

Electronic Drug Market Analysis Database (eDMA version 1.0)

OPERATIONS MANUAL



Government of Nepal
Ministry of Health and Population
Department of Health Services
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Kathmandu, Nepal

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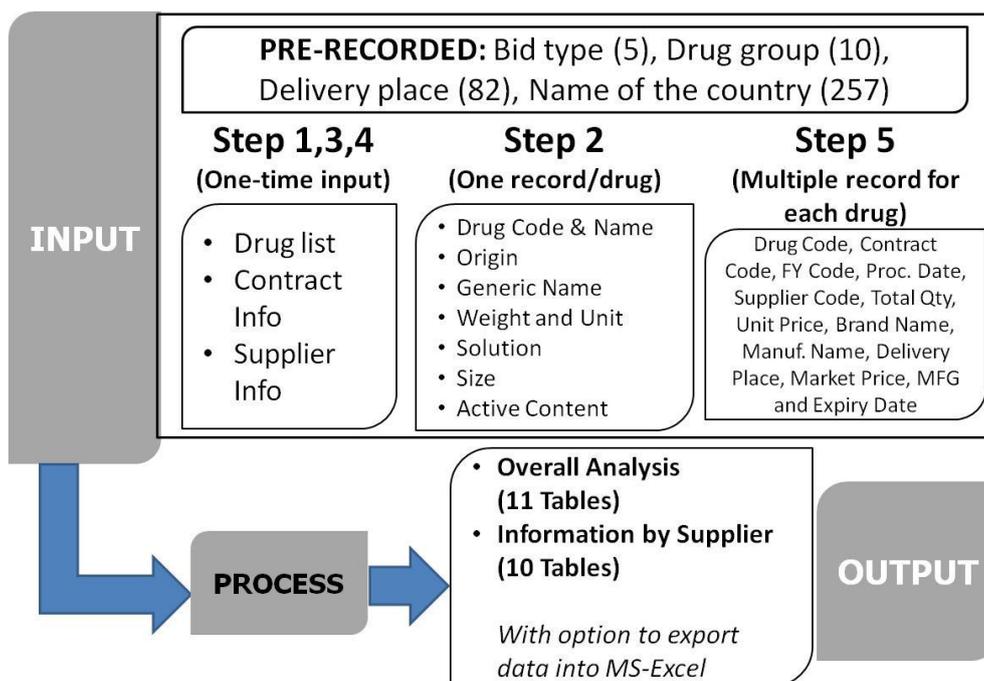
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1. INTRODUCTION

This Electronic Drug Market Analysis Database (eDMA version 1.0) is an interactive database application developed in Microsoft Access 2007. Once the data has been entered into the database, it is simple to generate analytical tables.

The following picture shows how eDMA 1.0 works through steps 1 to 5 (Figure 1.1).

Figure 1.1: Outline of the eDMA 1.0



It is easy to enter data into the database. Most of the basic data relating to Steps 1, 3, and 4 in Figure 1.1 are already in the database. For each drugs contract, the data mentioned under Step 2 and Step 5 will need to be entered.

Eleven main types of analytical tables can be generated related to the drugs, their prices and quantities, while ten types of tables can be generated with information related to the drug suppliers. In the database, the analyses that relate to the drugs and prices are to be found under the heading 'Overall', while those that relate specifically to the analysis of suppliers are found under the heading 'By Supplier'. All generated tables can be made available in 'report format' and exported into a Microsoft Excel spreadsheet.

