox"/> |   |



Figure 1: Searching for OrgUnits based on set criteria

## 2.1.2 Prune Organizational Units



Pruning of Org Units depends on login status. Make sure **Auto-cascade** is ticked on the pruning screen; this will ensure that all Org Units under the selected parent Org Unit are also selected. You may select up-to the lowest Org Unit level by clicking on the + sign next to the parent Org Unit. You may choose to keep the selected Org Units and prune all those not selected. This is done by ticking the **Non-selected** option on the pruning screen (Figure 2). You may also search for a specific Org Unit to prune by using the **Search for OrgUnit** function, the parent Org Units will be displayed in bold text and the specific Org Unit in blue. Pruning Org Units **cannot** be reversed; therefore extra care should be taken before running this function. Pruning can take several minutes to an hour depending on the number of Org Units selected and the speed of the computer used. The DHIS also provide an option to prune only data (Current and archived data is also pruned).

### Steps

- viii) Login as admin (Details on DHIS Level 1 manual)
- ix) On Control Centre click Maintenance.
- x) Click Organizational Units.
- xi) Click Prune Organizational Units, the screen (Figure 2) below will appear.
- xii) Click the  sign to expand the list.
- xiii) Select the organizational units that you wish to prune by ticking in the appropriate boxes.
- xiv) Tick the Selected OrgUnits option.
- xv) Click the Prune button. 
- xvi) Click Yes on the Warning dialog box (Figure 3).
- xvii) Click Yes to the Last Warning dialog box (Figure 4).
- xviii) Click Yes to the Warning dialog box confirming the number of Org Units to be pruned to continue pruning (This warning shows if the number of Org Units to prune are more than 50% of the total Org Units in a data file).
- xix) Click Control Centre to go back to the main screen.

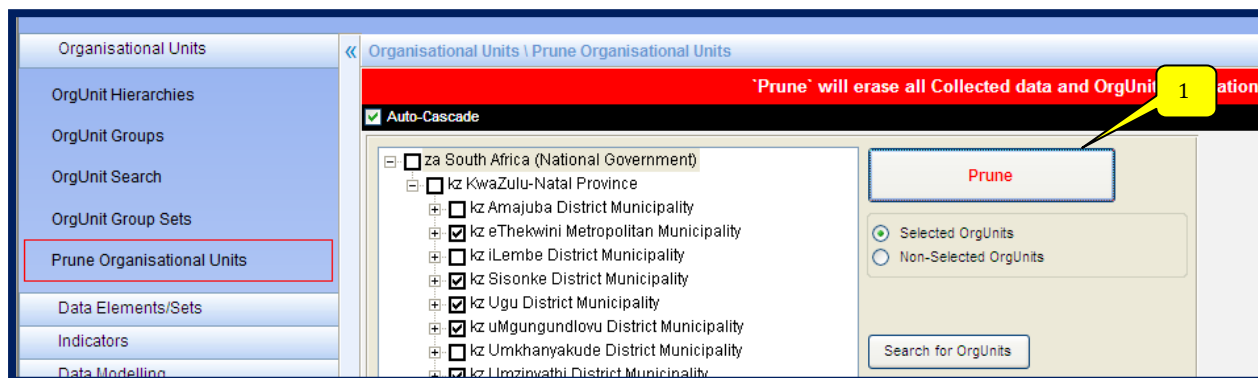


Figure 2: Selecting Org Units to Prune

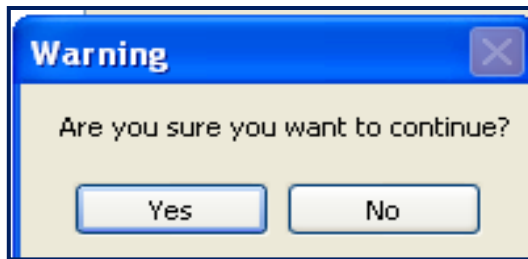


Figure 3: Prune Org Units 1st Confirmation

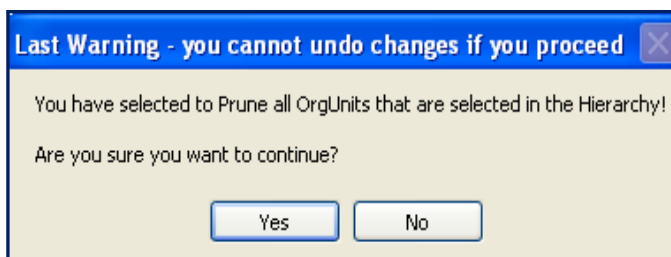



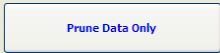


Figure 4: Prune Org Units Final Confirmation

## Pruning Data Only

### Steps

- i) Login as admin (Details on DHIS Level 1 manual)
- ii) On Control Centre click Maintenance.
- iii) Click Organizational Units.
- iv) Click Prune Organizational Units, the screen (Figure 2) below will appear.
- v) Click the  sign to expand the list.
- vi) Select the organizational units that you wish to prune data for by ticking in the appropriate box(es) (You can also use the Search for OrgUnit button).
- vii) Tick the **Selected OrgUnits** option.
- viii) Select the data set to prune data from by clicking the browse button .
- ix) Select the data period from and to from the date pickers .

- x) Click **Prune Data Only**  data for the selected OrgUnit and Data Set will be permanently deleted.
- xi) Click Yes on the Warning dialog box (Figure 6).
- xii) Click Control Centre to go back to the main screen.

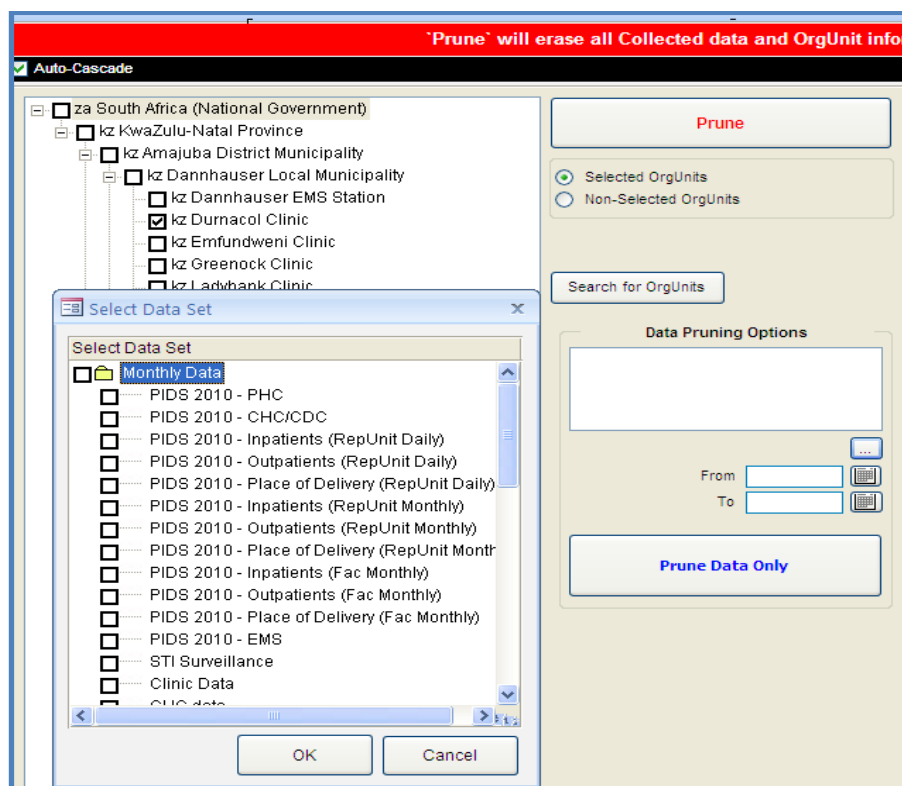


Figure 5: Select OrgUnit and Data Set to prune data

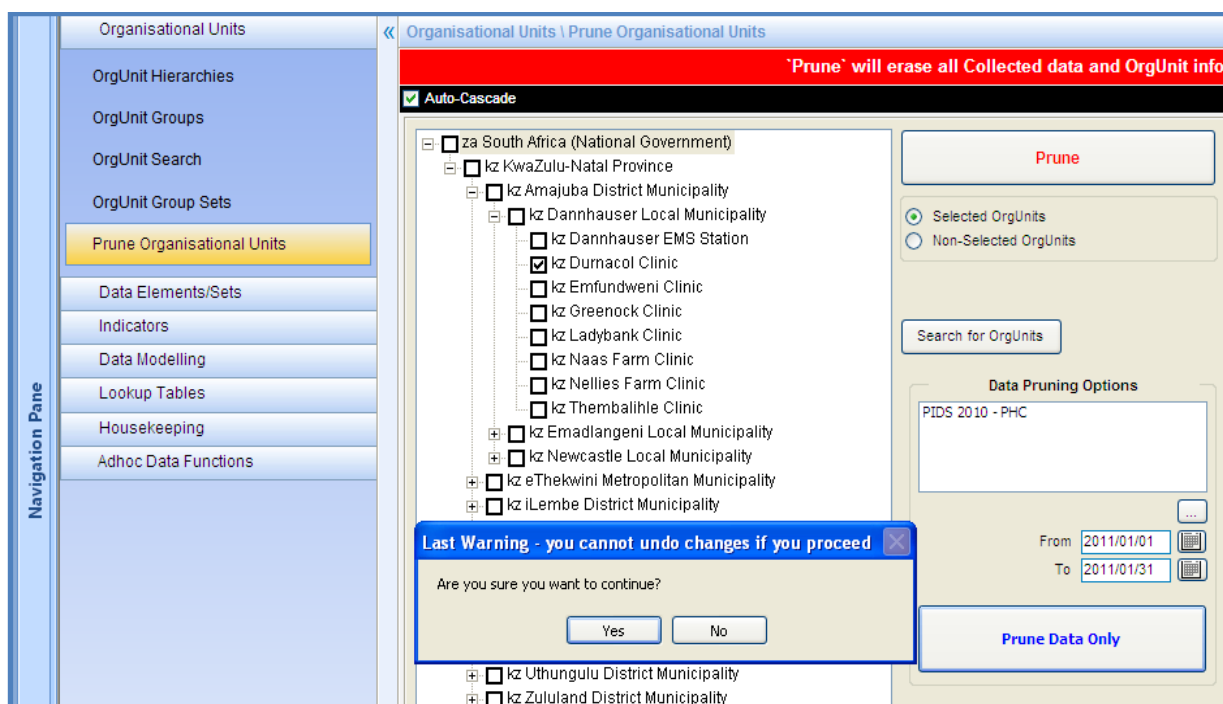


Figure 6: Pruning Data

### 2.1.3 OrgUnit Hierarchies



Selecting the country as parent OrgUnit provides an opportunity to create a new province which is the child OrgUnit to the country, selecting a province as a parent OrgUnit allows the creation of a new district as a child OrgUnit which is displayed in blue font. This list goes on up-to the least level of reporting unit. The following steps will guide you towards creating a new facility (OrgUnit level 5). The **Exclusive** (3) indicator on the **OrgUnit Classification** screen (Figure 9) means that **only** one group may be selected in that **Group Set** and the **Compulsory** (4) means that it is mandatory that a group is selected. To verify if the facility you just created exists, find it using the **Search** function in **Core Module** or use the **Ctrl+O** keyboard shortcut.

#### Steps

- i) On Control Centre click Maintenance.
- ii) Click Organizational Units.
- iii) Click OrgUnit Hierarchies.
- iv) Click the + sign next to each parent OrgUnit to expand the list.
- v) Click on the level 4 (Municipality) OrgUnit and New Facility <sup>2</sup> will be displayed on the top bar / button.

- vi) Click the New Facility button to create a new facility.

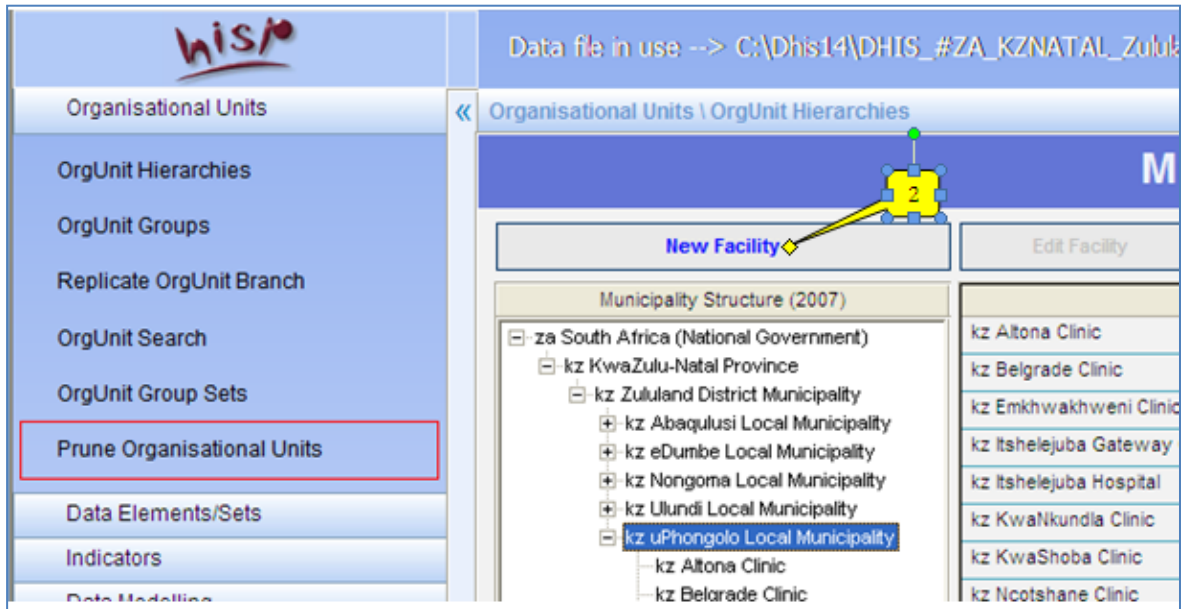


Figure 7: Adding a new facility

- vii) When the OrgUnit form appears (Figure 8), start entering the OrgUnit details (Name, groups and modify date opened) paying attention to standard naming convention [Student Clinic is used as an example].
- viii) You will be prompted to go through the 3 steps of allocating the OrgUnit to groups – from the Available Groups select Clinic, click **Next** and select Provincial Facility, click **Next** and select Rural for the 3rd step then click **Finish** (Figure 9).
- ix) Click Save and Close, the new OrgUnit will be on the list as shown on figure 10 (The OrgUnit is now ready for Data Entry once data elements have been allocated).
- x) Click Control Centre to go back to the main screen.

OrgUnit (ID: 3040)

## Student Clinic

New Save Delete Close

Name mp Student Clinic \* Short Name Student Clinic \*

Code  Level Facility

Old Name  Old Short Name

Date Opened 2010/06/01  Submits data ☒

Date Closed 9999/12/31

Comment

Groups Clinic  
Province Facility  
Rural

Figure 8: New OrgUnit form

mp Student Clinic

## OrgUnitType

1 / 3

Basic classification of Organisational Unit

EXCLUSIVE Compulsory

Selected Groups

Clinic

Available Groups

- After Hours Service
- Community Health Centre
- Correctional Service
- District Hospital
- Emergency Medical Service
- EMS Station
- EMS vehicle
- Environmental Health Service
- Frail Care
- Gateway Clinic
- General Practitioner
- Hospital

Figure 9: allocating an OrgUnit to groups

| Modify OrgHierarchy                       |                                   |                 |
|---|-----------------------------------|-----------------|
| New Facility                              | Edit Facility                     | Delete          |
| Groups                                    |                                   |                 |
| Municipality Structure (2007)             | Facility                          | Short Name      |
| [-] za South Africa (National Government) | mp Boekenhouthoek Clinic          | Boekenhouthoek  |
| [-] mp Mpumalanga Province                | mp Empilweni Clinic               | Empilweni       |
| + mp Ehlanzeni District Municipality      | mp Gembokspruit Clinic            | Gembokspruit    |
| + mp Gert Sibande District Municipality   | mp Goederede Clinic               | Goederede       |
| [-] mp Nkangala District Municipality     | mp Kameelpoortnek Clinic          | Kameelpoortnek  |
| mp Delmas Local Municipality              | mp Kwaggafontein A Clinic         | Kwaggafontein A |
| mp Dr JS Moroka Local Municipality        | mp Kwaggafontein C CHC            | Kwaggafontein C |
| mp Emakhazeni Local Municipality          | mp KwaMhlanga Clinic              | KwaMhlanga Clin |
| mp Emalahleni Local Municipality          | mp KwaMhlanga EMS Station         | KwaMhlanga EM   |
| mp Steve Tshwete Local Municipality       | mp KwaMhlanga Hospital            | KwaMhlanga Ho   |
| mp Thembisile Local Municipality          | mp KwaMhlanga Oral Health Service | KwaMhlanga OH   |
|   | mp KwaMhlanga Wellness Clinic     | KwaMhlanga We   |
|   | mp Mathyzensloop Clinic           | Mathyzensloop   |
|   | mp Moloto CHC                     | Moloto CHC      |
|   | mp Moloto Mobile 1                | Moloto Mob 1    |
|   | mp Student Clinic                 | Student Clinic  |

Figure 10: New OrgUnit is displayed at the end of the list




Create a new organizational unit (Level 5) with the name **Student Community Health Centre** for a Municipality chosen by the facilitator. Allocate it to the appropriate OrgUnit Group Sets. Student CHC is in the City Centre. You are free to discuss with a colleague next to you.




## 2.1.4 OrgUnit Groups



The **OrgUnit Groups (5)** on **figure 11** let you view the different OrgUnits and the **OrgUnit Groups (7)** allocated to them. Clicking on each OrgUnit (6) displays the **Selected Group (7)** from a **Group Set (10)**. The **Available Groups (9)** are also displayed. **OrgUnit Groups** can also be modified (added or removed) here. This is done by clicking on the OrgUnit group from the **Selected Groups (7)** then click the green minus sign (8) to remove. To add, simply click a group from the **Available Groups (9)** then click on the green plus (+) sign, the group will be added to **Selected Groups**. Clicking the switch button  gives a different view of the groups and OrgUnits allocated to them (Figure 12).

### Steps

- On Control Centre click Maintenance.
- Click OrgUnit Groups **5**.
- Click the  sign next to the default OrgUnit to expand its contents. Do the same with all the OrgUnit levels until facilities are displayed.
- Click on a facility **6** to view an allocated / selected group **7**.
- Click the drop-down list on the Group Set **10** to select another Group Set.
- Click the Switch button **11** to the Selected Groups differently (Figure 11).
- Click one of the Available Groups on figure 11 to display all OrgUnits that are associated with the selected group.

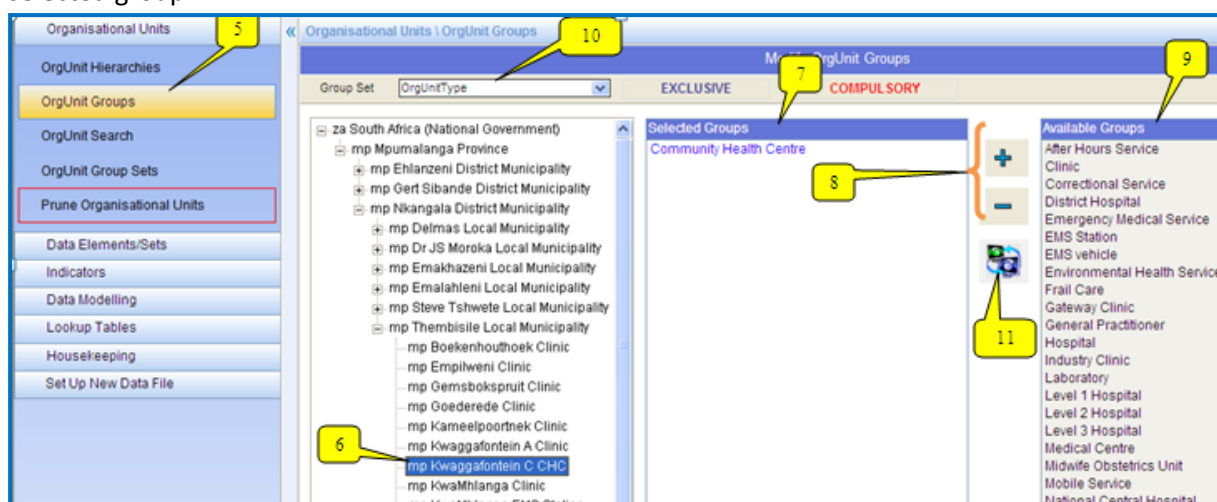


Figure 11: OrgUnit groups

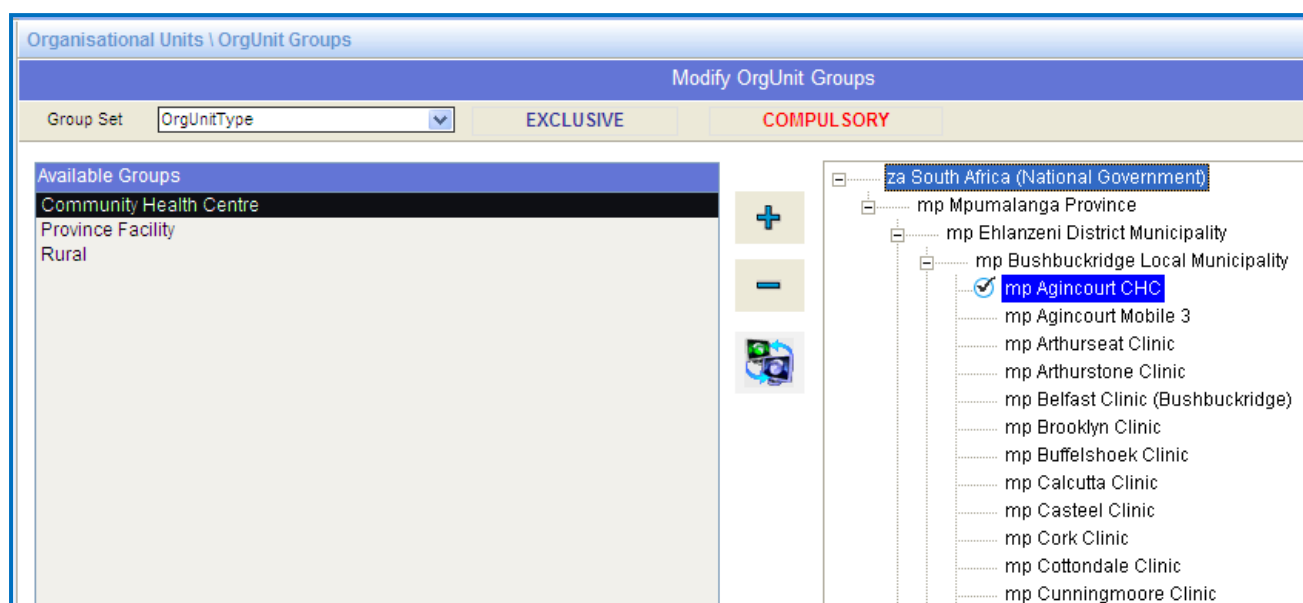


Figure 12: Different View of Available Groups

## 2.1.5 OrgUnit Group Sets



The **OrgUnit Group Sets** provides basic classification of OrgUnits. If you wish to view existing **Group Sets**, use the navigation buttons (**Previous / Next**) on the bottom of the form. If you want to add another **Group Set**, click **Add** and click **Delete** to delete a group set. Clicking the (?) sign next to each **OrgUnit Group** will display a report that can be printed in different formats (Word, Excel or HTML). To add an OrgUnit Group to a Group Set, select it from the **Available Groups** and click the **arrow** pointing left, double-clicking does. Any OrgUnit Group Set can be deleted even if there are records associated with it.

### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **OrgUnit Group Sets** <sup>12</sup> to display modify or add a group set (Figure 13).
- iii) Click Next <sup>13</sup> to view the next Group Set or Back to view previous Group Set.
- iv) Click the (?) <sup>14</sup> next to an OrgUnit Group to view its contents (OrgUnit Group Set Level Summary) – Figure 14 (Clicking one of the default OrgUnit with a value above zero, displays a list of OrgUnit below which can be saved as word, excel or HTML and printed).
- v) Close the OrgUnit Group Set Level Summary form.
- vi) Click the **tick box** <sup>15</sup> next to an OrgUnit Group and the **arrow** pointing right <sup>16</sup> to remove it.
- vii) Click **Add** <sup>17</sup> to add a new OrgUnit Group Set (Figure 15), add necessary details, OrgUnit Groups and decide to make it Exclusive or Compulsory or both then click save.
- viii) Click the **Next** navigation button to view the OrgUnit Group Set that you just created and click Delete <sup>18</sup> to delete it.

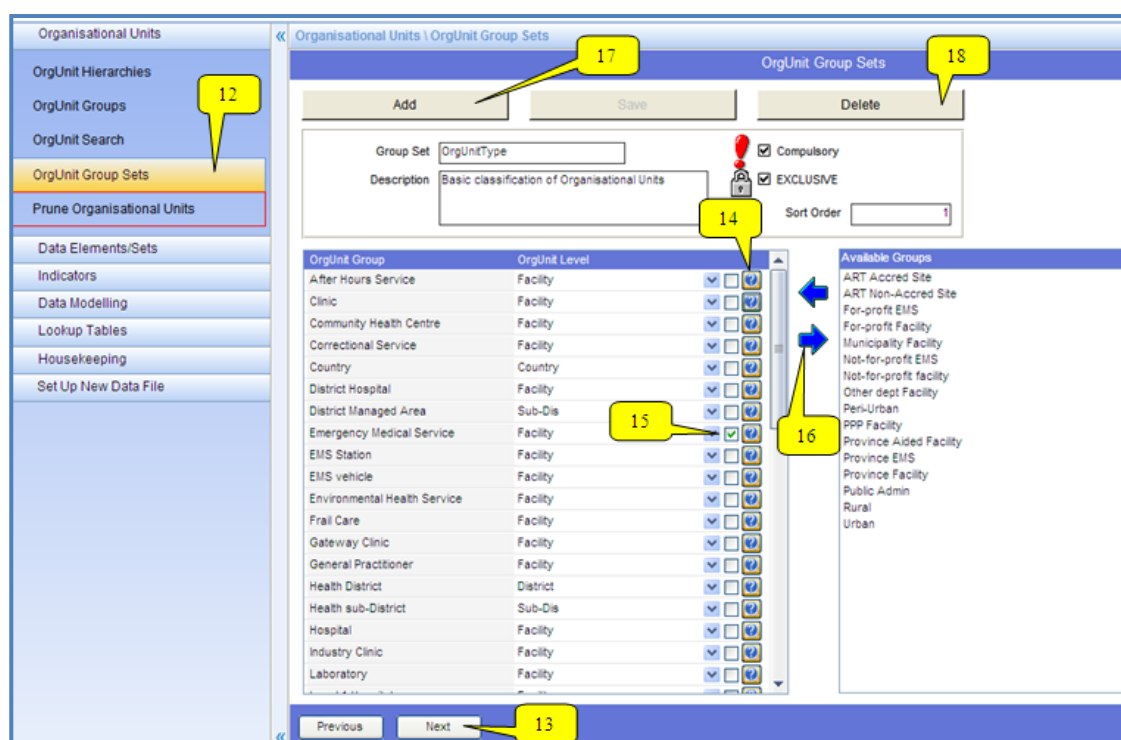


Figure 13: OrgUnit Group Sets

| OrgUnits Groupset Level Summary |       |   |  |           |
|---------------------------------|-------|---|--|-----------|
| OrgUnitType                     |       |   |  |           |
| Country                         | 0     | OrgUnit Group: Clinic<br>Expected Level: Facility (5) |  |           |
| Province                        | 0     |   |  |           |
| District                        | 0     |   |  |           |
| Sub-Dis                         | 0     |   |  |           |
| Facility                        | 270   | Reports<br>   |  |           |
| ID                              | Level | OrgUnit   |  | Sho       |
| 1                               | 5     | mp Ackerville Clinic                                  |  | Ackervil  |
| 4                               | 5     | mp Allemansdrift B Clinic                             |  | Alleman   |
| 8                               | 5     | mp Amersfoort Clinic                                  |  | Amersfc   |
| 13                              | 5     | mp Arthurseat Clinic                                  |  | Arthurse  |
| 14                              | 5     | mp Arthurstone Clinic                                 |  | Arthurst  |
| 18                              | 5     | mp Balfour Clinic                                     |  | Balfour ( |
| 23                              | 5     | mp Barberton Clinic                                   |  | Barbertc  |
| 36                              | 5     | mp Beatty Clinic                                      |  | Beatty    |
| 37                              | 5     | mp Belfast Clinic (Bushbuckridge)                     |  | Belfast ( |

Figure 14: OrgUnit Group Set level summary

Organisational Units \ OrgUnit Group Sets

OrgUnit Group Sets

Add Save Delete

Group Set

Description

☐ Compulsory

☐ EXCLUSIVE

Sort Order

| OrgUnit Group | OrgUnit Level | Available Groups  |
|---------------|---------------|---|
|               |               | <div>←</div> <div>→</div> <ul style="list-style-type: none"> <li>After Hours Service</li> <li>ART Accred Site</li> <li>ART Non-Accred Site</li> <li>Clinic</li> <li>Community Health Centre</li> <li>Correctional Service</li> <li>Country</li> <li>District Hospital</li> <li>District Managed Area</li> <li>Emergency Medical Service</li> <li>EMS Station</li> <li>EMS vehicle</li> <li>Environmental Health Service</li> <li>For-profit EMS</li> <li>For-profit Facility</li> <li>Frail Care</li> </ul> |

Figure 15: Adding New OrgUnit Group Set



Add a new organizational unit group set with the name **Student Set** and allocate the following OrgUnit Groups: **After Hours Service** and **For-Profit facility** all at **Facility** OrgUnit level. Set the Org Unit Group Set to be **compulsory** and **exclusive**. You are free to discuss with a colleague next to you.

## 2.1.6 Replicate OrgUnit Branch

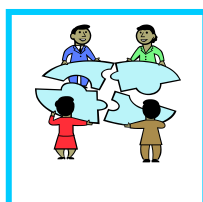


The **Replicate OrgUnit Branch** function can be used when planning to add a new hierarchy or a new OrgUnit to the hierarchy. It allows you to check whether your action will not result in duplicates. (This functionality is still under development)

### Steps:

- i) Click **Maintenance** on control centre.
- ii) Click **Organizational Units**.
- iii) Click **Replicate OrgUnit Branch**.
- iv) Select the organizational tree that you wish to copy and change the parent and child names on the 1<sup>st</sup> tab (**Long Name**) and on the **short name** tab (The names can be changed by replacing words (Figure 16)).
- v) Checks for duplicates for both, if the outcome is zero on both tabs then click **Add to Hierarchy** to add the new OrgUnit tree.
- vi) Click **Control Centre** to quit the **Replicate OrgUnit** function.

Figure 16: Replicate OrgUnit Branch



Practice the use of the **Replicate OrgUnit Branch** using data / criteria provided by the facilitator.

## 2.2.1 Data Elements



The NDoH **Data Elements** in the DHIS are standardized with standardized definitions. Some data elements may be added for local needs however these **must not** be exported to the next level of reporting. The steps below will guide you on how to create a **new** data element. New data elements can also be created by **replicating** an existing data element by **editing** and saving a replica. The fields marked with red asterisks are mandatory and therefore cannot be blanks. The aggregation start level is facility by default. If you want to add more than one data element at a time, **replicate** the one that you just added or click **new** on the one just added then follow the steps as previously done. To delete a data element, simply select it from the list (Figure 17) and click **Delete**. Data elements with data or used in validation rules / calculation of indicators cannot be deleted. Any new data element must be allocated to a data set to be available for data entry. If the **Auto-Activate Data Elements in Data Entry**, all the data elements will be active for the data set selected and the entry form can be manually customized by deactivating the data elements according to the services provided by the facility.

### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **Data Elements / Sets**.
- iii) Click **Data Elements** (Figure 17).
- iv) Click **New** and the new data element form will open (Figure 18).
- v) Fill in the new data element form ensuring that all the mandatory fields are complete.
- vi) Click **Save**.


| Order | Data Element                                    | Short name           | DOS      | Data Type | Data Period Type | Header Data              | Calc                                | Aggr     |
|-------|---|----------------------|----------|-----------|------------------|--------------------------|-------------------------------------|----------|
| 1     | PHC headcount under 5 years                     | PHC headcount <5     | PHC_U5   | Number    | Monthly          | <input type="checkbox"/> | <input type="checkbox"/>            | Facility |
| 2     | PHC headcount 5 years and older                 | PHC headcount >=5    | PHC_SOVR | Number    | Monthly          | <input type="checkbox"/> | <input type="checkbox"/>            | Facility |
| 3     | PHC total headcount                             | PHC total headcount  | PHC_TOT  | Number    | Monthly          | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Facility |
| 4     | PHC headcount under 5 years between 7pm and 7am | PHC hont <5 7 to 7   | PHCUS727 | Number    | Monthly          | <input type="checkbox"/> | <input type="checkbox"/>            | Facility |
| 5     | PHC case seen by Professional Nurse             | PHC seen by PN       | SEENPN   | Number    | Monthly          | <input type="checkbox"/> | <input type="checkbox"/>            | Facility |
| 6     | PHC case seen by doctor - referred              | Seen by doctor ref   | SEENDRF  | Number    | Monthly          | <input type="checkbox"/> | <input type="checkbox"/>            | Facility |
| 7     | PHC case seen by doctor - not referred          | Seen by doctor noref | SEENDRNR | Number    | Monthly          | <input type="checkbox"/> | <input type="checkbox"/>            | Facility |

Figure 17: Data Elements View

- vii) To replicate, click the data element that you want to replicate on the Data Element View form (Figure 18)
- viii) Click **Edit** or double-click on the data element name.
- ix) Click **Replicate** and the background color of the form will change.
- x) Edit the fields as necessary.
- xi) Click **Save**.



- xii) Use these arrows to move the data elements higher or lower in the list (The sort order is adjusted automatically).

- xiii) To allocate a data element to a data set, click on the blue cross  next to the data element then select the data set from the drop-down list (Figure 19).
- xiv) Click Apply and Close.
- xv) Clicking any of the headings on the data elements list form, changes the data elements sort order.

| Order | Data Element | Short name | DOS | Data Type | Data Period Type | Header Data |
|-------|--------------|------------|-----|-----------|------------------|-------------|
|-------|--------------|------------|-----|-----------|------------------|-------------|

Data Element (ID: 0)

Replicate New Save Cancel Close

Sort Order: 1450 Code: DOS Name: \* Long name: \*

Name: \* Short name: \*

Data Period Type: Monthly \* Data Type: Number \* Calculated: ☐ Save Calculated: ☐ Header Data: ☐ Aggr Operator: Sum

Definition:

Comment:

Valid From: 2009/01/01 Valid To: 9999/12/31

Aggr Start Level:

- Country
- Province
- District
- Sub-Dis
- Facility

☒ Do Not Aggregate

Alternate Names:

Alt 1 Name: Alt 1 Short: Alt 2 Name: Alt 2 Short: Alt 3 Name: Alt 3 Short:

Last User: Samuel\_Thela Last Updated: 2010/06/29

Previous Next Attributes Compulsory Pairings

Figure 18: New Data Element Form



Data Element (ID: 0)

### PHC headcount under 5 years

Replicate New Save Cancel Close

Sort Order: 1450 Code: R1483 DOS Name: PHC\_U5 \*

Name: PHC headcount under 5 years \* Long name: PHC headcount under 5 years \*

Short name: PHC headcount <5 \*

Data Period Type: Monthly \* Data Type: Number \* Calculated: ☐ Save Calculated: ☐

Definition: All individual patients not yet reached five years (60 months) of age attending the facility during the reporting period (usually month) for Primary Health Care. Each patient is counted once for each day they

Header Data: ☐ Aggr Operator: Sum

Comment: Include any child given individual service(s) during e.g. a home or crèche visit.

Valid From: 1994/01/01 Valid To: 9999/12/31

Aggr Start Level: Country Province District Sub-Dis Facility ☐ Do Not Aggregate

Alternate Names

|            |  |             |  |
|------------|--|-------------|--|
| Alt 1 Name |  | Alt 1 Short |  |
| Alt 2 Name |  | Alt 2 Short |  |
| Alt 3 Name |  | Alt 3 Short |  |

Last User: Calle\_Hedberg Last Updated: 2009/09/10

Previous Next Attributes Compulsory Pairings

Figure 19: Replicating an Existing Data Element

Organisational Units Data Elements/Sets Data Elements Data Element Groups Data Sets Data Entry Forms Hierarchical Value Groups Indicators Data Modelling Lookup Tables Housekeeping Set Up New Data File

Data Elements/Sets > Data Elements

New Edit

Data Element Groups: <ALL>

Data Set: <ALL> Filter:

PHC headcount under 5 years\_Test1

Allocate to available data sets

Hospital Data (monthly capture) Apply Close

Existing data sets already assigned

Primary Health Care Data

Previous Next

1450 PHC headcount under 5 years\_Test1


Figure 20: Allocating Data Element to Data Set (s)

## 2.2.2 Data Elements Groups



The **Data Elements Groups** (Figure 21) let you view the different Data Elements and their Groups. If a Data Element is **not** allocated to any Data Element group, it becomes an orphan. All orphaned data elements are displayed when the **Orphaned Data Elements** tick box is clicked. You may use the switch similar to figure 11 (Button No. 11) to view the Data Elements and Groups differently.

### Steps

- i) On Control Centre click Maintenance.
- ii) Click Data Elements / Sets.
- iii) Click Data Element Groups to display the form and add or remove a data element from a group (Figure 21).
- iv) Click the Orphaned Data Elements tick box (Figure 22) to display data elements **not** allocated to a group.
- v) Click an appropriate group from the Available Groups and the  sign to select a data element group to allocate the orphaned data element (Figure 23), double-clicking on the group also does the same function.

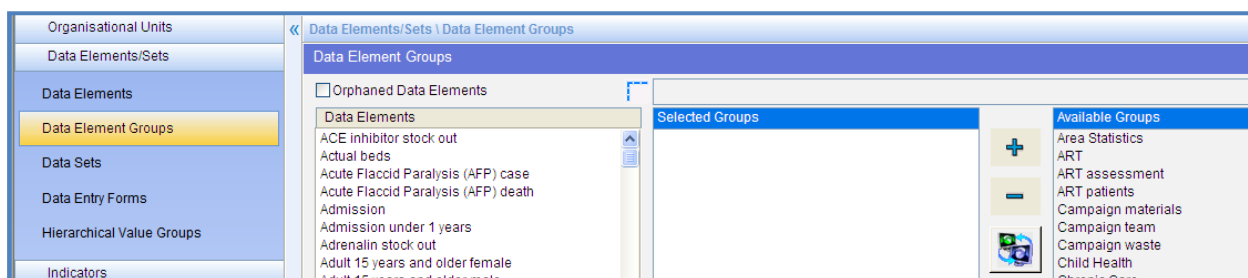


Figure 21: Data Element Groups Display

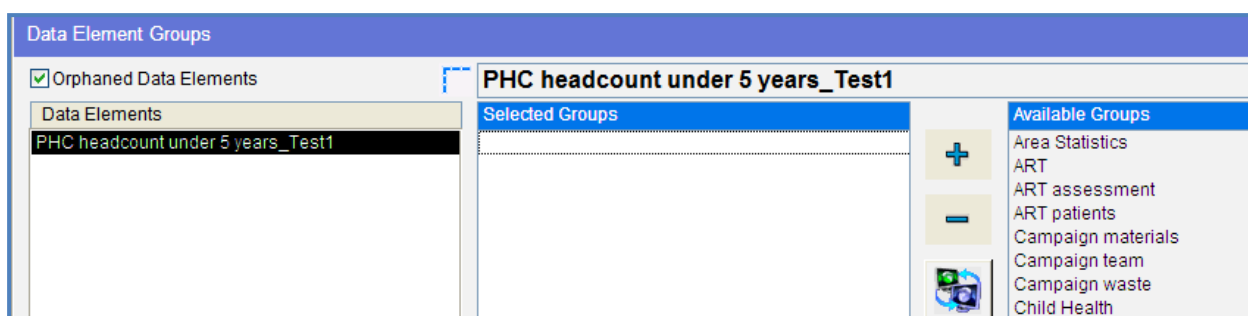


Figure 22: Orphaned Data Elements

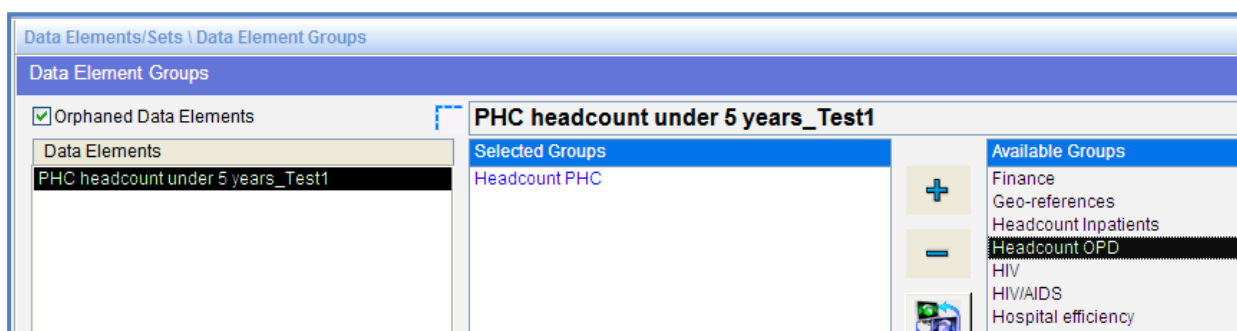



Figure 23: A Group Selected for a Data Element

### 2.2.3 Data Sets



**Data Elements** in the data base are many and may not be collected all at the same time by all facilities or reporting units. **Data Sets** therefore provides for a group of data elements that are similar to the summary form and can be arranged to follow the same sequence as in the summary form thus making data capturing an easy task e.g. PHC data set with only PHC data elements or CHC data set containing only CHC data elements. To create a new **Data Set**, follow the steps below. The new data set will be at the end of the list. To **edit**, **double-click** the data set and to **delete**, click on the data set and click delete from the data set list menu. If the **Auto-activate All Data Elements in Data Entry** option was selected or data has been entered or has data elements allocated, the data set cannot be deleted.

#### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **Data Element / Sets**.
- iii) Click **Data Sets** and the list of Data Sets will be displayed (Figure 24).
- iv) Click **New** and complete the new data set form (Figure 25).
- v) Click **Save** if the Save button is active and Close.
- vi) Click the  sign next to the data set you just created to allocate Data Elements to the Data Set (Figure 26).
- vii) Click **Allocate to OrgUnits** button on the Data Set list menu to allocate your data set to all or specific OrgUnits.
- viii) Click **Save** and a **Done** confirmation will popup.
- ix) Click **Ok**.
- x) Open a Data Entry form selecting the new data set and an OrgUnit allocated the data set to view / confirm what you have done.
- xi) Close the data entry form.