2. CONTENTS OF THE DATABASE

2.1 OPENING eDMA 1.0

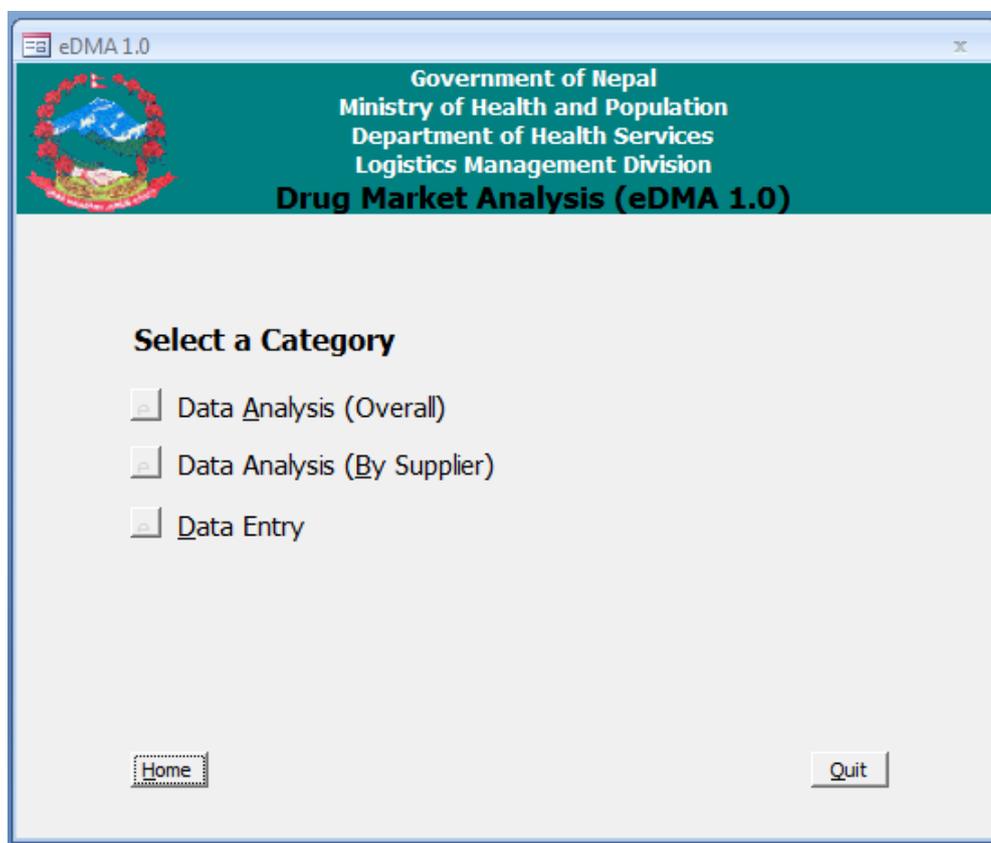
Simply 'double click' the file eDMA 1.0 to open the database.

If prompted, you may need to click 'Open'.

Then the following screen (Figure 2.1) will appear. This screen gives the three options of:

- Data Entry
- Data Analysis (Overall)
- Data Analysis (By Supplier).

Figure 2.1: eDMA 1.0 Master Screen



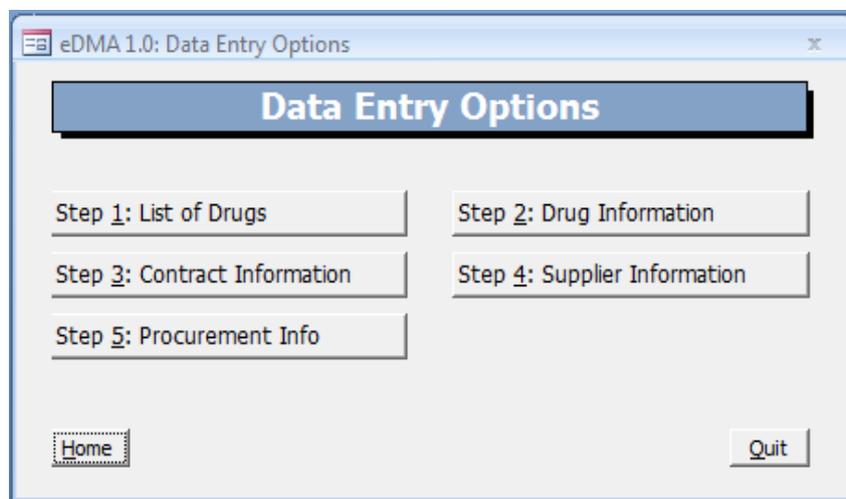
Click '**Data Entry**' for entering information on the drugs and the procured drugs.