Data Elements/Sets | Data Sets

**Student**

(Un)Select All    Apply (selected) Min/Max to Range Records    Save    Back

Adjust Min/Max

☐ Header Data Elements    ☒ Data Elements

Data Element Group: <ALL>    Filter: PHC

| Select                              | No | Data Element                      | Type | ABS                      | Default Value | Number R |
|-------------------------------------|----|-----------------------------------|------|--------------------------|---------------|----------|
| <input checked="" type="checkbox"/> | 1  | PHC headcount under 5 years       | N    | <input type="checkbox"/> |               |          |
| <input checked="" type="checkbox"/> | 2  | PHC headcount 5 years and older   | N    | <input type="checkbox"/> |               |          |
| <input checked="" type="checkbox"/> | 3  | PHC headcount under 5 years_Test1 | N    | <input type="checkbox"/> |               |          |

Available Data Elements

- 3 PHC total headcount
- 4 PHC headcount under 5 years between 7pm and 7am
- 5 PHC case seen by Professional Nurse
- 6 PHC case seen by doctor - referred
- 7 PHC case seen by doctor - not referred
- 110 Referred to doctor (this or other PHC facility)
- 398 PHC headcount seen between 7pm and 7am
- 443 PHC case seen by doctor under 5 years
- 541 Pregnant woman tested/treated for malaria in PHC

Figure 26: Allocating Data Elements to a Data Set

Data Elements/Sets | Data Sets

| New |       | Edit                               |                     | Delete      |                 | Allocate to Org Units |  |
|-----|-------|------------------------------------|---------------------|-------------|-----------------|-----------------------|--|
|     | Order | Data Set Name                      | Data Table          | Period Type | Data Entry Form |                       |  |
|     | 1     | Primary Health Care Data           | Routine Data        | Monthly     |                 |                       |  |
|     | 2     | Hospital Data (monthly capture)    | Routine Data        | Monthly     |                 |                       |  |
|     | 3     | Hospital data (daily capture)      | Routine Data        | Monthly     | Daily Capture   |                       |  |
|     | 4     | ART Data                           | Routine Data        | Monthly     |                 |                       |  |
|     | 5     | STI Surveillance                   | Routine Data        | Monthly     |                 |                       |  |
|     | 6     | EMS Data                           | Routine Data        | Monthly     |                 |                       |  |
|     | 7     | TB Data (ETR)                      | Routine Data        | Quarterly   |                 |                       |  |
|     | 8     | PPIP Data                          | Routine Data        | Monthly     |                 |                       |  |
|     | 9     | Mental Health Data Set             | Routine Data        | Monthly     |                 |                       |  |
|     | 10    | Notifiable Medical Conditions Data | Routine Data        | Monthly     |                 |                       |  |
|     | 11    | TOP data                           | Routine Data        | Monthly     |                 |                       |  |
|     | 12    | EPI Campaign Data                  | Routine Data        | Monthly     |                 |                       |  |
|     | 13    | Vital registration data            | Routine Data        | Yearly      |                 |                       |  |
|     | 14    | Semi-Permanent Data                | Semi-permanent Data | OnChange    |                 |                       |  |
|     | 15    | Population Estimates               | Semi-permanent Data | Yearly      |                 |                       |  |
|     | 16    | Mpu_Audit03                        | Survey_Audit Data   | Survey      |                 |                       |  |
|     | 17    | TB Data (TBSYS)                    | Routine Data        | Quarterly   |                 |                       |  |
|     | 18    | Inactive Data Elements             | Routine Data        | Monthly     |                 |                       |  |
|     | 19    | Data Flow                          | Routine Data        | Monthly     |                 |                       |  |
|     | 20    | PHC Maternity Data                 | Routine Data        | Monthly     |                 |                       |  |
|     | 21    | TempExport                         | Routine Data        | Monthly     |                 |                       |  |
|     | 22    | Student                            | Routine Data        | Monthly     |                 |                       |  |

Figure 27: New Data Set Displayed (Bottom of list)

Student

Enable only Selected OrgUnits for a Data Set

Previous Next

**Student**

(Items appearing greyed out are not Submitting Data)

Filter

☐ mp Thembisile Local Municipality

- ☐ mp Boekenhouthoek Clinic
- ☐ mp Empilweni Clinic
- ☐ mp Gembokspruit Clinic
- ☐ mp Goederede Clinic
- ☐ mp Kameelpoortnek Clinic
- ☐ mp Kwaggafontein A Clinic
- ☐ mp Kwaggafontein C CHC
- ☐ mp Kwamhlanga Clinic
- ☐ mp Kwamhlanga EMS Station
- ☐ mp Kwamhlanga Hospital
- ☐ mp Kwamhlanga Oral Health Service
- ☐ mp Kwamhlanga Wellness Clinic
- ☐ mp Mathyzensloop Clinic
- ☐ mp Moloto CHC
- ☐ mp Moloto Mobile 1
- ☒ mp Student Clinic
- ☐ mp Thembaletu CHC
- ☐ mp Thembaletu Mobile 1
- ☐ mp Tweefontein A Clinic
- ☐ mp Tweefontein C Clinic
- ☐ mp Tweefontein D Clinic
- ☐ mp Tweefontein H Clinic
- ☐ mp Tweefontein M Clinic
- ☐ mp Verena CHC
- ☐ mp Verena Mobile 1
- ☐ mp Vlaklaagte 1 Clinic
- ☐ mp Vlaklaagte 2 CHC

☒ Cascade Selection

Save Close

Groups

- ART Accred Site
- Clinic
- Community Health Centre
- Correctional Service
- Country
- District Hospital
- Emergency Medical Service
- EMS Station
- For-profit Facility
- Health District
- Health sub-District
- Laboratory
- Mobile Service
- Municipality Facility
- Not-for-profit facility
- Oral Health Service
- Other dept Facility
- Peri-Urban
- Private Hospital
- Province
- Province Aided Facility
- Province EMS
- Province Facility
- Provincial Tertiary Hospital
- Psychiatry Service
- Public Admin
- Regional Hospital
- Rural

Apply

Select a 'root' OrgUnit to limit 'auto-enabling'



Figure 28: Save Confirmation

Figure 29: Allocating OrgUnits to a Data Set

Home Create External Data Database Tools Add-Ins

Data set: Student

Data Period: Jun-10

mp Student Clinic

Filtered OrgUnit List

- All OrgUnits (under default)
- Municipality Structure (2007)
  - za South Africa (National Government)
    - mp Mpumalanga Province
      - mp Nkangala District Municipality
        - mp Thembisile Local Municipality
          - mp Student Clinic

| No | Data Element                    | Min | Max    | Entry | Check                    | Comment |
|----|---------------------------------|-----|--------|-------|--------------------------|---------|
| 1  | PHC headcount under 5 years     | 0   | 7,275  |       | <input type="checkbox"/> |         |
| 2  | PHC headcount 5 years and older | 0   | 21,398 |       | <input type="checkbox"/> |         |
| 3  | PHC headcount under 5 years_T   | 0   | 100    |       | <input type="checkbox"/> |         |

Figure 30: Data Entry Form Using the New Data Set

## 2.3 INDICATORS

### 2.3.1 Indicators



The routine data collected is used to calculate indicators in the DHIS. Indicators are only calculated on the 'fly' when data is exported to the Data Mart. They become available when the pivot tables are created or refreshed from the Data Mart. An indicator is a quantitative or qualitative variable (something that changes) that provides a simple and reliable measurement of one aspect of performance, achievement or change in a program or project. The Indicator Target, Indicator Benchmark & Indicator Target Explosion are all under development. Indicators like Data Elements can also be created using the **Replicate** function.

#### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **Indicators** navigation button.
- iii) Click **Indicators** to open the indicator list form
- iv) Click **New** on the Indicator List menu (Figure 31).
- v) Fill in all the necessary details on the New Indicator form including description of the numerator and denominator.
- vi) Click **Add Numerator** to select data element (s) that form part of the numerator (Figure 33).
- vii) Click **Add Denominator** to select data element (s) that form part of the denominator.
- viii) Click **Save** and close (The indicator will be at the end of the list and can be edited by double-clicking or by clicking the edit button or deleted by clicking the Delete button).

| Order | Indicator   | Type | Period Type | Valid From | Valid To   |
|-------|---|------|-------------|------------|------------|
| 1     | Utilisation rate - PHC (annualised)                   | No   | Monthly     | 1994/01/01 | 9999/12/31 |
| 2     | Utilisation rate under 5 years - PHC (annualised)     | No   | Monthly     | 1994/01/01 | 9999/12/31 |
| 3     | Utilisation rate 5 years and older - PHC (annualised) | No   | Monthly     | 2000/04/01 | 9999/12/31 |
| 4     | Proportion of PHC headcount seen between 7pm and 7am  | %    | Monthly     | 2005/07/01 | 9999/12/31 |
| 5     | Child under 5 years case load - PHC                   | %    | Monthly     | 2000/04/01 | 9999/12/31 |
| 6     | Professional Nurse clinical work load - PHC           | No   | Monthly     | 2010/09/01 | 9999/12/31 |

Figure 31: View List of Indicators

Indicator (ID: 92)

### 90: Proportion antenatal clients tested for HIV

Replicate New Save Cancel Delete Close

Indicator: **Proportion antenatal clients tested for HIV**

Short Name: HIV test ANC rate Valid From: 2002/09/01

DOS Name: HIV\_1ANC Valid To: 9999/12/31

Indicator Type: % Frequency: Monthly ☐ Annualised

Description: The proportion of women coming for their first antenatal visit that are tested for HIV - the assumption is that ALL antenatal clients receive pre-test counselling as part of the antenatal protocol (i.e. the PMTCT programme).

Data Mart Export levels

- OrgUnit Level
- Country
- Province
- District
- Sub-Dis
- Facility

**Numerator**

Description: Antenatal clients tested for HIV

Source Level for Aggregation: Country Province District Sub-Dis Facility

TimeLag: None

Add/Remove Numerators

**Denominator**

Description: Antenatal 1st (booking) visits

Source Level for Aggregation: Country Province District Sub-Dis Facility

TimeLag: None

Add/Remove Denominators

Figure 32: Creating a New Indicator

Edit Formula: Numerator

### Antenatal clients tested for HIV

Save Close

Data Source: ☒ Routine Data ☐ Semi-permanent Data ☐ Survey\_Audit Data ☐ Indicator

TimeLag: None

Text Filter: ante

Data Element Group: [v]

Formula:  $((\text{Sum}[\text{R100}]) * 1)$

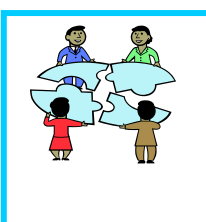
Antenatal client tested for HIV - new

| ID  | Sort | Data Element  | Type   |
|-----|------|---|--------|
| 37  | 37   | Antenatal 1st visit before 20 weeks                 | Number |
| 38  | 38   | Antenatal 1st visit 20 weeks or later               | Number |
| 39  | 39   | Antenatal follow-up visit                           | Number |
| 40  | 40   | Antenatal client tested for syphilis                | Number |
| 41  | 41   | Antenatal client tested positive for syphilis - new | Number |
| 78  | 78   | HIV pre-test counselled (excluding antenatal)       | Number |
| 79  | 79   | HIV client tested (excluding antenatal)             | Number |
| 80  | 80   | HIV test positive - new (excluding antenatal)       | Number |
| 99  | 99   | Antenatal client pre-test counselled for HIV        | Number |
| 100 | 100  | Antenatal client tested for HIV - new               | Number |
| 101 | 101  | Antenatal client tested positive for HIV - new      | Number |

Antenatal client tested for HIV - new

Numerator Description:  $((\text{Sum}[\text{Antenatal client tested for HIV - new}]) * 1)$

Figure 33: Add Numerator



Create an indicator using the following details:

- **Indicator Name:** Antenatal Clients 1<sup>st</sup> Visit Before 20 Weeks Rate
- **Description:** Proportion of Antenatal Clients who visit a health care facility for the 1<sup>st</sup> time in the current pregnancy before 20 weeks gestation.
- **Numerator:** Antenatal Clients 1<sup>st</sup> visit before 20 weeks.
- **Denominator:** Sum of Antenatal Clients 1<sup>st</sup> visit before 20 weeks and Antenatal Clients 1<sup>st</sup> visit 20 weeks or later.

**Time: 10 Minutes**



## 2.4 Indicator Groups



**Indicator Groups** are used to group indicators that are associated with a specific service or program, e.g. Immunization, Reproductive Health, etc. Indicators should be allocated to groups if not they become orphans and can be identified by ticking the **Orphan** tick box on the indicator group list and allocating the indicator to an appropriate group. As discussed earlier, the switch button enables you to view the indicator groups differently.

### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **Indicators**.
- iii) Click **Indicator Groups** to display existing indicators and their groups (Figure 34).
- iv) Click on any indicator from the indicator list column to display its group on the **selected groups** column.
- v) Click the **orphaned indicators** tick-box to display indicators not allocated to any indicator group.
- vi) Click on an indicator group from **available groups** and the + (plus) sign to move it to the **selected groups** thus allocating the orphaned indicator to its appropriate group (double-clicking on a group does the same function).
- vii) Click on an indicator group on the **selected groups** and the – (minus) sign to move it back to the **available groups** (double-clicking on a group does the same function).

|                            |  |                 |   |
|----------------------------|--|-----------------|---|
| Organisational Units       | Indicators \ Indicator Groups  |                 |   |
| Data Elements/Sets         | Indicator Groups   |                 |   |
| Indicators                 | <input type="checkbox"/> Orphaned Indicators   |                 |   |
| Indicators                 | Indicators   | Selected Groups | Available Groups  |
| Indicator Groups           | ACE inhibitor stock out rate<br>Adrenalin stock out rate<br>Amoxicillin 125mg/5ml suspension (75ml) stock out rate<br>Amoxicillin capsules stock out rate<br>Antenatal coverage (monthly)<br>Antenatal coverage rate (annualised)<br>Antenatal visits before 20 weeks rate<br>Antenatal visits per antenatal client rate<br>Any ARV drug stock out rate<br>Any nutrition supplement stock out rate<br>Any TB drug stock out rate<br>ART Adult Cohort Weight Gain Parameter<br>ART Adult Cohort WHO Stage Parameter<br>ART adult regimen 1a rate<br>ART assessment first visit<br>ART Assessment patients - Proportion medical el |                 | +<br>-<br>Area Statistics<br>ART<br>ART assessment<br>ART patients<br>Campaign materials<br>Campaign team<br>Campaign waste<br>Child Health<br>Chronic Care<br>Communication Infrastructure<br>Condom distribution<br>Contact details<br>Curative Services<br>Data Flow<br>Deliveries Summary<br>Diagnostic and Curative Care |
| Indicator Targets (DEV)    |  |                 |   |
| Indicator Benchmarks (DEV) |  |                 |   |
| Data Modelling             |  |                 |   |
| Lookup Tables              |  |                 |   |
| Housekeeping               |  |                 |   |
| Set Up New Data File       |  |                 |   |

Figure 34: Indicator Groups List



In 10.1 above you created an indicator. Allocate it to an appropriate indicator group.

**Time: 5 Minutes**

## 2.5 DATA MODELING

### 2.5.1 Re-estimate Catchment Population



Population based Org Unit 5 indicators are calculated according to the data input coverage (for selected data elements – usually headcount data, use the population estimate setup to prepare the input coverage or use the global options function). Data input coverage determines the contribution each facility will have to the total coverage in a Sub-district or district. The calculation of this coverage is called **Re-estimation of Catchment Population**. There should be more than 6 month data available. The steps below will guide you through. The catchment population re-estimation wizard can also be accessed by **right-clicking** on the **control centre**, pointing to **wizards** and selecting **population re-estimation wizard** (Figure 41).

#### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click Data Modeling.
- iii) Click **Run Population Estimation** to start the wizard (Figure 35).
- iv) **Browse** for an OrgUnit Area and **select the OrgUnit** (If a Municipality is selected, the re-estimation will affect all the facilities under that municipality) – Figure 36.
- v) Click **Ok** and Click **next** to go to the next step of the wizard.
- vi) Enter **Period** on both period fields (the longer the period the better the estimation, though it may take long to run) – Figure 37.
- vii) Select the **OrgUnit Level** (Usually Facility is selected) and click next.
- viii) Click **Finish** on the Summary form (Figure 39).
- ix) Click **Ok** on the timed results box to close the wizard (Figure 40).

Figure 35: Re-estimating Catchment Population Form

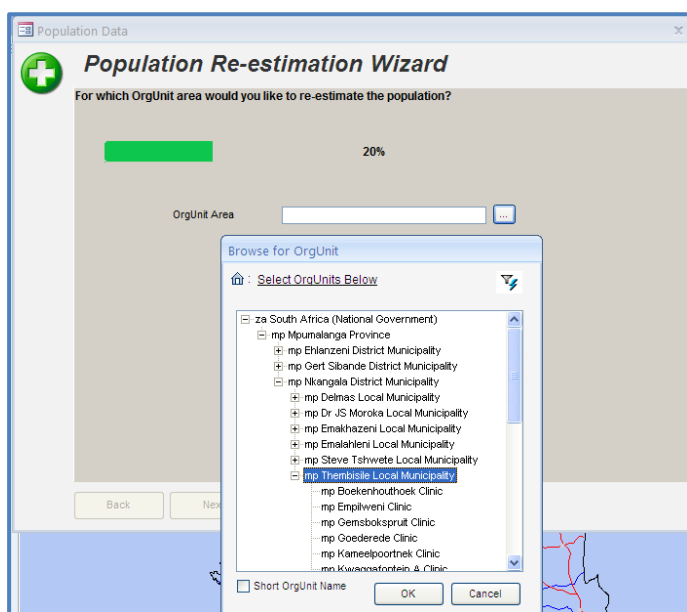


Figure 36: Selecting an OrgUnit Area

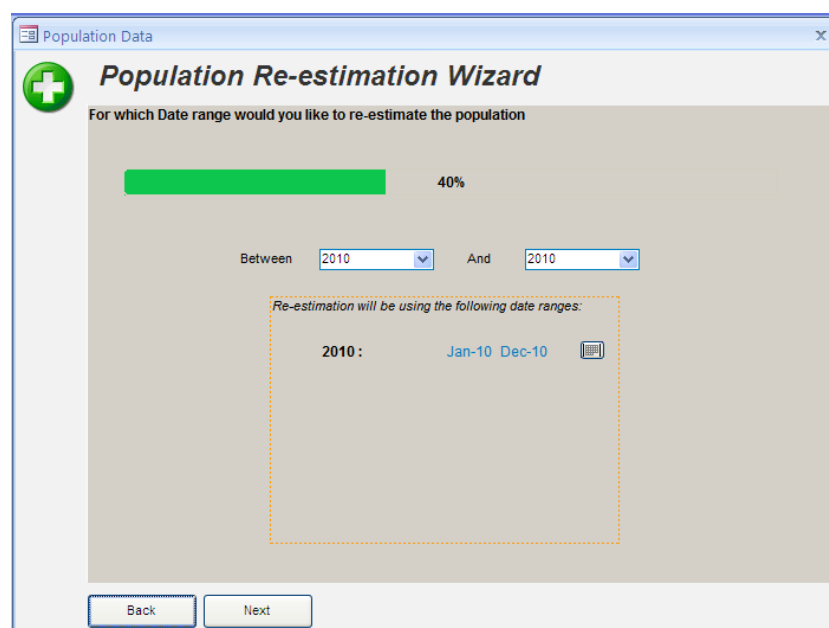
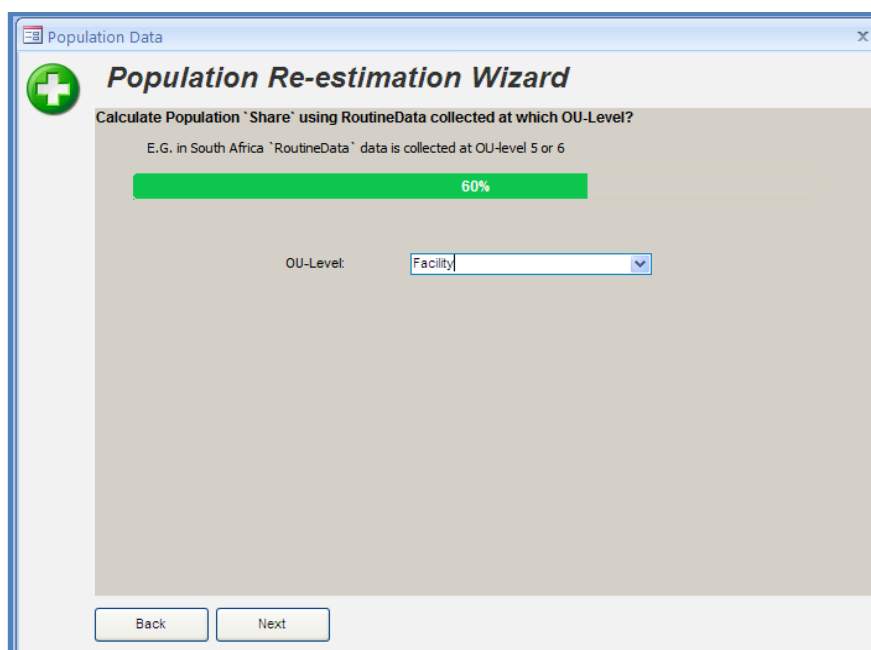


Figure 37: Select period



**Population Re-estimation Wizard**

Calculate Population 'Share' using RoutineData collected at which OU-Level?

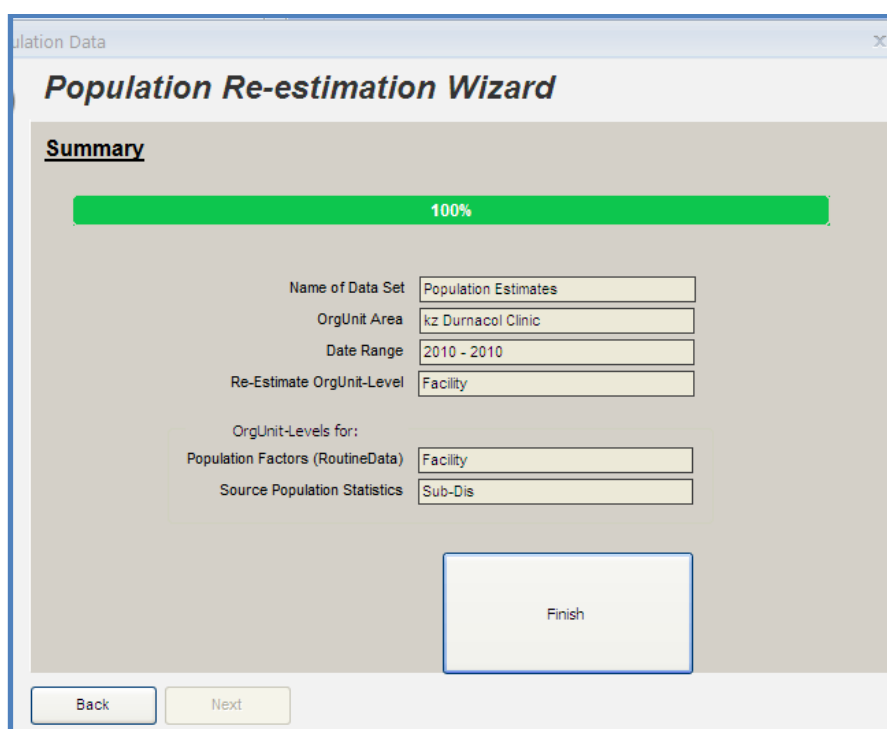
E.G. in South Africa 'RoutineData' data is collected at OU-level 5 or 6

60%

OU-Level:

Back Next

Figure 38: Select OrgUnit Level



**Population Re-estimation Wizard**

Summary

100%

Name of Data Set

OrgUnit Area

Date Range

Re-Estimate OrgUnit-Level

OrgUnit-Levels for:

Population Factors (RoutineData)

Source Population Statistics

Finish

Back Next

Figure 39: Catchment Population Estimation

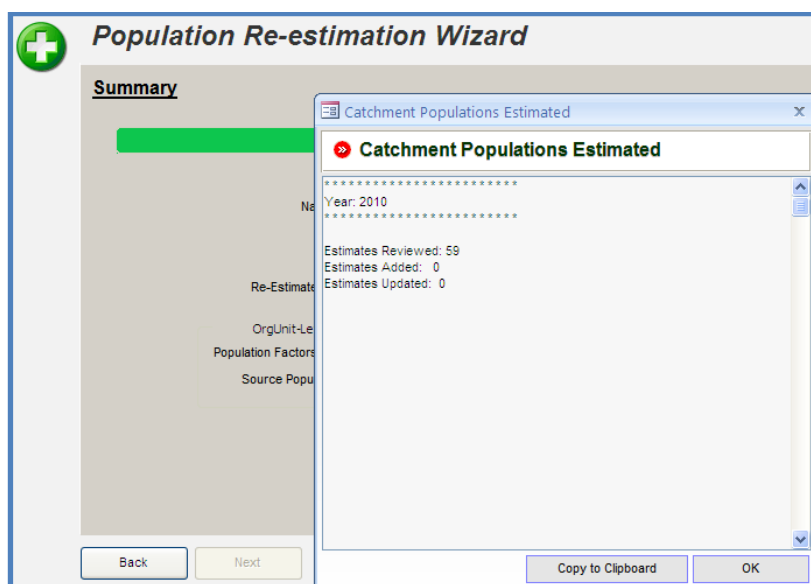


Figure 40: Calculation Results

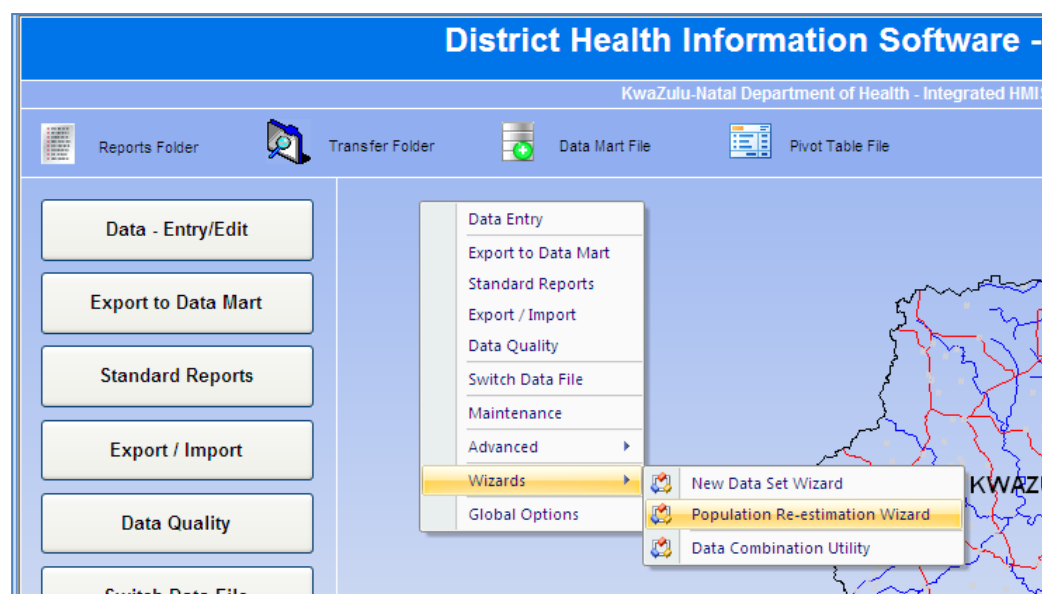
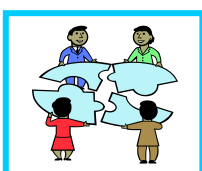


Figure 41: Population Re-estimation Wizard



Re-estimate Catchment Population for an OrgUnit given by the facilitator.

**Time: 5 Minutes**

## 2.5.2 Internal Data Aggregation



The **Internal Data Aggregation** function can be used to aggregate data entered daily per ward into hospital monthly totals. You need to run the Internal Data **Aggregation Setup** first to select the source OrgUnits and the destination OrgUnits and other criteria. Once this is done then future internal aggregations will be based on the criteria (schema) set. The hospital must have reporting unit (OU6).

## 2.5.3 Internal Data Aggregation setup

### Steps

- i) On the Control Centre click **Maintenance**.
- ii) Click **Data Modeling**.
- iii) Click **Internal Data Aggregation Setup** (Figure 42).
- iv) Click **New** to display the setup form.
- v) Complete the fields (all fields marked with asterisks are mandatory) – schema name, type, description source level (OrgUnit 6) and destination level (OrgUnit 5).
- vi) Select the relevant data elements from the available side and move them across to the selected side (any applicable data elements not selected will not form part of the aggregation) – Figure 43.
- vii) Click the Advanced OrgUnit settings to show OrgUnit data available in the schema (Figure 44).
- viii) Click **Save** then **close** (A new schema will appear) – Figure 45.

Figure 42: Internal data aggregation form

Organisational Units

Data Elements/Sets

Indicators

Data Modelling

Internal Data Aggregation 'Setup'

Run Internal Data Aggregation

Population Estimation 'Setup'

Run Population Estimation

Lookup Tables

Housekeeping

Adhoc Data Functions

Data Modelling \ Internal Data Aggregation 'Setup'

New Edit Delete

| Internal Aggregation         | Source | Destination | Type   |
|------------------------------|--------|-------------|--------|
| ServiceToFacilityAggregation | 6      | 5           | Linear |

InternalDataAggregation (ID: 1)

ServiceToFacilityAggregation

New Save Delete Close

Name: ServiceToFacilityAggregation \*

Type: Linear \*

Source: RepUnit \*

Destination: Facility \*

Description: Aggregation of data captured at OrgUnit level 6 (Reporting Unit) to OrgUnit level 5 (Facility)

Data Set Filter: <ALL>

Available Data Elements

Reports

- Campaign headcount under 5 years
- Campaign headcount 5 years and older
- OPV dose under 5 years (campaign)
- OPV dose 5 years and older (campaign)
- Measles dose 9 - 59 months (campaign)
- Measles dose 5 years and older (campaign)
- OPV unopened vial received (campaign)
- OPV unopened vial returned (campaign)
- Measles unopened vial received (campaign)
- Measles unopened vial returned (campaign)
- Syringe 2ml received (campaign)
- Syringe 2ml returned (campaign)

Selected Data Elements (Source)

- Doctor clinical work days
- Professional Nurse clinical work days
- Enrolled Nurse clinical work days
- Nursing Assistant clinical work days
- Pharmacy staff clinical work days
- Minuted meeting of committee / board during period
- Supervisor visit this month
- PHC headcount under 5 years
- PHC headcount 5 years and older
- PHC headcount seen between 7pm and 7am
- Pharmacy headcount (repeat visit)

Destination Element Factors

| Data Element              | Factor |
|---------------------------|--------|
| Doctor clinical work days |        |

Figure 43: Completed Internal Aggregation Setup form

Data file in use --> C:\Dhis14\DHIS\_#Z

Data Modelling \ Internal Data Aggregation 'Setup'

InternalDataAggregation (ID: 1)

ServiceToFacilityAggregation

Name: ServiceToFacilityAggregation

Type: Linear

Description: Aggregation of data capture

Data Set Filter: <ALL>

Available Data Elements

Reports

- Campaign headcount under 5 years
- Campaign headcount 5 years and older
- OPV dose under 5 years (campaign)
- OPV dose 5 years and older (campaign)
- Measles dose 9 - 59 months (campaign)
- Measles dose 5 years and older (campaign)
- OPV unopened vial received (campaign)
- OPV unopened vial returned (campaign)
- Measles unopened vial received (campaign)
- Measles unopened vial returned (campaign)
- Syringe 2ml received (campaign)
- Syringe 2ml returned (campaign)
- Syringe 5ml received (campaign)
- Syringe 5ml returned (campaign)
- Campaign team - Professional nurse
- Campaign team - Other health worker
- Campaign team - Volunteer
- Disposal container used (campaign)
- Disposal container incinerated (campaign)

Specify OrgUnit Aggregation - Internal Aggregation Settings

Filter Area: gp Ekurhuleni Metropolitan Municipality

Destination OrgUnits

- ☐ gp Ekurhuleni Metropolitan Municipality
- ☐ gp Ekurhuleni East 1 Health sub-District
- ☐ gp Ekurhuleni East 2 Health sub-District
- ☒ gp Benoni EMS Station
- ☒ gp Brakpan EMS Station
- ☒ gp Chief Albert Luthuli Clinic
- ☒ gp Crystal Park Clinic
- ☒ gp Dan Kubbeka Clinic
- ☒ gp East Rand Care Centre Clinic
- ☒ gp East Rand H17 Private Hospital
- ☒ gp East Rand TB Hospital
- ☒ gp Far East Rand Gateway Clinic
- ☒ gp Far East Rand Hospital
- ☒ gp Far East Rand Hospital - All
- ☒ gp Far East Rand Oral Health Service
- ☐ gp Faranani EMS Station
- ☒ gp Kemston Clinic
- ☒ gp Kingsway Clinic
- ☒ gp Kwa-Thema (Old Age Home) Geriatric Clinic
- ☒ gp Kwa-Thema CHC
- ☒ gp Lethabong Clinic
- ☒ gp Mary Moodley Memorial Clinic
- ☒ gp Seloape Thema Clinic
- ☒ gp Thabazimbi Clinic

Group Filter

| Group                   | Count |
|-------------------------|-------|
| ART Accred Site         | 20    |
| Clinic                  | 99    |
| Community Health Centre | 9     |
| Correctional Service    | 4     |
| District Hospital       | 2     |
| EMS Station             | 28    |
| For-profit EMS          | 2     |
| For-profit Facility     | 395   |
| Frail Care              | 1     |
| Gateway Clinic          | 4     |
| General Practitioner    | 72    |
| Health District         | 1     |
| Health sub-District     | 9     |

Found

- gp Ackermans Clinic
- gp Alberton North Clinic
- gp Alra Park Clinic
- gp Andries Raditsela Clinic
- gp Bapsfontein Clinic
- gp Barcelona Clinic
- gp Bedfordview Clinic
- gp Bedfordview Mother and Baby Centre Clinic
- gp Birchleigh Clinic
- gp Birchleigh North Clinic
- gp Boksburg Civic Centre Clinic
- gp Boksburg North Clinic
- gp Bonaero Park Clinic
- gp Brackenhurst Clinic
- gp Burger/Buchell/Brue/Gunasekary Clinic

Destination Data Level: Facility

Source Data Level: RepUnit

Activate for All OrgUnits

Advanced OrgUnit Settings

Figure 44: Display of OrgUnits forming part of the schema

|                                   |  |        |             |        |
|-----------------------------------|--|--------|-------------|--------|
| Organisational Units              | Data Modelling \ Internal Data Aggregation 'Setup' |        |             |        |
| Data Elements/Sets                |  |        |             |        |
| Indicators                        |  |        |             |        |
| Data Modelling                    |  |        |             |        |
| Internal Data Aggregation 'Setup' |  |        |             |        |
| Run Internal Data Aggregation     |  |        |             |        |
|                                   | New  | Edit   | Delete      |        |
|                                   | Internal Aggregation                               | Source | Destination | Type   |
|                                   | ServiceToFacilityAggregation                       | 6      | 5           | Linear |

Figure 45: An Internal aggregation schema stored

## 2.5.4 Run Internal Data Aggregation

### Steps

- On Control Centre click **Maintenance**.
- Click **Data Modeling**.
- Click **Run Internal Data Aggregation** the.
- Select the **OrgUnit** area.
- Click Run Aggregation and the record results will appear below and they depends on whether there were changes made or not (You may be prompted to update the range records – click No to ignore it).
- Click the **Control Centre** button.

his/

Data file in use --> C:\Dhis14\DHIS\_#ZA\_GAUTENG.mdb

Data Modelling \ Run Internal Data Aggregation

### Run Internal Aggregation

**Criteria**

Internal Aggregation: ServiceToFacilityAggregation

Org Unit Area: gp Ekurhuleni Metropolitan Municipality

Use Default OrgUnit from Data Entry Form ☒

From: 2008/01/01

To: 2011/12/31

Run Aggregation

**Results**

Linear Aggregation Results

~ Updates: 0

~ New:

**Confirm**

It is recommended that you run the range records re-estimation. Would you like to do this now?

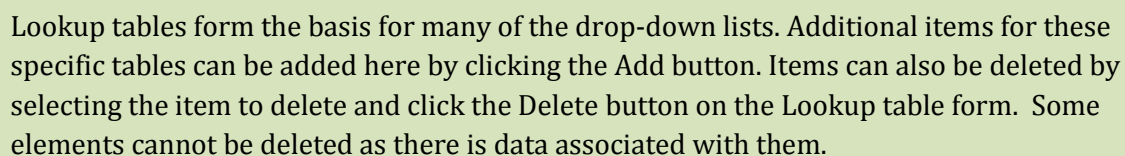
Yes No

Figure 46: Run internal Data Aggregation



### 2.6.1 Data Set Groups, Data Elements & Indicator Groups etc.

### 2.6.1 Data Set Groups, Data Elements & Indicator Groups etc.



- i) On Control Centre click **Maintenance**.
- ii) Click **Lookup Tables**.
- iii) Click the lookup table that you want to view or edit (Try exploring the contents of each one of them).
- iv) You may add or delete a lookup table record.
- v) Data comments are the most commonly used and new comments can be added – it will appear in the drop down list in the data entry form

Organisational Units

Data Elements/Sets

Indicators

Data Modelling

Lookup Tables

**Data Set Groups**

DataElement + Indicator Groups

OrgUnit Groups

Hierarchical Value Groups

Indicator Type

Validation Type

Data Comments

Housekeeping

Lookup Tables \ Data Set Groups

Manage Lookup Tables

AddDelete

Content


|   | Group Name          | Description | Text3 |
|---|---------------------|-------------|-------|
|  | Monthly Data        |             | 2     |
|   | Survey Data         |             | 5     |
|   | Quarterly Data      |             | 3     |
|   | Daily Data          |             | 1     |
|   | Semi-Permanent Data |             | 4     |
| *   |                     |             |       |

Figure 47: View of Data Set Groups Lookup Table

## 2.7 HOUSE KEEPING

### 2.7.1 Merge OrgUnit Data



Health Care facilities and services are ever changing. Clinics may amalgamate, services may be discontinued or facilities may close down. **Merging OrgUnit Data** allows the merging of two organizational units into a new facility, or merging of two facilities into an existing facility. Should two facilities merging into a new facility provide the same range of services, then merging the data is logical. If however the new clinic is going to provide different range of services, then it makes more sense to create a new facility and the former clinics will become inactive. If one or more Org Units merged into one Org Unit the Merge Org Unit Data function can be used.

#### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **Housekeeping**.
- iii) Click **Merge OrgUnit Data** (The Merge OrgUnit Data provides some steps to follow when merging (Figure 48))
- iv) Preview the new data against the previous then close the preview window.
- v) Click finish
- vi) Click **Ok** on the Merge Data Confirmation.

The screenshot shows the HIS2000 software interface. On the left is a sidebar with a tree view containing: Organisational Units, Data Elements/Sets, Indicators, Data Modelling, Lookup Tables, Housekeeping, Merge OrgUnit Data (highlighted), Remove records marked for deletion, Archive Data, Users and Groups, and Adhoc Data Functions. The main window title is 'Data file in use --> C:\Dhis14\DHIS\_#ZA\_KZNATAL\_Zululand\_Training'. Below the title bar, the path 'Housekeeping \ Merge OrgUnit Data' is shown. The main area contains four numbered steps: 1. Select the OrgUnits you want to merge; 2. Select the 'NEW' OrgUnit into which the data will be merged; 3. Data Period to merge data for; 4. Preview Data before completing Data Merge. To actually Merge the Data click 'Finish'. Below these steps, there are input fields for 'Merge Data From' (containing 'Bhekezulu Clinic' and 'Bhekumthetho Clinic'), 'Destination' (containing 'Kz Bhekuzulu Clinic'), 'From' date (2011/08/01), and 'To' date (2011/08/31). At the bottom are buttons for 'Preview 'New' Merged Data', 'Preview 'Old' Data', and 'Finish'. On the right, a 'Data Preview' window is open, titled 'Preview of 'New' Merged Data'. It contains a table with two columns: 'OrgUnit' and 'Data Element'. The table lists various data elements for the 'Kz Bhekuzulu Clinic'.

| OrgUnit             | Data Element                                  |
|---------------------|---|
| Kz Bhekuzulu Clinic | Antenatal 1st visit                           |
| Kz Bhekuzulu Clinic | Diabetes mellitus case put on treatment       |
| Kz Bhekuzulu Clinic | Diarrhoea under 5 years - new                 |
| Kz Bhekuzulu Clinic | Diarrhoea with dehydration under 5 years      |
| Kz Bhekuzulu Clinic | Diarrhoea without dehydration under 5 years   |
| Kz Bhekuzulu Clinic | Doctor clinical work days                     |
| Kz Bhekuzulu Clinic | HIV client tested (excluding antenatal)       |
| Kz Bhekuzulu Clinic | HIV pre-test counselled (excluding antenatal) |
| Kz Bhekuzulu Clinic | HIV test positive - new (excluding antenatal) |
| Kz Bhekuzulu Clinic | Item dispensed                                |
| Kz Bhekuzulu Clinic | PHC case referred                             |
| Kz Bhekuzulu Clinic | PHC case seen by doctor                       |
| Kz Bhekuzulu Clinic | PHC case seen by Professional Nurse           |
| Kz Bhekuzulu Clinic | PHC headcount 5 years and older               |
| Kz Bhekuzulu Clinic | PHC headcount under 5 years                   |
| Kz Bhekuzulu Clinic | Prescription issued                           |
| Kz Bhekuzulu Clinic | Professional Nurse clinical work days         |
| Kz Bhekuzulu Clinic | Reports                                       |
| Kz Bhekuzulu Clinic | Supervisor visit this month                   |

Figure 48: Merging OrgUnits

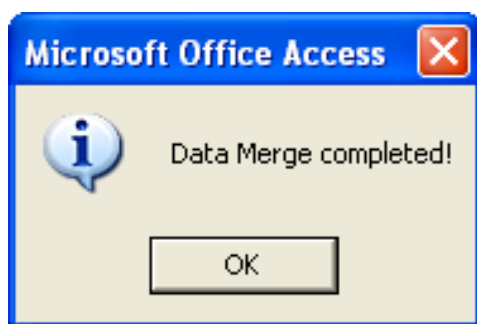


Figure 49: Data Merge Confirmation

### 2.7.2 Archive Data



The purpose of archiving data is to save space in the database. Data that is stable and more than 2 years old should be archived and can be un-archived should a need arise. PivotTables can be set up and 'kept' prior to archiving, which allows the data to still be available in PivotTable format. Once all the data is archived, there will be no data in the **Current Data** box unless only a few were selected. To un-achieve data, also follow the steps below however move the data from the **archived** box to the **Current Data** box.

#### Steps

- i) On Control Centre click **Maintenance**.
- ii) Click **Housekeeping**.
- iii) Click **Archive Data** (Figure 50).
- iv) Select **OrgUnits** by ticking appropriate boxes.
- v) Choose **Source Data** option by ticking the option box, e.g. Routine Data.
- vi) Select **Data Sets** by ticking the tick boxes.
- vii) Enter **Period From** and **Period To**.
- viii) Click **Show Records**.
- ix) Select data to archive from the Current Data side and move it to the Archive Data side using the left pointing arrow.
- x) Click **Control Centre** to close the Archive screen.

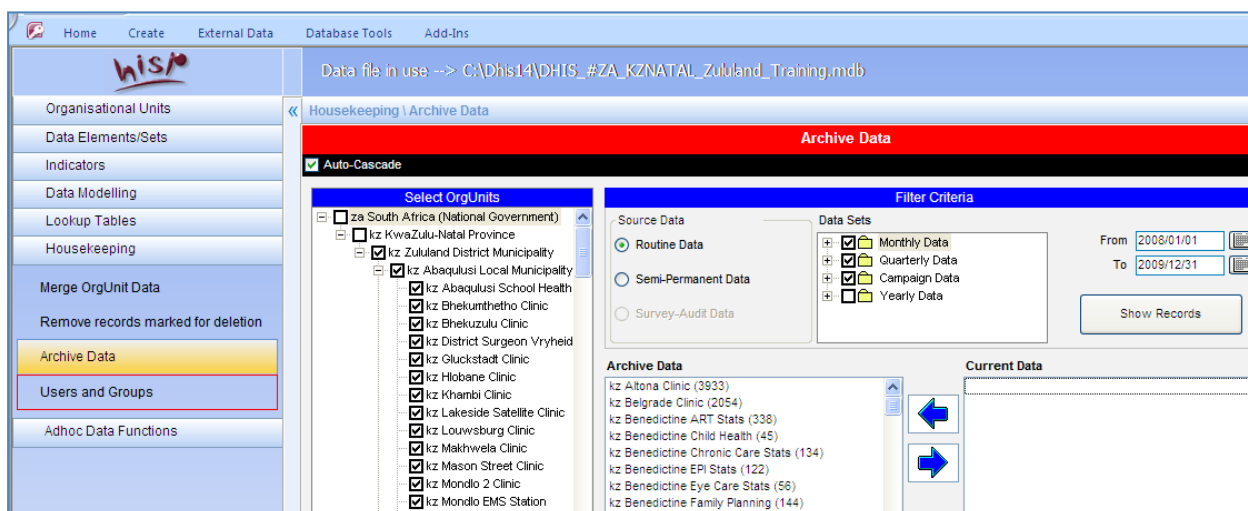


Figure 50: Archiving Data



## 3 MODULE 2: DATA ENTRY FUNCTIONS

### 3.1 Data Search



**The Data Search** function is used to have a quick view of the data. It display the number of data elements with data for the selected OrgUnit in the past few month, e.g. if a facility only reported on three data elements in a specific month, 3 will be displayed next to that facility. Clicking the little search button next to an OrgUnit, opens the OrgUnit data entry form for that specified period. Always click the **Search** button each time the search criteria are changed. **You must be logged in as a user and not admin.**

#### Steps

- i) On Control Centre click **Data Entry** (You may also right-click and click **Data Entry**).
- ii) Click **Add-Ins** to display Core Module and **Data Entry** menu and select a **Data Set**. (Figure 51).
- iii) Click **Data Entry**
- iv) Click **Data Search** – a search screen will appear (Figure 52).
- v) Alternatively, click this button  and select Data Search.
- vi) Browse for the OrgUnit under which the data is searched and click Search.
- vii) Click the search  button next to an OrgUnit to view its data entry form for the period displayed (Figure 53).

viii) Click Close to close the search screen / window.