Click '**Data Analysis**' ('Overall' or 'By Supplier') to see all the analyses available under these two headings. The reports generated can be printed out or the figures and text exported into MS Excel format.

2.2 DATA ENTRY

Click 'Data Entry' from the master screen and the screen in Figure 2.2 appears. This screen is the interface for entering data.

Figure 2.2: Data Entry Options



2.2.1 List of Drugs

To start entering data, click 'Step 1: List of Drugs' on the above screen and the screen shown as Figure 2.3 appears.

Figure 2.3: List of Drugs



For the LMD database, the names of most drug groups that are commonly procured through an open bidding process in Nepal, have been already entered into the model database.

Enter a new group of drugs or drugs in another composition from this screen by clicking 'Add'. The available fields to add information on the new drug are: 1) type of drug ('Drug ID'), 2) name of the drug ('Drug Name') and 3) the group to which the drug belongs ('Drug Group').

The numbering for Drug ID runs from 100 through to 999. This three digit format is pre-made and the drug group can be selected from the drop-down menu based on the nature of drug. However, if it is a new drug group, the group will automatically be developed so that it is numbered after the last entered drug group.

Currently (as of August 2012), 72 groups of drugs have been entered into the model drugs database.

2.2.2 Drug information

Step 2 of data entry entails entering detailed information on the drug in question. This is to distinguish between different sizes of packaging (e.g. sizes of bottles), different compositions (e.g. whether it is a syrup or tablets), and other detailed information.

Warning: Deleting drug information will cause the deletion of the respective procurement information.

After clicking on 'Step 2: Drug Information' of the 'Data Entry Options', the system asks for a drug group name to be entered or selected. If it is a group already in the database, simply choose it from the drop-down menu. After choosing the name (such as Paracetamol), a screen such as that at Figure 2.4 appears.

Figure 2.4: Drug Information

The screenshot displays the 'eDMA 1.0: Data Entry (Drug Info)' window. The main title is 'Drug Information' and the subtitle is 'Details of Paracetamole (Drug ID: 100)'. The form contains the following fields and controls:

- Drug Cgde:** Text input field containing '100001'.
- Drug Name:** Text input field containing 'Paracetamole Syrup 100'.
- Origin:** Drop-down menu with 'Nepal' selected.
- Gen Name:** Empty text input field.
- Weight:** Text input field containing '50'.
- Weight Unit:** Drop-down menu with 'ML' selected.
- Solution:** Drop-down menu with 'Syrup' selected.
- Size:** Empty text input field.
- Active content:** Empty text input field.
- Buttons:** 'Add', 'Export', 'Upload', 'Delete', 'Save', and 'Go to last record'.
- Footer:** Record navigation controls showing 'Record: 1' and a search bar.

If the information on the drug type has already been entered (this will be the case for most drugs LMD procures), then check that the information corresponds with your drug.

If this is not the case, then click 'Add'. This allows for entering the new composition/type/weight under the opened drug group. An example from the screen shown at Figure 2.4 would be to add Paracetamol as 500 mg tablets. To do this press 'Add' on the screen at Figure 2.4.

It is also possible to use the Excel spreadsheet format to enter new data. This is achieved via the screen shown at Figure 2.3 by clicking on 'View Table Format'.

From this format, an already entered drug group or drug can also be deleted. However, in most cases it is best just to leave the information in the system, as deleting information will make it problematic to obtain a fast overview of how many drug groups the system contains.

Drug codes are in a six digit format. The code must be unique, which means that it can only be used for one drug. The first three digits of the Drug Code represent the 'group' the drug belongs to. So this must be the same as the three digits shown in the heading. For example, for the group Paracetamol the number '100' should be attached, as shown in Figure 2.4. Therefore the first drug code entered for this group will be '100001', where '001', '002', and '003' etc. indicates which specific type of paracetamol the drug is, such as whether it is syrup or a tablet, the size, etc.