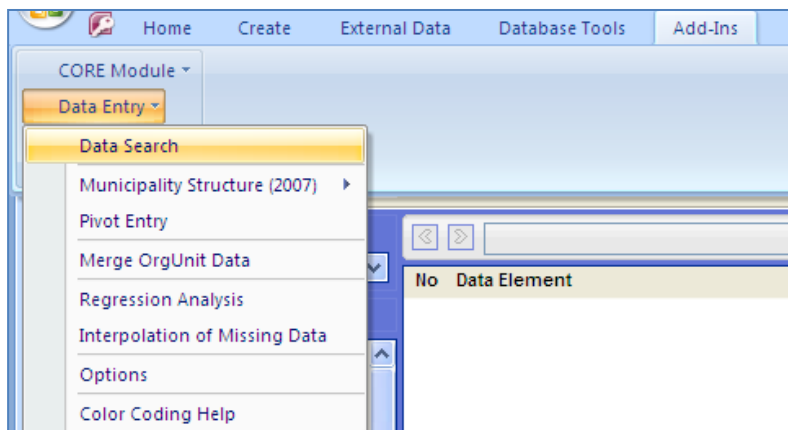


Figure 51: Selecting Data Search function from the menu

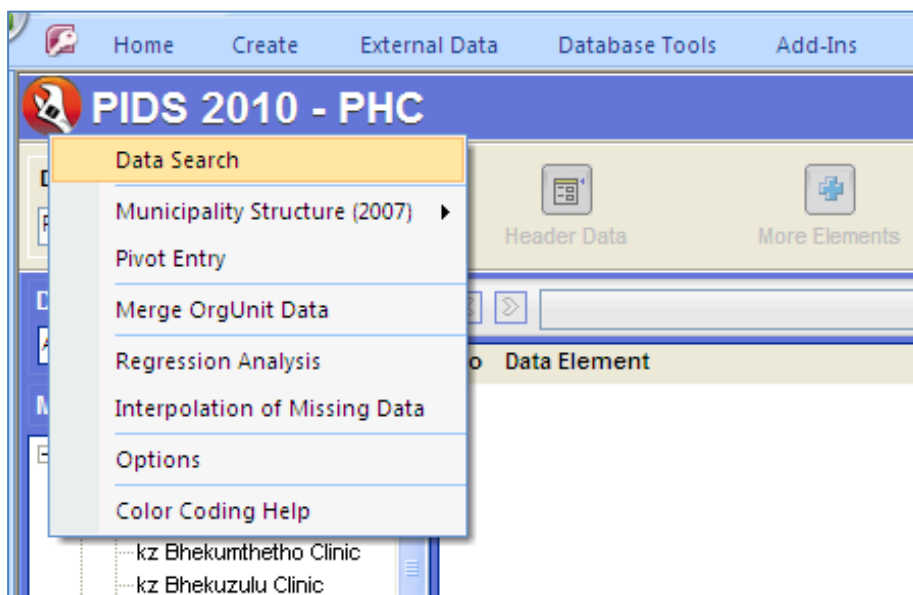


Figure 52: Data Search

Quick Search

## Data Search

Under:

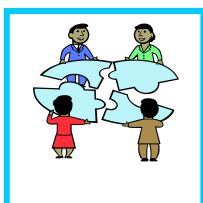
Data Element:

Search Value:

| OrgUnit  | Data Period | Stored Values |
|--|-------------|---------------|
| <input type="button" value="Q"/> mp Empilweni Clinic | Jan-06      | 61            |
| <input type="button" value="Q"/> mp Empilweni Clinic | Feb-06      | 61            |
| <input type="button" value="Q"/> mp Empilweni Clinic | Mar-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | Apr-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | May-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | Jun-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | Jul-06      | 79            |
| <input type="button" value="Q"/> mp Empilweni Clinic | Aug-06      | 88            |
| <input type="button" value="Q"/> mp Empilweni Clinic | Sep-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | Oct-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | Nov-06      | 111           |
| <input type="button" value="Q"/> mp Empilweni Clinic | Dec-06      | 55            |
| <input type="button" value="Q"/> mp Empilweni Clinic | Jan-07      | 115           |

Matches: 45

Figure 53: Data Search Window Displaying No. Data Elements Reported on



Search for the number of data elements reported on for an OrgUnit identified by the facilitator and identify any stored value of reported data elements which is below 10.


## 3.2 MUNICIPALITY STRUCTURE

### 3.2.1 Search for OrgUnit



**The Search for OrgUnit** function is the easiest way of finding any OrgUnit in the DHIS by just typing in a few letters that are part of the OrgUnit name. You may type in the whole word or part thereof. If you know the province under which a facility belongs, start with the provincial prefix then a few letters or the whole facility name and click **Ok**. The province, district or municipality under which the facility falls will be displayed in bold text (Figure 57).

#### Steps

- i) On Control Centre click **Data Entry** and select a **Data Set**.
- ii) Click **Add-Ins** to display Core Module and **Data Entry** menu (Figure 54).
- iii) Point to **Municipality Structure** (2007).
- iv) Click **Search for OrgUnits** (Figure 55)
- v) Alternatively, click this button  and point to Municipality Structure then Search for OrgUnit.

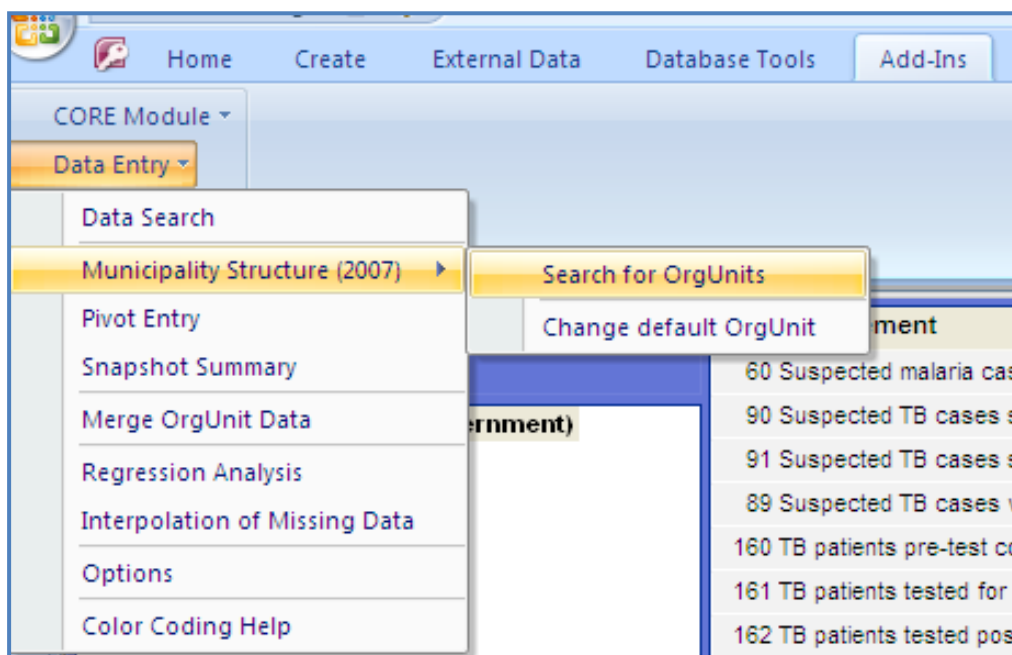


Figure 54: Search for OrgUnits

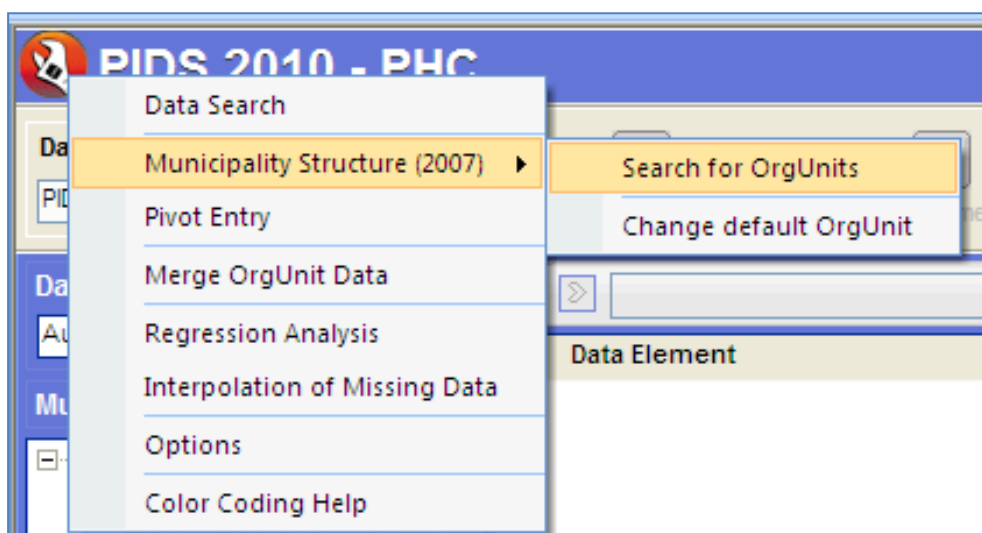


Figure 55: Search for OrgUnit

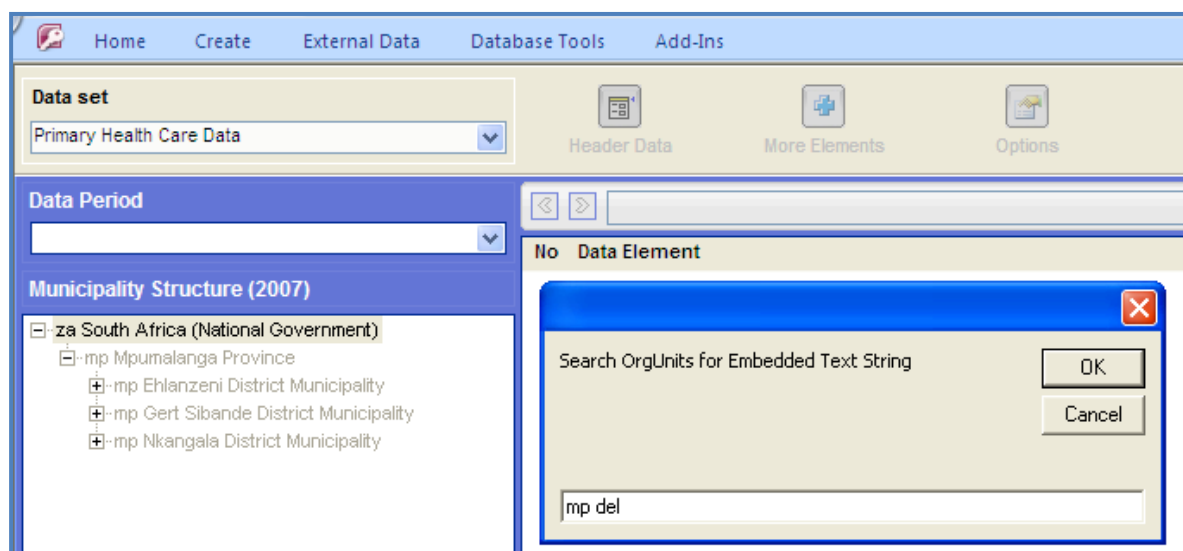


Figure 56: OrgUnit Search Window



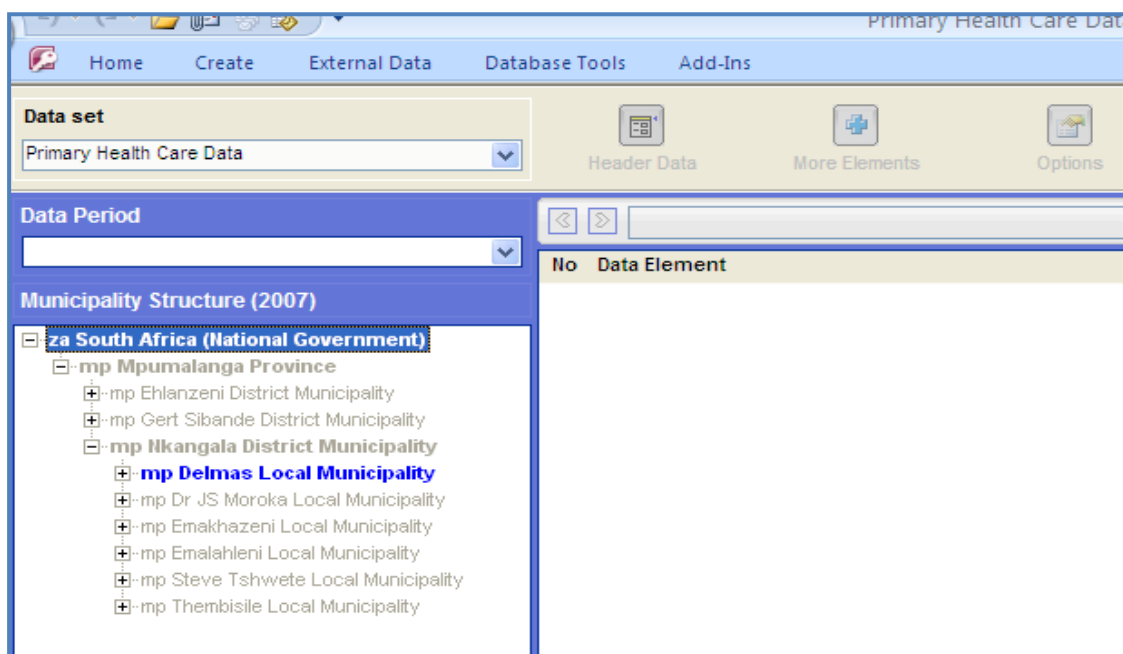



Figure 57: OrgUnit Displayed in Bold Blue Text

### 3.2.2 Change Default OrgUnit



The **Default OrgUnit** is the root OrgUnit. This is the OrgUnit that is seen at the top as an 'Umbrella' OrgUnit of the **Data Entry** form where all the others expands from. The country is normally a **Default OrgUnit** however this can be changed to a lower level like a province or district or sub-district e.g. if routine data is captured at a district level, the district is chosen and if at a sub-district level then the sub-district is selected. This would save time of the data capturer trying to expand the list from the top up-to the facility to capture data.

#### Steps

- i) On Control Centre click **Data Entry** and select a **Data Set**.
- ii) Click **Add-Ins** to display Core Module and **Data Entry** menu (Figure 58).
- iii) Point to **Municipality Structure** (2007).
- iv) Click **Change Default OrgUnit**.
- v) Alternatively, click this button  and point to Municipality Structure then click **Change Default OrgUnit**.

- vi) Expand the list and click the new Default OrgUnit (Figure 59).
- vii) Click **Ok**, it will be displayed on the data entry form as the first on the list.

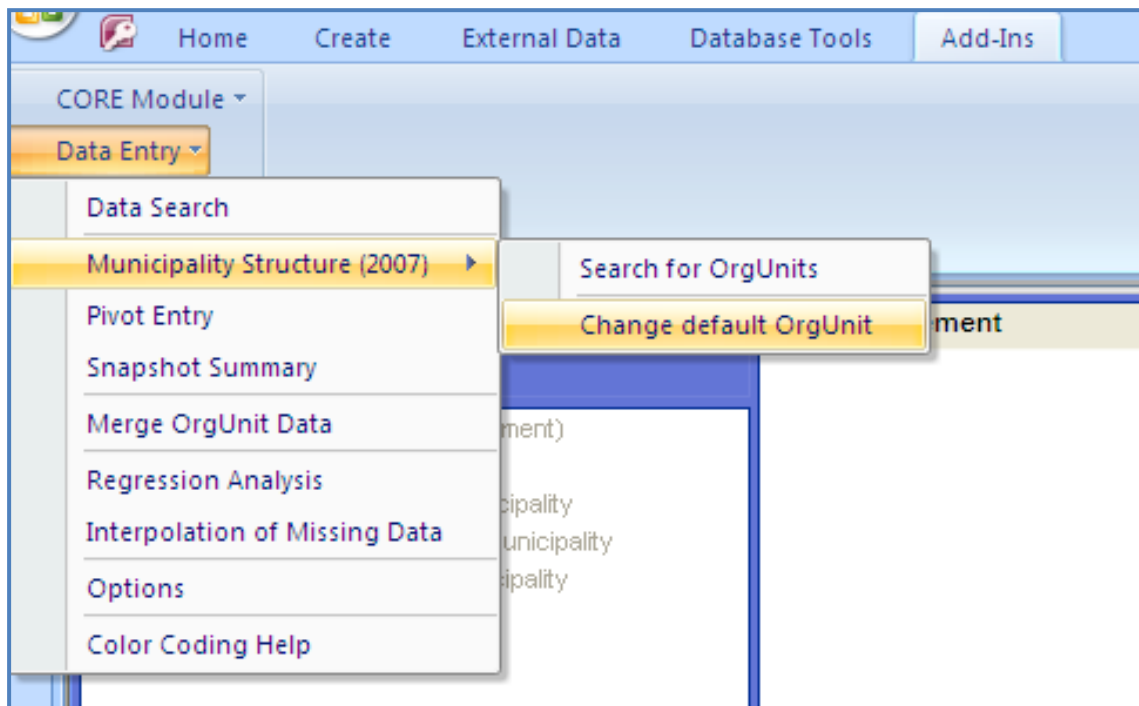


Figure 58: Default Org Unit Menu

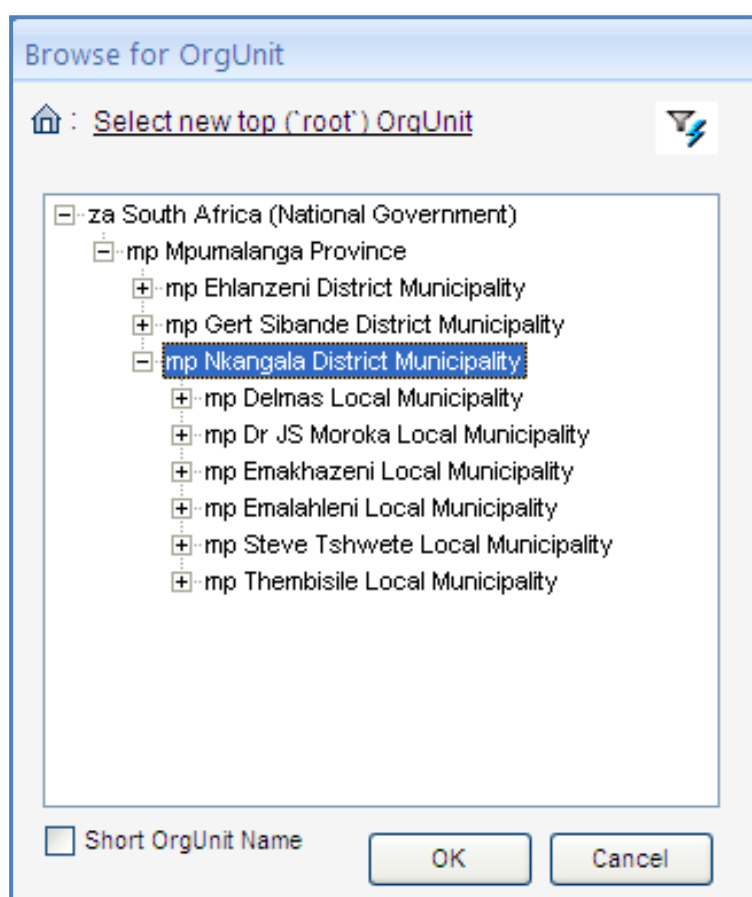


Figure 59: Selecting a Default OrgUnit

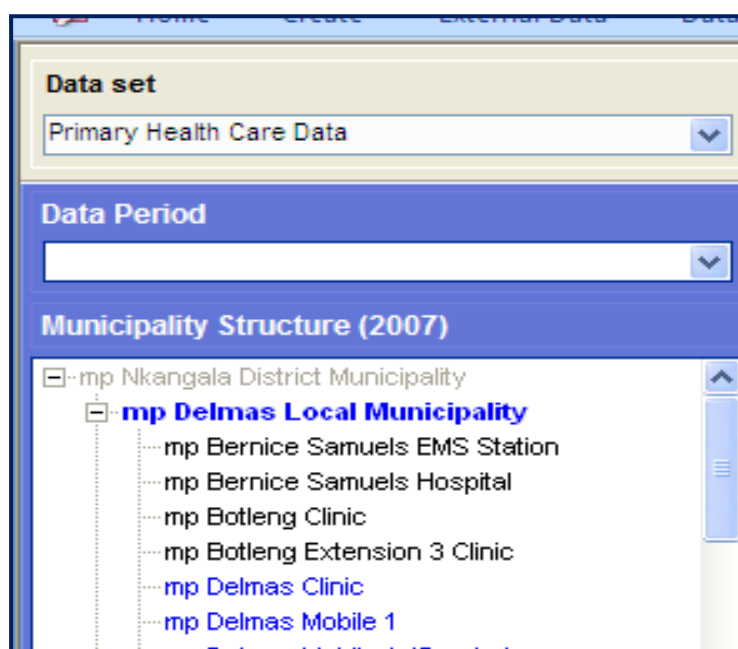


Figure 60: The New Default OrgUnit Displayed


### 3.3 REGRESSION ANALYSIS



**Regression Analysis** allows users to “smooth out” or manipulate poor quality data. For e.g. the values for a specific month are too high or too low and the facility is unable to provide the correct figures. This tool allows the calculation of an estimated figure by averaging out the available data using a regression technique.

It lists the data for a specific data element over any number of months that data is available. Any wide fluctuations in the data can easily be seen. Using the regression analysis function, a value that seems at odds, with no explanation can be replaced. Data that appears out of the ordinary without an explanation maybe “smoothed out” in order to fit within the normal range. This is done for a specific data element. The original value is reflected in the comment field.

#### Steps

- i) On Control Centre click **Data Entry** and select a **Data Set**.
- ii) Select an **OrgUnit** and **period** that you wish to run Regression Analysis for.
- iii) Click **Add-Ins** to display Core Module and Data **Entry menu** (Figure 67).
- iv) Click the **Data Entry** button.
- v) Click **Regression Analysis**.
- vi) Alternatively, click this button  and point to Municipality Structure then click **Regression Analysis**.
- vii) Tick records to exclude then tick those to replace with regression value (Figure 68).
- viii) Click Ok for the confirmation – the original value is replaced by the regression value (Figure 69).
- ix) Click **Close**.

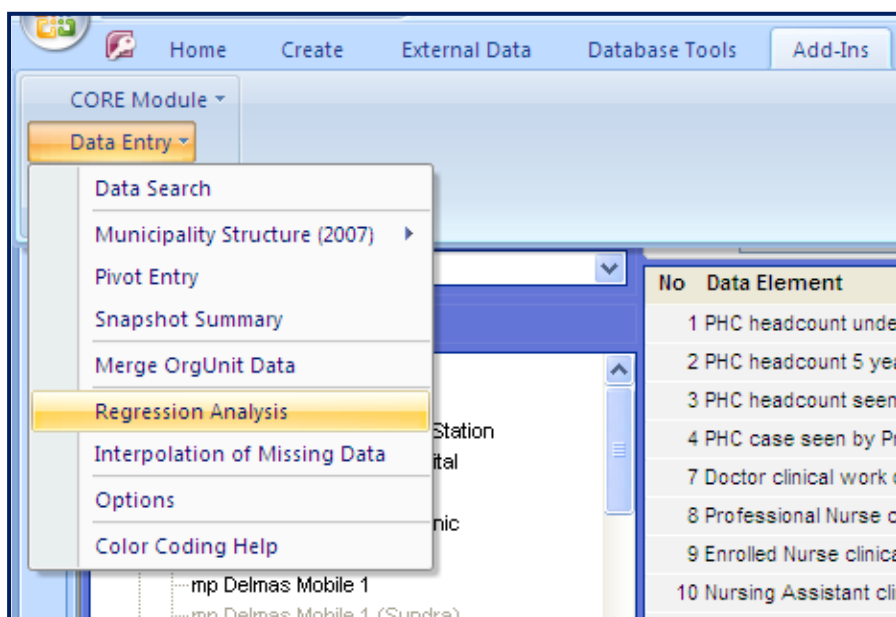


Figure 61: Regression Analysis Menu

Trend Analysis of Routine Data using Linear Regression

OrgUnit: mp Delmas Clinic ☐ Update Exclude ticks after replace Close

Data Element: 1 - PHC headcount under 5 years

From: Jan-05 To: Sep-09 Refresh

Data for Analysis Graph of data

| Period | Included Entry | Check!                   | Comment                | Regression Value | Exclude                             | Replace                             |
|--------|----------------|--------------------------|------------------------|------------------|-------------------------------------|-------------------------------------|
| Jan-06 | 115            | <input type="checkbox"/> |                        | 154              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Feb-06 | 127            | <input type="checkbox"/> |                        | 158              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Mar-06 | 207            | <input type="checkbox"/> |                        | 161              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Apr-06 | 102            | <input type="checkbox"/> |                        | 164              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| May-06 | 235            | <input type="checkbox"/> |                        | 168              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Jun-06 | 188            | <input type="checkbox"/> | Interpolated data set! | 171              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Jul-06 | 187            | <input type="checkbox"/> |                        | 174              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Aug-06 | 472            | <input type="checkbox"/> |                        |                  | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Sep-06 | 151            | <input type="checkbox"/> |                        |                  | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Oct-06 | 103            | <input type="checkbox"/> |                        |                  | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Nov-06 | 56             | <input type="checkbox"/> |                        |                  | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Dec-06 | 148            | <input type="checkbox"/> |                        |                  | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Jan-07 | 154            | <input type="checkbox"/> |                        | 195              | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Feb-07 | 199            | <input type="checkbox"/> |                        | 199              | <input type="checkbox"/>            | <input type="checkbox"/>            |

**Replace original value?**

Please confirm that you wish to replace 115 with 154

OK Cancel

Figure 62: Regression Analysis

Trend Analysis of Routine Data using Linear Regression

OrgUnit: mp Delmas Clinic ☐ Update Exclude ticks after replace Close

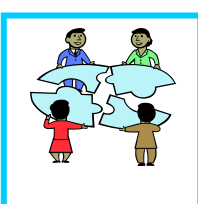
Data Element: 1 - PHC headcount under 5 years

From: Jan-05 To: Sep-09 Refresh

Data for Analysis Graph of data

| Period | Included Entry | Check!                              | Comment                 | Regression Value | Exclude                  | Replace                             |
|--------|----------------|-------------------------------------|-------------------------|------------------|--------------------------|-------------------------------------|
| Jan-06 | 154            | <input checked="" type="checkbox"/> | {115} = Original value. | 158              | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Feb-06 | 127            | <input type="checkbox"/>            |                         | 161              | <input type="checkbox"/> | <input type="checkbox"/>            |
| Mar-06 | 207            | <input type="checkbox"/>            |                         | 164              | <input type="checkbox"/> | <input type="checkbox"/>            |
| Apr-06 | 102            | <input type="checkbox"/>            |                         | 167              | <input type="checkbox"/> | <input type="checkbox"/>            |

Figure 63: Original Value Replaced with a Regression Value



Run regression analysis and replace all but PHC Headcount < 5 years values for an OrgUnit and period identified by the facilitator.


**Time: 10 Minutes**

### 3.4 INTERPOLATION OF MISSING DATA



The **Interpolation of Missing Data** is the last resort method used to re-construct a dataset for a specific facility for a specific month when the original data goes missing and cannot be provided by the facility in question. Facility or clinic data that provides a large percentage of the data input coverage could be reconstructed using this method. There needs to be at least 4 to 6 months of data before or after the missing month. The interpolated data will reflect '**Interpolated**' on the comment column of the data entry form.

#### Steps

- i) On Control Centre click Data Entry and select a Data Set.
- ii) Select an OrgUnit and period that you wish to interpolate data for.
- iii) Click Add-Ins to display Core Module and Data Entry menu (Figure 70).
- iv) Alternatively, click this button  and point to Municipality Structure then click **Interpolation of Missing Data**.
- v) Click Interpolation of Missing Data (Figure 70).
- vi) Insert the period.
- vii) Tick data elements to exclude.
- viii) Click Calculate Interpolated Data Set.
- ix) Click Insert Interpolated Data Set and the data are displayed in blue font (Figure 71).

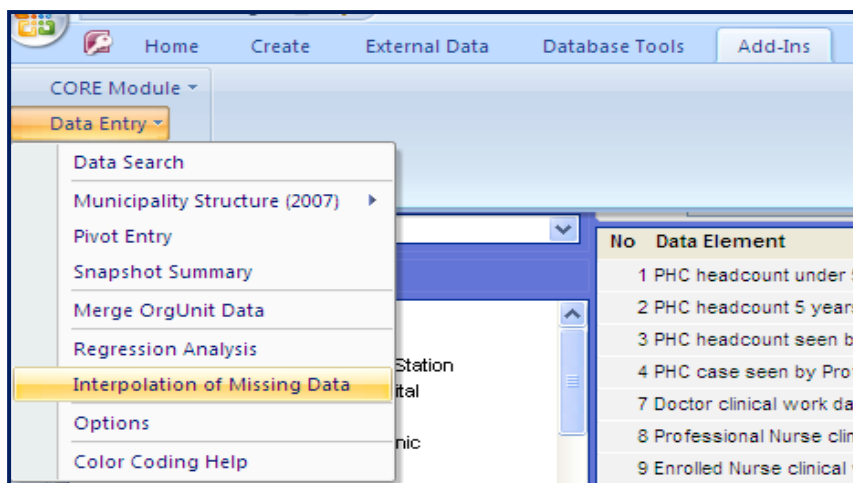


Figure 64: Interpolation of missing data menu

Interpolation of Missing Routine Data Sets

OrgUnit:

From:

Filter:

☒ Show Exclude

Calculate Interpolated Data Set

Insert Interpolated Data Set

| Data Element                                  | Exclude                             | Jun-05 | Jul-05 | Aug-05 | Sep-05 | Oct-05 | Nov-05 | Dec-05 | Jan-06 | Feb-06 | Mar-06 | Apr-06 | May-06 | Jun-06 |
|---|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PHC headcount under 5 years                   | <input type="checkbox"/>            |        |        |        |        |        |        | 183    | 218    | 234    | 233    | 218    | 249    | 345    |
| PHC headcount 5 years and older               | <input type="checkbox"/>            |        |        |        |        |        |        | 1438   | 1513   | 1314   | 1556   | 1396   | 1508   | 1472   |
| PHC total headcount                           | <input checked="" type="checkbox"/> |        |        |        |        |        |        |        |        |        |        |        |        |        |
| PHC headcount under 5 years between 7pm and 7 | <input checked="" type="checkbox"/> |        |        |        |        |        |        |        | 0      | 0      |        |        |        |        |
| PHC case seen by Professional Nurse           | <input type="checkbox"/>            |        |        |        |        |        |        | 1621   | 1731   | 1548   | 1789   | 1614   | 1757   | 1817   |
| PHC case seen by doctor - referred            | <input checked="" type="checkbox"/> |        |        |        |        |        |        |        | 0      | 0      | 0      | 0      | 0      | 10     |
| PHC case seen by doctor - not referred        | <input checked="" type="checkbox"/> |        |        |        |        |        |        |        | 0      | 0      | 0      | 9      | 0      | 1      |
| Doctor clinical work days                     | <input checked="" type="checkbox"/> |        |        |        |        |        |        |        | 0      | 18     | 0      | 10     | 0      | 13     |
| Professional Nurse clinical work days         | <input type="checkbox"/>            |        |        |        |        |        |        | 22     | 23     | 23     | 19     | 20     | 29     | 21     |

Figure 65: Interpolating Missing Data


## 3.5 OPTIONS

### 3.5.1 Auto-fill Option and Data Correction Options



The **Options** function is also found on the data entry form. The **Auto-fill** options allow you to fill the data current entry form with values e.g. zeros. The data is auto-filled in all blank fields if the **Leave Existing Values** option is selected. All the fields will be filled with the chosen number if the **Over-write Existing Values** option is selected. It is however preferable to use this function with care as the more zeros are added to the database, the more space this takes. The **Data Correction** option is used to move the whole data from the current OrgUnit and current period to another OrgUnit. This is done when data has been captured into a wrong facility. Once done, data will be available in the receiving facility and not the source facility and can be viewed from the data entry form of that facility for the specified period.

#### Auto-fill Steps

- i) On Control Centre click Data Entry and select a Data Set.
- ii) Select an OrgUnit and period that you wish to view options for.
- iii) Click Add-Ins to display Core Module and Data Entry menu (Figure 72).
- iv) Alternatively, click this button  and point to Municipality Structure then click **Options**.
- v) Click Auto-fill tab (Figure 73).
- vi) Enter the Number to auto-fill.
- vii) Click Apply or Ok.

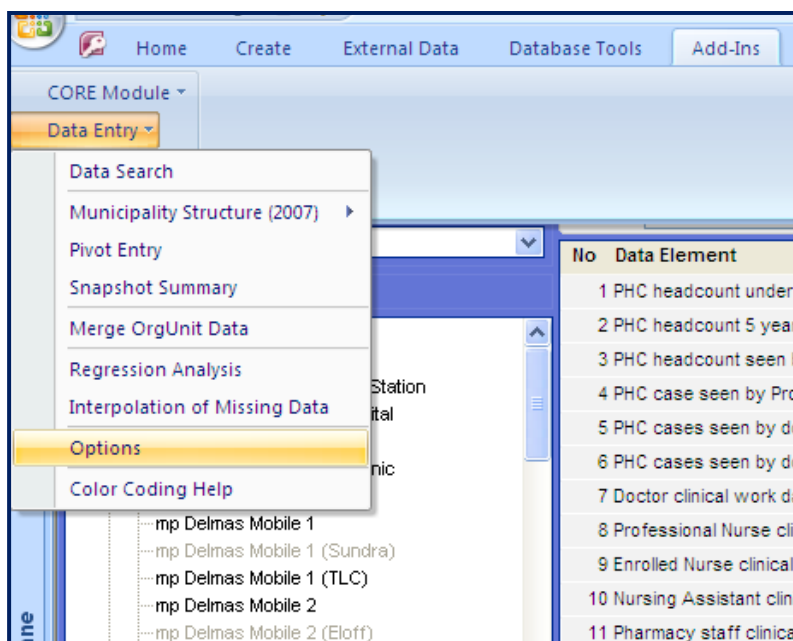




Figure 66: Options Menu

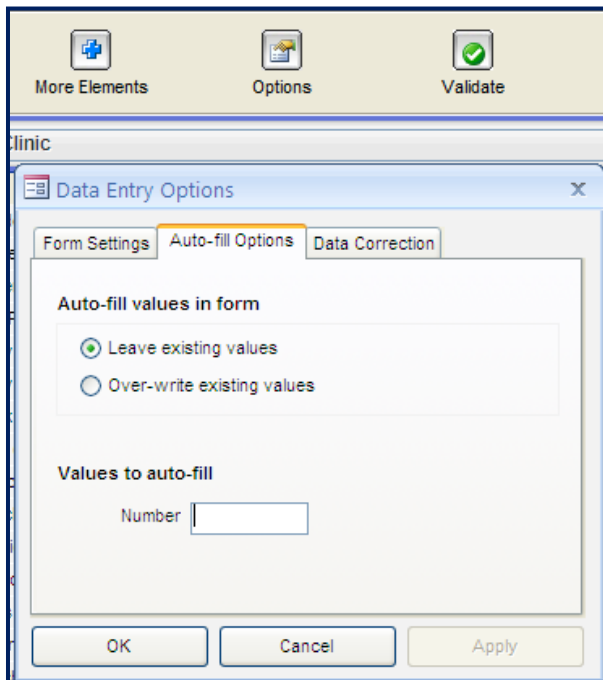


Figure 67: Auto-fill option

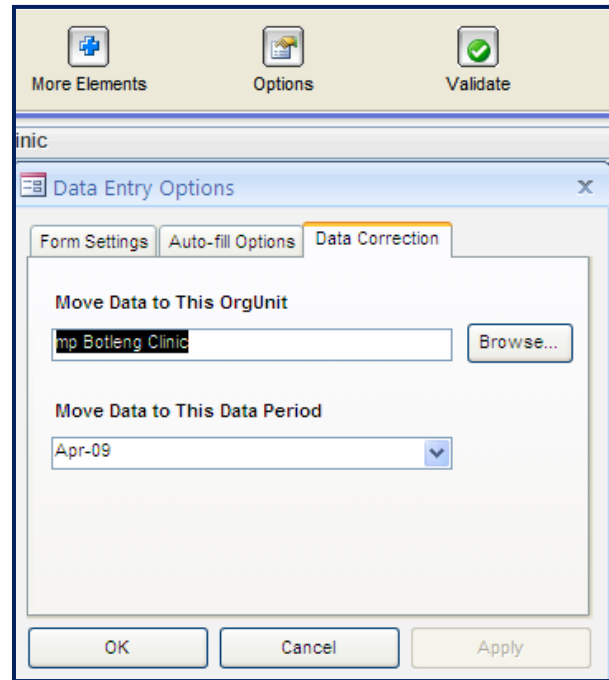



Figure 68: Data Correction Option

### 3.5.2 Data Correction Option



The **Options** function is also found on the data entry form. The **Data Correction** option is used to move the whole data from the current OrgUnit and current period to another OrgUnit. This is done when data has been captured into a wrong facility. Once done, data will be available in the receiving facility and not the source facility and can be viewed from the data entry form of that facility for the specified period.

#### Data Correction Steps

- i) On Control Centre click Data Entry and select a Data Set.
- ii) Select an OrgUnit and period that you wish to view options for.
- iii) Click Add-Ins to display Core Module and Data Entry menu (Figure 75).
- iv) Alternatively, click this button  and point to Municipality Structure then click **Data Correction**.
- v) Click Data Correction tab (Figure 76).
- vi) Browse for the OrgUnit to receive data and click Ok (Figure 75).
- vii) Select Data Correct period
- viii) Click Apply then Ok.
- ix) Save any changes if prompted.

More Elements Options Validate Edit Value Save Delete

clinic Filter

Data Entry Options

Form Settings Auto-fill Options Data Correction

Move Data to This OrgUnit

mp Botleng Clinic Browse...

Move Data to This Data Period

Apr-09

OK Cancel Apply

children under 1 year

o children under 1 year

o children under 1 year

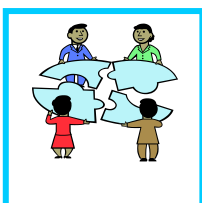
Browse for OrgUnit

Home : Move data to different OrgUnit

- mp Kwaggafontein C CHC
- mp Kwamhlanga Clinic
- mp Kwamhlanga EMS Station
- mp Kwamhlanga Hospital
- mp Kwamhlanga Oral Health Service
- mp Kwamhlanga Wellness Clinic
- mp Mathyzensloop Clinic
- mp Moloto CHC
- mp Moloto Mobile 1
- mp Student Clinic
- mp Thembaletu CHC
- mp Thembaletu Mobile 1
- mp Tweefontein A Clinic
- mp Tweefontein C Clinic
- mp Tweefontein D Clinic
- mp Tweefontein H Clinic
- mp Tweefontein M Clinic

☐ Short OrgUnit Name OK Cancel

Figure 69: Selecting receiving facility & period



Correct Data between two facilities identified by the facilitator.

**Time: 5 Minutes**

## 4 MODULE 3: DATA QUALITY AND ADVANCED DATABASE FUNCTIONS

### 4.1 DATA VALIDATION – CREATING VALIDATION RULES



The Data Quality function is found on the **Control Centre**. It can also be accessed from the **Core Module** menu. Data Validation is a data quality tool. This module will cover creation of validation rules (Absolute and Statistical) as part of data quality. The other Data Quality features were covered in the DHIS Level 1 Training Manual.

#### 4.1.1 Absolute Validation



Absolute Validation Rules are fixed and not flexible in application. They apply when one value cannot be higher than another e.g. Number of clients tested for HIV cannot be more than those counseled. To view edit or replicate a validation rule, double-click on the validation rule name. You may also delete a validation rule by clicking on its name and click delete on the validation rules overview list.

#### Steps

- i) On Control Centre click Data Quality.
- ii) Click Data Validation.
- iii) Click Validation Rule Setup.
- iv) Click New on the validation rule setup form and fill in the details including left and right side description and select Absolute as validation rule type.
- v) Click Add Left Side to allocate data element(s) for the left side.
- vi) Click Save and Close the data elements form.
- vii) Click Add Right Side to allocate data element(s) for the right side.
- viii) Click Save and Close the data elements form.
- ix) Click Save and close the validation rule form, the new validation rule can be located at the end of the list of the validation rules.



Figure 70: Validation Rule Setup Menu

Data Validation \ Validation Rule Setup

Overview of Validation Rules

New Edit Delete Allocate to Org Units Export

Filter on Type <ALL>

Validation Rule Definition (ID: )

Replicate New Save Cancel Close

Validation Rule

Description

Type Absolute

Valid From 1994/01/01

Valid To 9999/12/31

Description of left side

Left side of expression

Exclude if sum < 0

Operator must be Less Than

Description of right side

Right side of expression

Exclude if sum < 0

Add/Remove Left Side

Add/Remove Right Side

Figure 71: New Validation Rule Form

Validation Rule Definition (ID: 11)

**Caesarean plus Assisted plus Normal deliveries VS Total deliveries**

Replicate New Save Cancel Close

Validation Rule Caesarean plus Assisted plus Normal deliveries VS Total deliveries

Description Caesarean Deliveries plus Assisted Deliveries plus Normal Deliveries must equal Total Deliveries

USE: To identify incorrect data entry in Cesarean, Normal, Assisted or Total Deliveries

Type Absolute

Valid From 1994/01/01

Valid To 9999/12/31

Description of left side Caesarean deliveries plus Assisted deliveries plus Normal deliveries

Left side of expression

|   |                               |
|---|-------------------------------|
| 1 | Normal delivery in facility   |
| 1 | Vacuum delivery in facility   |
| 1 | Forceps delivery in facility  |
| 1 | Caesarean section in facility |

Exclude if sum < 0

Operator must be Equal To

Description of right side Total deliveries

Right side of expression

|   |                      |
|---|----------------------|
| 1 | Delivery in facility |
|---|----------------------|

Exclude if sum < 0

Add/Remove Left Side

Add/Remove Right Side

Figure 72: Creating Validation Rule Using the Replicate Function

Add/Remove Data Elements from Validation Rule

### Select Data Elements and modify factors

Data Element Group: <ALL>

Filter:

| Order | Data Element                    | Select                              | Factor |
|-------|---------------------------------|-------------------------------------|--------|
| 208   | Normal delivery in facility     | <input checked="" type="checkbox"/> | 1      |
| 209   | Vacuum delivery in facility     | <input checked="" type="checkbox"/> | 1      |
| 210   | Forceps delivery in facility    | <input checked="" type="checkbox"/> | 1      |
| 212   | Caesarean section in facility   | <input checked="" type="checkbox"/> | 1      |
| 1     | PHC headcount under 5 years     | <input type="checkbox"/>            | 0      |
| 2     | PHC headcount 5 years and older | <input type="checkbox"/>            | 0      |

Figure 73: Adding Left Side of the Validation Rule

Validation Rule Definition (ID: 11)

### Caesarean plus Assisted plus Normal deliveries VS Total deliveries

Validation Rule: Caesarean plus Assisted plus Normal deliveries VS Total deliveries Type: Absolute

Description: Caesarean Deliveries plus Assisted Deliveries plus Normal Deliveries must equal Total Deliveries  
 Valid From: 1994/01/01  
 Valid To: 9999/12/31  
 USE: To identify incorrect data entry in Cesarean, Normal, Assisted or Total Deliveries

Description of left side: Caesarean deliveries plus Assisted deliveries plus Normal deliveries

Left side of expression:

|   |                               |
|---|-------------------------------|
| 1 | Normal delivery in facility   |
| 1 | Vacuum delivery in facility   |
| 1 | Forceps delivery in facility  |
| 1 | Caesarean section in facility |

Exclude if sum <

Figure 74: Left Side of the Validation Rule Added

Add/Remove Data Elements from Validation Rule

### Select Data Elements and modify factors

Data Element Group: <ALL> Filter:

Save Close

| Order | Data Element                                    | Select                              | Factor |
|-------|---|-------------------------------------|--------|
| 213   | Delivery in facility                            | <input checked="" type="checkbox"/> | 1      |
| 1     | PHC headcount under 5 years                     | <input type="checkbox"/>            | 0      |
| 2     | PHC headcount 5 years and older                 | <input type="checkbox"/>            | 0      |
| 3     | PHC total headcount                             | <input type="checkbox"/>            | 0      |
| 4     | PHC headcount under 5 years between 7pm and 7am | <input type="checkbox"/>            | 0      |
| 5     | PHC case seen by Professional Nurse             | <input type="checkbox"/>            | 0      |
| 6     | PHC case seen by doctor - referred              | <input type="checkbox"/>            | 0      |

Figure 75: Adding Right Side of the Validation Rule

Operator: must be Equal To

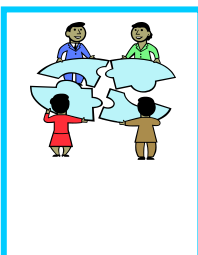
Description of right side: Total deliveries

Right side of expression: 1 Delivery in facility

Exclude if sum < 0

Add/Remove Right Side

Figure 76: Right Side of the Validation Rule Added



Create and Absolute Validation Rule using the following information.

- Validation Rule: Prescriptions Issued V/S Items Dispensed
- Description: Prescription Issued must be less or equal to Items Dispensed

**Time: 5 Minutes**

#### 4.1.2 Statistical Validation



Statistical Validation Rules are flexible in application and are designed to ensure that the ratios between data elements are not transgressed, e.g. children with diarrhea is correlated with headcount for children under 5 years. If the headcount goes up, one would expect the number of cases of diarrhea to increase as well in the same proportion. The statistical rule follows the pattern and will identify outliers. It acts as pointers of possible discrepancies in the data or increasing incidences of diseases.

**Steps:** The steps to create statistical validation rules are similar to those of absolute validation rules. They only differ in descriptions, the operator and the validation rule type where Statistical is selected.

## 4.2 GAPS AND OUTLIER ANALYSIS



Gaps and Outlier Analysis is used to identify gaps / missing values and outliers. Gaps identified may be filled by accepting the calculated values. All accepted records with outliers will have check-it marks once the **Mark Outliers** button is clicked. This will allow the user to verify the data then remove the tick marks using the **Routine Check-it Data** function.

### Steps

- i) On Control Centre click Data Quality.
- ii) Click Advanced Quality Checks.
- iii) Click Gap and Outlier Analysis (Figure 83).
- iv) Click Identify the problem tab and complete the details (Data Set, OrgUnit and Period).
- v) Click Select All or select some data elements (Figure 84) and click Run Analysis.
- vi) Click Select All or just select a few records on the View Problem Data Summary tab and click View Records to be created this will take you to the last tab.
- vii) Click Accept All if you accept all the record however you may Unselect All then select a few by clicking the tick boxes next to each record.
- viii) Click Insert Accepted Records (Figure 86).
- ix) Click Outliers option on the Gap and Outlier Analysis screen to view outliers.
- x) Repeat steps (iv) to (vi), click View Record to be marked for Checking.
- xi) Click Mark Outliers.
- xii) Click Modify Threshold Levels on the Gap and Outlier Analysis screen to view thresholds (Figure 88) but do not change the default values.

| Order | Data Element                                    | Select                   |
|-------|---|--------------------------|
| 1     | PHC headcount under 5 years                     | <input type="checkbox"/> |
| 2     | PHC headcount 5 years and older                 | <input type="checkbox"/> |
| 3     | PHC total headcount                             | <input type="checkbox"/> |
| 4     | PHC headcount under 5 years between 7pm and 7am | <input type="checkbox"/> |
| 5     | PHC case seen by Professional Nurse             | <input type="checkbox"/> |
| 6     | PHC case seen by doctor - referred              | <input type="checkbox"/> |
| 7     | PHC case seen by doctor - not referred          | <input type="checkbox"/> |
| 8     | Doctor clinical work days                       | <input type="checkbox"/> |
| 9     | Professional Nurse clinical work days           | <input type="checkbox"/> |
| 10    | Enrolled Nurse clinical work days               | <input type="checkbox"/> |
| 11    | Nursing Assistant clinical work days            | <input type="checkbox"/> |

Figure 77: Gaps & Outlier Analysis Menu



Advanced Quality Checks \ Gap and Outlier Analysis

**Evaluate** ☒ Missing Records ☐ Outliers [Modify Threshold Levels](#)

1. Identify Problem Data 2. View Problem Data - summary 3. View Missing Records - Detail

**Find missing records (gaps) and/or outliers**

Data set: Primary Health Care Data From: 2009/01/01 To: 2009/04/30

OrgUnits: mp Nkangala District Municipality mp Delmas Local Municipality

Group: <ALL> [Select All](#) [Unselect All](#) [Run Analysis](#)

| Order | Data Element                                    | Select                              |
|-------|---|-------------------------------------|
| 1     | PHC headcount under 5 years                     | <input checked="" type="checkbox"/> |
| 2     | PHC headcount 5 years and older                 | <input checked="" type="checkbox"/> |
| 4     | PHC headcount under 5 years between 7pm and 7am | <input checked="" type="checkbox"/> |
| 5     | PHC case seen by Professional Nurse             | <input checked="" type="checkbox"/> |
| 6     | PHC case seen by doctor - referred              | <input checked="" type="checkbox"/> |
| 7     | PHC case seen by doctor - not referred          | <input checked="" type="checkbox"/> |
| 8     | Doctor clinical work days                       | <input checked="" type="checkbox"/> |
| 9     | Professional Nurse clinical work days           | <input checked="" type="checkbox"/> |
| 10    | Enrolled Nurse clinical work days               | <input checked="" type="checkbox"/> |
| 11    | Nursing Assistant clinical work days            | <input checked="" type="checkbox"/> |
| 12    | Pharmacy staff clinical work days               | <input checked="" type="checkbox"/> |

[Right-click to filter for Groups](#) [Select All](#) [Unselect All](#)

Figure 78: Selecting Data to Analyze

Advanced Quality Checks \ Gap and Outlier Analysis

**Evaluate** ☒ Missing Records ☐ Outliers [Modify Threshold Levels](#)

1. Identify Problem Data 2. View Problem Data - summary 3. View Missing Records - Detail

**View potential missing records (gaps) - Select to create records**

[Select All](#) [Unselect All](#) [View Records to be Created](#)

| Data Element                    | Gaps     | Sele                                | Expecter | Actua | Avg Value |
|---------------------------------|----------|-------------------------------------|----------|-------|-----------|
| Item dispensed                  | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1265.3    |
| Male condoms distributed        | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1183.3    |
| Male condoms distributed        | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1166.7    |
| Child under 5 years weighed     | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1153.3    |
| PHC headcount under 5 years     | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1110.3    |
| Male condoms distributed        | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1066.7    |
| PHC headcount 5 years and older | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1033.3    |
| Male condoms distributed        | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 1000.0    |
| Item dispensed                  | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 983.0     |
| Male condoms distributed        | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 933.3     |
| Item dispensed                  | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 931.0     |
| PHC case seen by Professional N | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 929.7     |
| Male condoms distributed        | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 833.3     |
| PHC headcount 5 years and older | 1 rec(s) | <input checked="" type="checkbox"/> | 4        | 3     | 809.7     |

Record: 1 of 143 [No Filter](#) [Search](#)

Figure 79: View Problem Data Summary

Advanced Quality Checks \ Gap and Outlier Analysis

**Evaluate** ● Missing Records ● Outliers Modify Threshold Levels

1. Identify Problem Data 2. View Problem Data - summary 3. View Missing Records - Detail

View records for missing data if fall between

Accept All Unselect All **INSERT Accepted RECORDS**

| OrgUnit            | Data Element                         | Data Period | Accept                              |
|--------------------|--------------------------------------|-------------|-------------------------------------|
| mp Beatty Clinic   | Referred to doctor (this or other PH | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | Child under 5 years weighed          | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | Minor ailment                        | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | Item dispensed                       | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | Male condoms distributed             | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | PHC case seen by Professional Nu     | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | PHC headcount 5 years and older      | Jan-09      | <input checked="" type="checkbox"/> |
| mp Beatty Mobile 1 | Prescription issued                  | Jan-09      | <input checked="" type="checkbox"/> |
| mp Kriel Clinic    | Minor ailment                        | Jan-09      | <input checked="" type="checkbox"/> |
| mp Louise Clinic   | Minor ailment                        | Jan-09      | <input checked="" type="checkbox"/> |
| mp Ogies Clinic    | Minor ailment                        | Jan-09      | <input checked="" type="checkbox"/> |
| mp Phola CHC       | PHC headcount seen between 7pm       | Jan-09      | <input checked="" type="checkbox"/> |
| mp Phola Mobile 1  | Prescription issued                  | Jan-09      | <input checked="" type="checkbox"/> |
| mp Phola Mobile 1  | PHC headcount under 5 years          | Jan-09      | <input checked="" type="checkbox"/> |

Record: 1 of 143 No Filter Search

Figure 80: Accepting and Inserting Records

Data Marked for Checking

Routine 'Check It!' Data

Semi-Permanent 'Check It!' Data

Survey\_Audit 'Check It!' Data

Data Validation

Advanced Quality Checks

Data Marked for Checking \ Routine 'Check It!' Data

Routine Data records marked for checking / correction

Org Unit: za South Africa (National Government) ☐ Show Only Absolute Min/Max Violations

Data Set: <ALL> Lower: Upper: Filter

Data Element Group: <ALL> Replace: Replace

Filter

| OrgUnit                  | Data Element                                | Data Period | Entry  | Check                               | Verified                 | Deleted                  | Comment            |
|--------------------------|---|-------------|--------|-------------------------------------|--------------------------|--------------------------|--------------------|
| mp Ermelo Hospital       | Diabetes mellitus case put on treatment - n | Mar-09      | 588    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |
| mp Ermelo Hospital       | Diabetes mellitus clients on register       | Mar-09      | 188    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |
| mp Ermelo Hospital       | Item dispensed                              | Mar-09      | 310394 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |
| mp Elsie Ballot Hospital | Hypertension clients on register            | Feb-09      | 15     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |
| mp Elsie Ballot Hospital | Diabetes mellitus clients on register       | Feb-09      | 3      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |
| mp Embhuleni Hospital    | Inpatient transfer in - Medicine            | Jan-09      | 14     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |
| mp Embhuleni Hospital    | Inpatient transfers in - Total              | Jan-09      | 25     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Absolute Min/Max V |

Reports

Figure 81: Data Marked for Checking

Advanced Quality Checks \ Gap and Outlier Analysis

**Evaluate** Missing Records Outliers [Modify Threshold Levels](#)

1. Identify Problem Data 2. View Problem Data - summary 3. View I

**Find missing records (gaps) and/or outliers**

Data set

OrgUnits

Group <ALL>

| Order | Data Element                          |                          |
|-------|---------------------------------------|--------------------------|
| 1     | PHC headcount under 5 years           | <input type="checkbox"/> |
| 2     | PHC headcount 5 years and older       | <input type="checkbox"/> |
| 3     | PHC total headcount                   | <input type="checkbox"/> |
| 4     | PHC headcount under 5 years and older | <input type="checkbox"/> |


Gap/Outlier Threshold Values

| Avg Entry Greater Than | Avg Entry Less Than or Equal | Threshold Level | StDev Factor |
|------------------------|------------------------------|-----------------|--------------|
| 5                      | 20                           | 90%             | 400%         |
| 20                     | 100                          | 80%             | 350%         |
| 100                    | 1000                         | 70%             | 300%         |
| 1000                   | 999999999                    | 60%             | 200%         |

Close

Load Defaults


Figure 82: Gap / Outlier Threshold Values



Run Gap Analysis for OrgUnits identified by the facilitator for the period January to December 2009

**Time: 10 Minutes**

#### 4.3 DATA INTEGRITY CHECKS



The **Data Integrity Checks** search for and display common errors that occur in the database. This function can also be accessed from the Control Centre by right-clicking and pointing to **Advanced** then select **Data integrity checks**.

##### Steps

- On Control Centre click Data Quality.
- Click Advanced Quality Checks.
- Click Data Integrity Checks (Figure 89).

- iv) View integrity checks results (Figure 80), a ✓ indicates that there are no discrepancies identified.
- v) Click on Show to display the violations identified for the specific function.

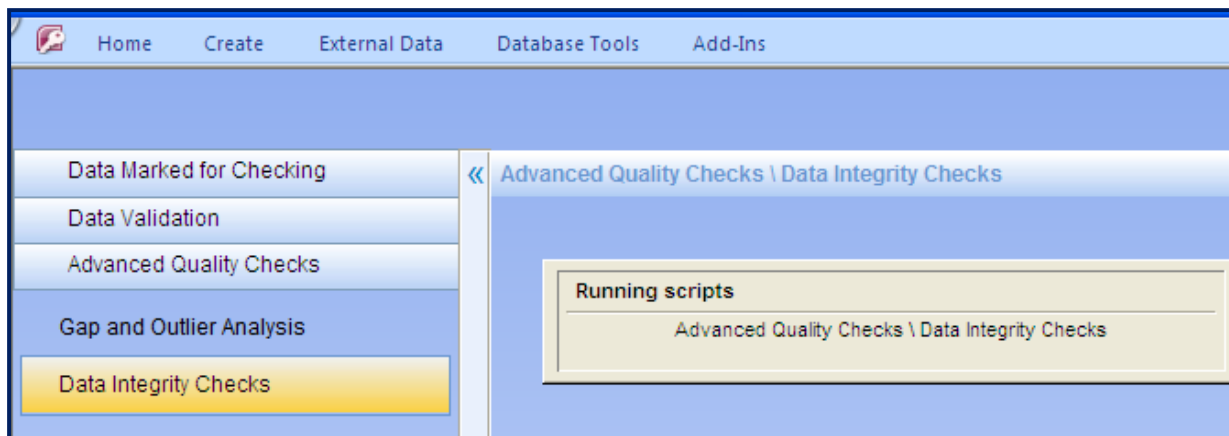


Figure 83: Data Integrity Check

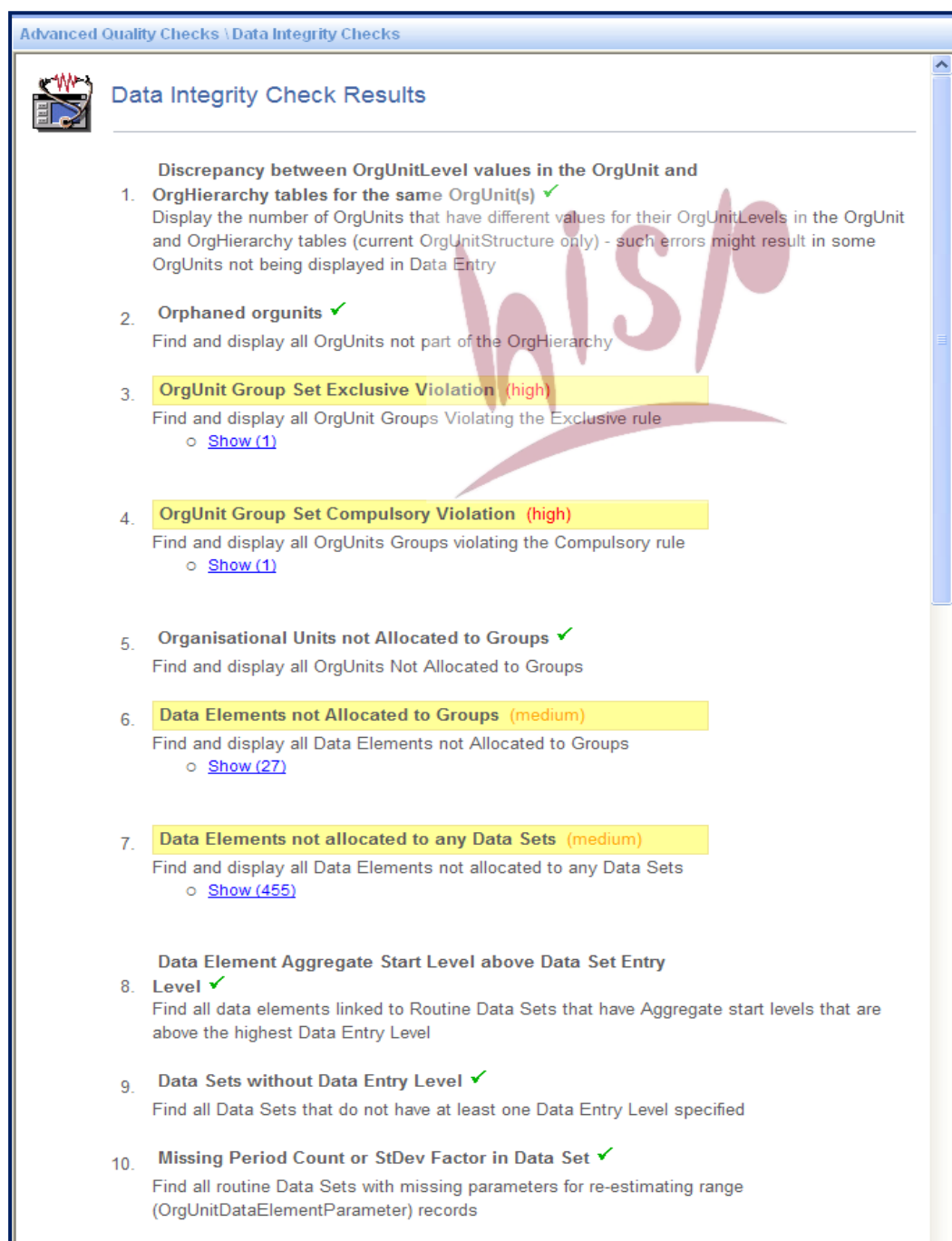


Figure 84: Data Integrity Checks Result

## 4.4 GLOBAL OPTIONS & REGIONAL SETTINGS



The **Global Options** do not have a button in the Control Centre but can be accessed from the **Core Module** menu.

### Steps

- i) On Access Menu click Add-in.
- ii) Click Core Module.
- iii) Click Global Options (Figure 91).

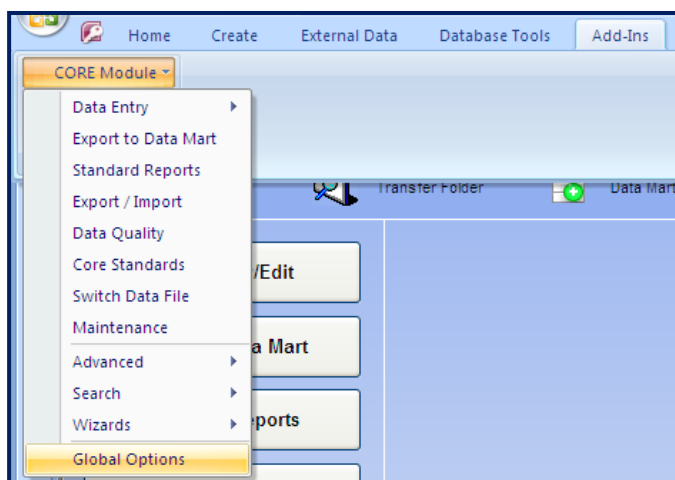


Figure 85: Global Options Menu

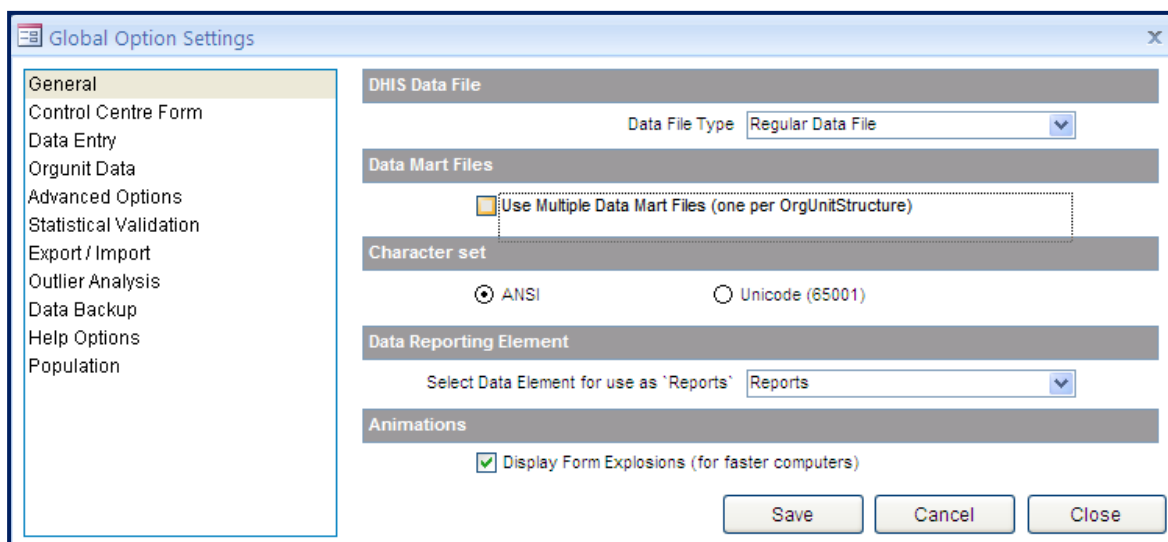


Figure 86: General Layer of the Global Options

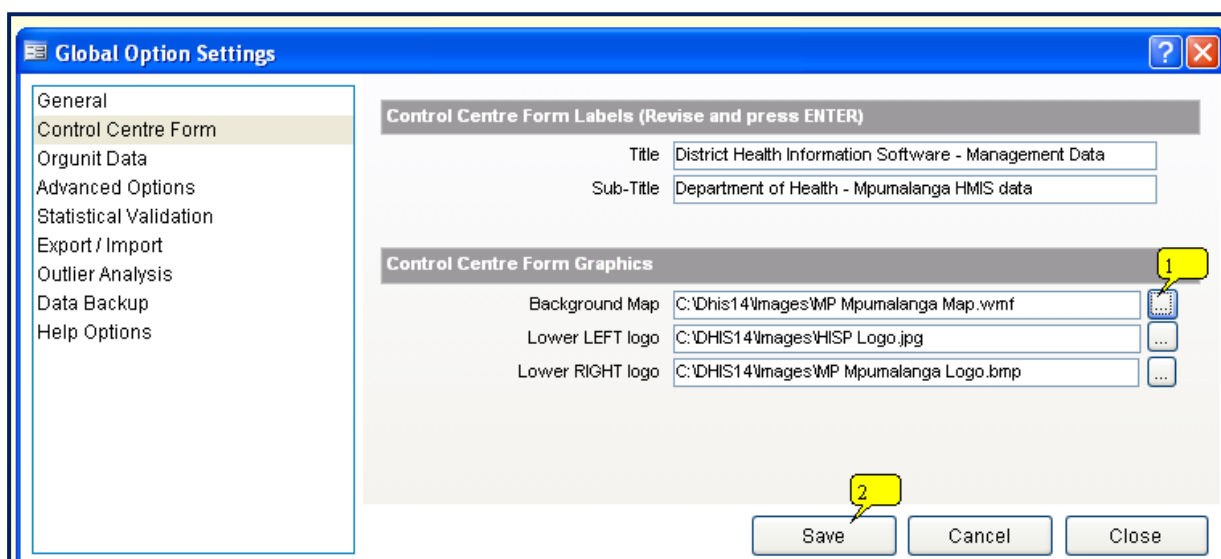




Figure 87: Applying changes to global options

- iv) Click on the  buttons next to the three areas on the Control Centre and select the image you want to display for background, left and right bottom of the screen.
- v) Click on Open to insert the image.
- vi)  Click on Save if you made any changes and Close if you are happy with the selection. Your Control Centre will now display the images you selected.

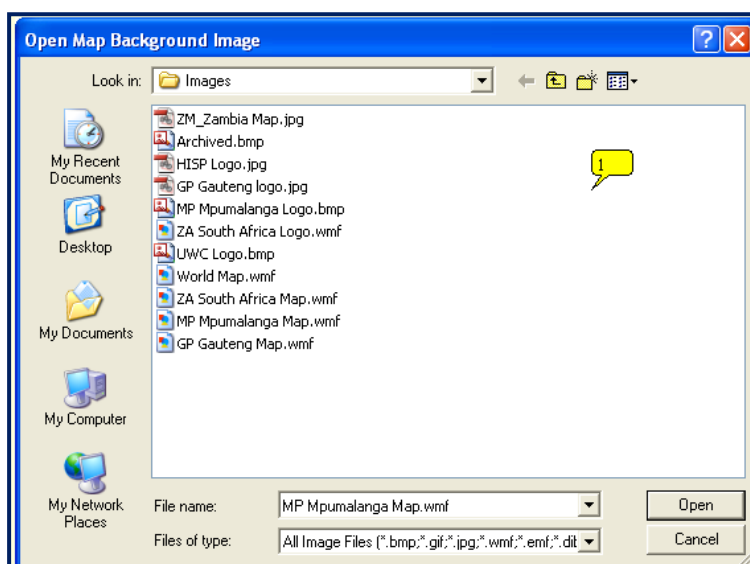


Figure 88: Control Centre Options - Images

Figure 95 below, displays the Data Entry Options. Tick Data Header info COMPULSORY if you want certain header data elements to be compulsory in the data entry screen. If you tick Automatically adjust Org Unit Data Element min and max values after saving in Data Entry form, the Min/Max levels in your system will automatically be adjusted and you can choose if you want to use the average or the median values. You must have at least 6 months of data in the system before automatic adjustments will be accurate. The Median value will not be affected that much by outliers.

You have the option to switch between two sort order functions. Data Set Element will enable each data set to have a unique sort order. With the Data Element option the sort order number for each data element will stay the same as in the main data element list when assigned to several data sets.

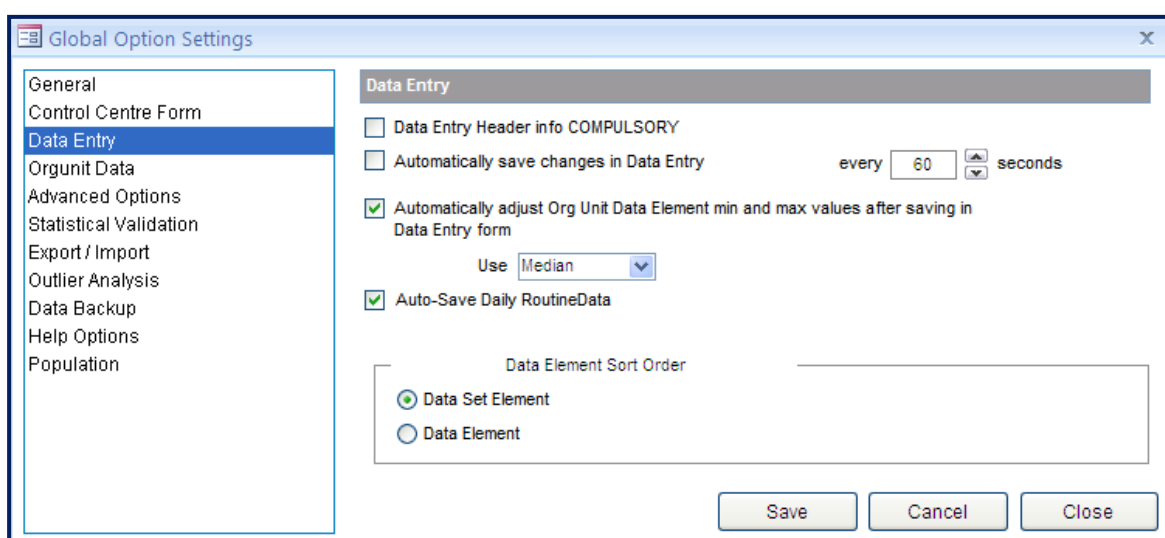


Figure 89: Data Entry Option



Figure 96 displays the OrgUnit Data Options. The Current Org Unit Structure used in the data file will be displayed here. The Number of Org Unit levels used in the data file can be set here. Also set the level data is being entered at. The Edit Levels function allows you to make changes to the Org Unit levels.

The screenshot shows the 'Global Option Settings' window with the 'Organisational Unit Data' tab selected. The sidebar on the left lists various settings categories, with 'Orgunit Data' currently highlighted. The main panel contains the following settings:

- Select Country:** A dropdown menu showing 'South Africa'.
- ☐ Display Short Version of Organisational Unit Names
- ☒ Use Prefix in full Organisational Unit Names
- Current OrgUnit Structure:** A dropdown menu showing 'Municipality Structure (2007)'.
- Number of OrgUnit Levels:** A numeric input field set to '5', with an 'Edit Levels' button next to it.

At the bottom right of the dialog are three buttons: 'Save', 'Cancel', and 'Close'.

Figure 90: OrgUnit Data Option

Figure 97 displays the Advanced Options. The Allow Data Set Grouping option enables grouping of the different data sets in a data file, e.g. The Monthly Data group can have Monthly PHC Data, Monthly Hospital Data, etc. The Row Shading option will make it easier to view reports especially if there are several months' data in the report as alternate rows will be shaded. Enable Alternate Naming function will enable you to link similar Org Units and Data Element names when importing. The Valid From Defaults options provides for an automatic default starting dates when setting up new data files.

The screenshot shows the 'Global Option Settings' window with the 'Advanced' tab selected. The left sidebar lists various settings categories, with 'Advanced Options' highlighted. The main area contains several checkboxes and input fields. Under 'Advanced', there are three unchecked checkboxes: 'Display Welcome Message', 'Enable Alternate Naming', and 'Enable Grouping of Data Sets'. Below these is an unchecked checkbox for 'Auto-Expand Groups' and a text field for 'Title' containing 'Dataset Group / Data Set'. A section titled 'Valid From Defaults' contains four date pickers: 'OrgUnit' (2009/09/01), 'Data Set' (2009/01/01), 'Data Element' (2009/01/01), and 'Indicator' (2009/01/01). At the bottom of this section is a checked checkbox for 'Switch ON Row-Shading for particular reports (such as RoutineRawData report)'. At the bottom right are 'Save', 'Cancel', and 'Close' buttons.

Figure 91: Advanced Options

Figure 98 displays the Statistical Validation where parameters for Statistical validation can be set.

The screenshot shows the 'Global Option Settings' window with the 'Statistical Validation Parameters' tab selected. The left sidebar lists various settings categories, with 'Statistical Validation' highlighted. The main area contains several input fields for statistical parameters: 'Standard Deviation Factor' (2), 'Exclusion Comment' ([\*]), 'Min Data Periods' (6), 'Data Periods Before' (6), 'Data Periods After' (0), 'Min Standard Error (%)' (10), and 'New Range (% of mean)' (50). At the bottom right are 'Save', 'Cancel', and 'Close' buttons.

Figure 92: Statistical Validation Options

Figure 99 displays the Export / Import option. If Include all updates is ticked all the records that differs from what is in the data base will be imported. If Last Updated NEWER is ticked, only entries with an entry date later than the entries in the database will be imported. This will prevent overwriting of data that have been changed /corrected with “old” data that is imported. If Last Update is NEWER or SAME is ticked, only entries with an entry date later or the same than the entries in the database will be imported.

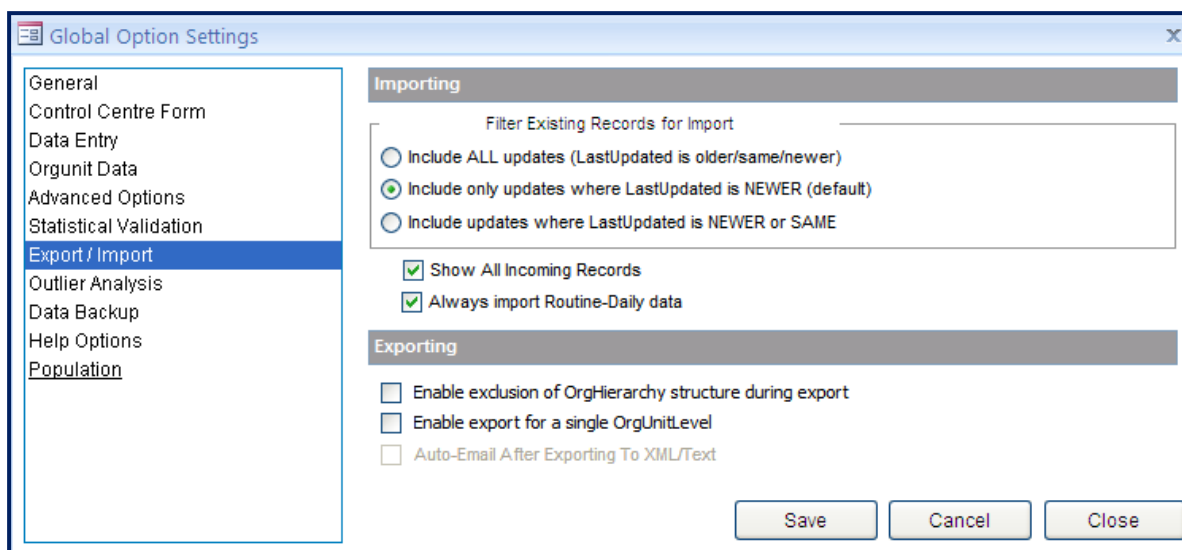


Figure 93: Export / Import Option

Figure 100 displays the Outlier Analysis Options where outlier parameters can be set.

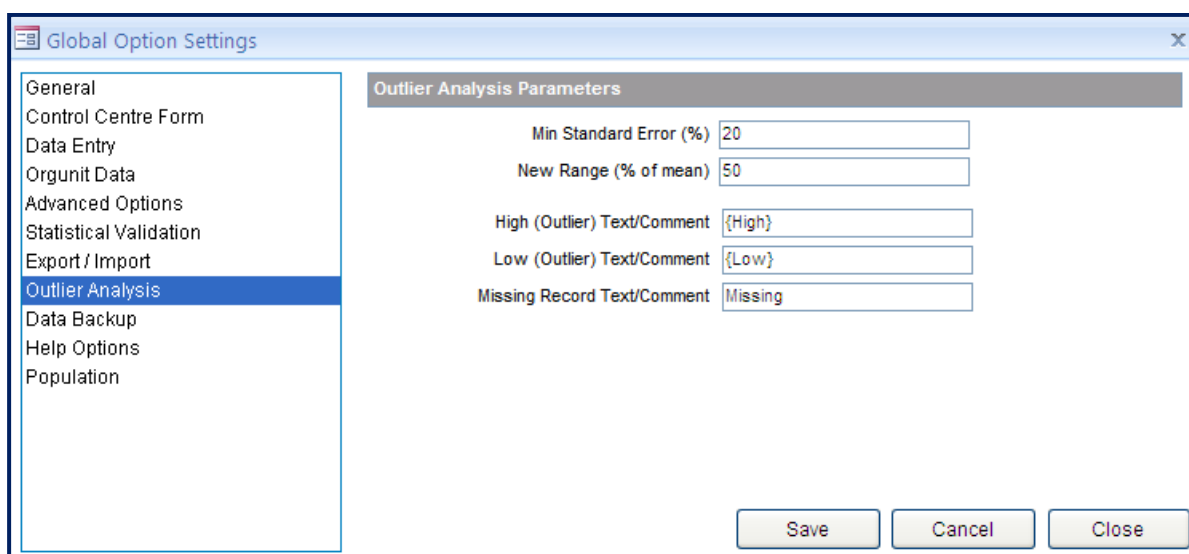


Figure 94: Outlier Analysis Option

Figure 101 displays the Data Backup Options where the frequency of reminders to backup data is set. You can choose if you want to make back-ups of the Data File, the Data Mart and the Pivot Table File. This backup reminder will appear when closing the data file. The frequency of this reminder will be determined by the settings set.

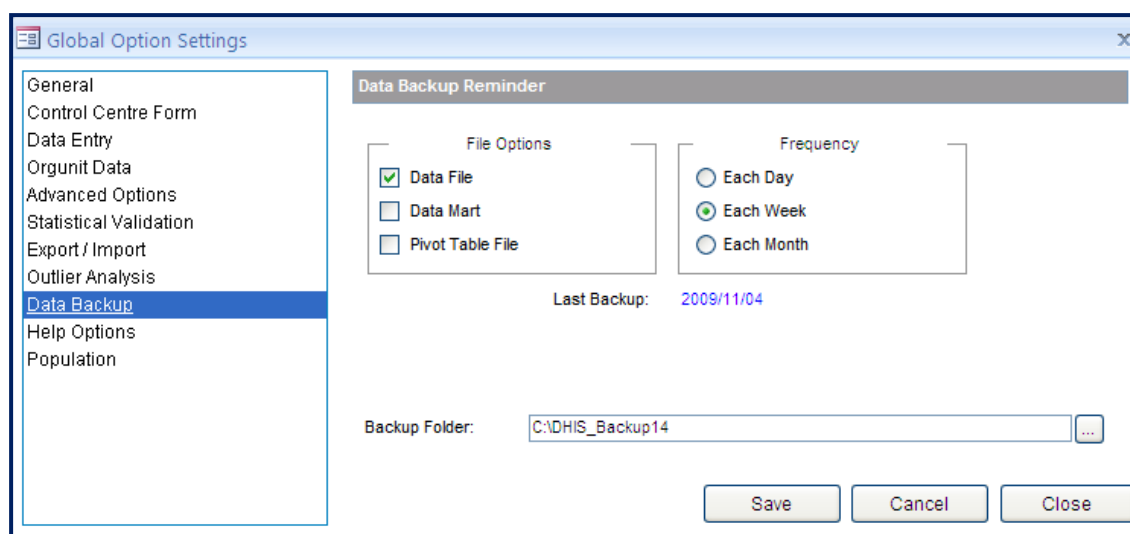


Figure 95: Data Backup Options

Figure 102 displays the Help Options, help messages will be displayed e.g. in the data integrity checks report.

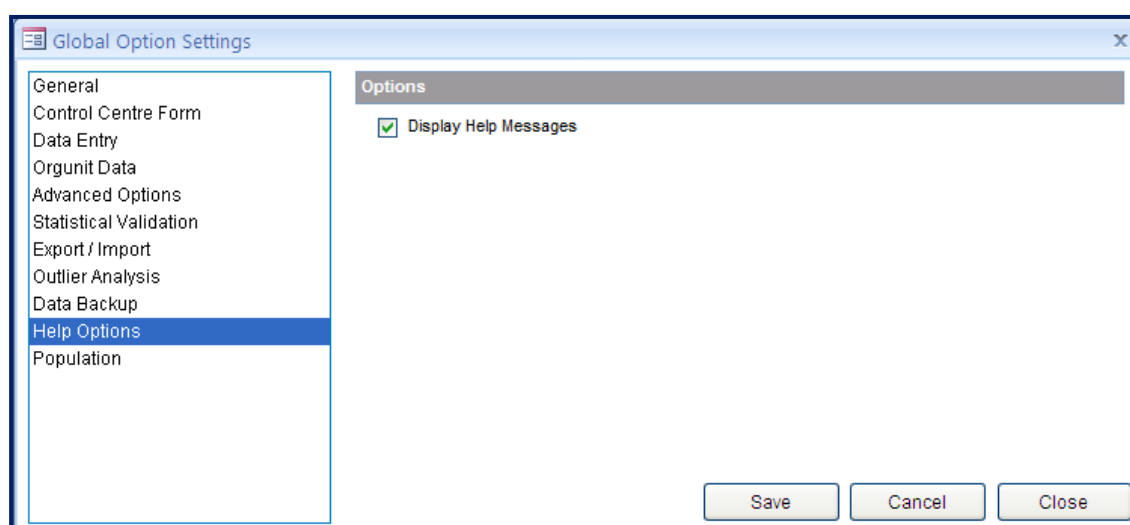
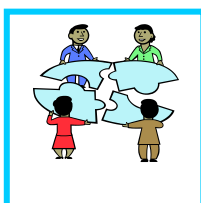


Figure 96: Help Options

Figure 103 displays the Population Options. The catchment population calculation depends on these options (it may not be necessary to change these options once set).

The screenshot shows the 'Global Option Settings' dialog box with the 'Population Estimation' tab selected. On the left is a sidebar menu with options: General, Control Centre Form, Data Entry, Orgunit Data, Advanced Options, Statistical Validation, Export / Import, Outlier Analysis, Data Backup, Help Options, and Population (which is highlighted). The main area of the dialog has a title bar 'Population Estimation'. Below it, 'Population Estimates source level' is set to 'Sub-Dis' in a dropdown menu. Under 'Default Data Elements used to calculate attendance "share"', there is a text box containing 'PHC headcount under 5 years' and 'PHC headcount 5 years and older', with a small '...' button to its right. At the bottom right are three buttons: 'Save', 'Cancel', and 'Close'.

Figure 97: Population Options



Use the Global Options to change the following control centre graphics.

- Left Logo
- Right Logo
- Background Map

Other details will be supplied by the facilitator (e.g. replace existing with what?)

## 4.5 RELOAD CALCULATED ELEMENTS



Running this function will re-calculated all calculated fields of data elements and store as values in the data entry screens. This should be done before exporting data to the next reporting level or to the Data Mart. If this is not done, the total values will not appear on the pivot tables and any indicator using the totals will not be calculated when data is exported to the data mart.

### Steps

- i) On Access Menu click Add-ins.
- ii) Click Core Module.
- iii) Point to Advanced.
- iv) Click Re-load Calculated Elements (Figure 103).

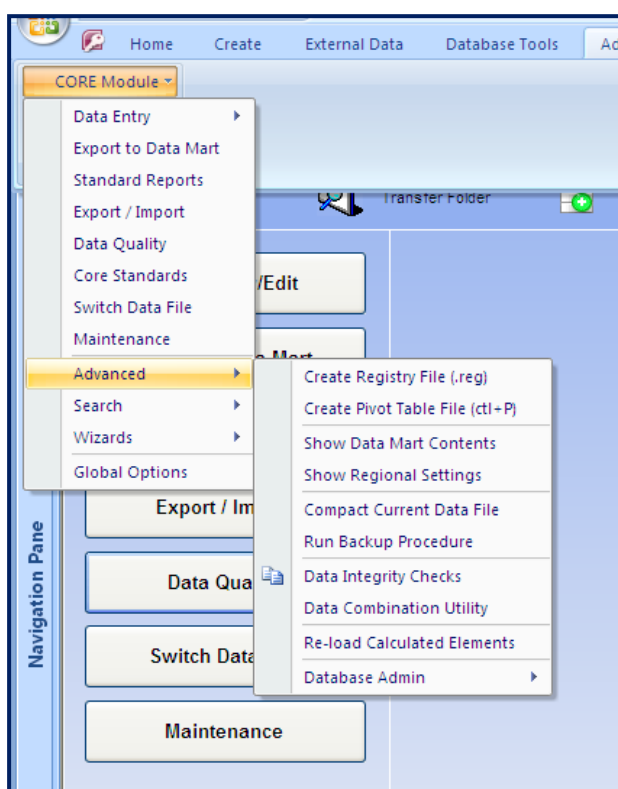


Figure 98: Reload Calculated Elements Menu

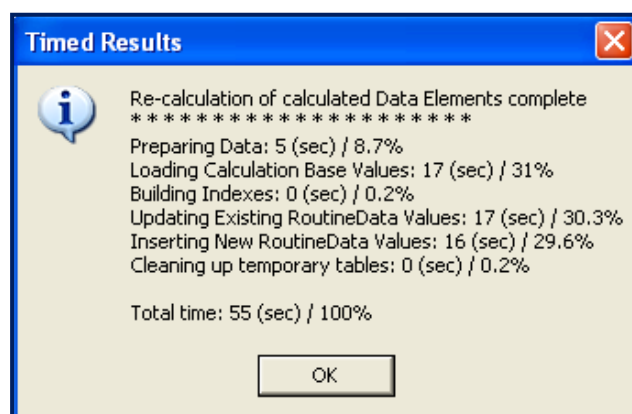


Figure 99: Re-calculation Results



Create a calculated data element using details that will be supplied by the facilitator and reload calculated data elements.

**Time: 10 Minutes**

## 5 REFERENCES

ESI. DHIS Training Manual for Information Officers, (2010).

HISP. Manual DHIS14 SA Office 2007-with course content.



[www.hisp.org](http://www.hisp.org)

<http://www.hispkerala.org/>