When a drug code has been defined, the characteristics of the type of drug (e.g. Paracetamol Syrup) must be entered including drug name, generic name, weight, weight unit, size and active content. 'Origin', 'Weight Unit', and 'Solution' can be selected from the drop-down menu. If needed, for the last two there is a possibility to add new characteristics by clicking the 'New' button and entering the required information.

Using the database form (see Figure 2.4): To enter the data for a new drug within a certain drug group click the 'Add' button. Remember to click 'Save' before leaving the screen.

Using the spreadsheet format: Although it is not recommended, the steps below can be followed for entering data via the spreadsheet format.

1. Input the name of a drug group and at least one record that includes details of one drug in this group.
2. Click 'Export' and locate the folder so the data can be saved.
3. Delete the generated information (except the heading row).
4. Input all the required information.

Note: The Drug ID (group of drugs, such as Paracetamol) must be known to be able to enter a drug. When the group is known and the drug name entered, the following information can be entered: origin code, solution code, and unit code into the spreadsheet format. (See Annex 1 for list of countries. Click respective 'New' button to see unit and solution codes.)

Once data entry is complete, follow the following steps to upload a new record into eDMA 1.0.

1. Copy the entire information that starts from column A and ends in column J.

Note: The entire range must be copied, not just all the columns. Go to Cell A1 and press Ctrl+Shift+Space to select entire range; and Ctrl+C to copy.

2. Switch to or open eDMA 1.0 and go to 'Data Entry Options' and click 'Step 2: Drug Information.'
3. Click 'Upload' (*see bottom middle of the screen*) and say 'Yes' when prompted.

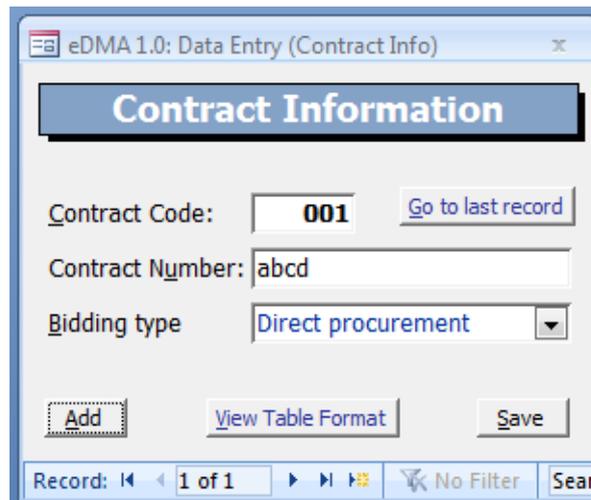
Note: You won't be prompted if you are uploading a single record. Also, you will not be able to upload record(s) if data is not properly entered.

- Now, if required, go to 'Step 2: Drug Information' and check number of records at the bottom left.

2.2.3 Contract information

When clicking on 'Step 3' in Figure 2.4 'Contract Information' in the Data Entry Options, the screen in Figure 2.5 will appear.

Figure 2.5: Contract Information



This form is where the information about a contract is entered.

The 'Contract Code' consists of 3 digits, and runs from '001' to 999.

The 'Contract Number' is identical with the ICB, NCB, etc. number, e.g. LMD/2010-2011/ICB-7.1.

The 'Bidding type' consists of a drop -down menu with the following five possibilities:

- ICB
- NCB
- LIB
- Direct procurement
- Others

Note: ICB = international competitive bidding, NCB = national competitive bidding and LIB = limited international bidding.

All new contracts are entered by clicking 'Add'.

If there is a need to enter data from an Excel spreadsheet, this can be done by clicking 'View Table Format'.

2.2.4 Supplier information

When clicking on 'Step 4' on the screen at Figure 2.2 'Supplier Information' in the Data Entry Options, the screen shown in Figure 2.6 appears.

Figure 2.6: Supplier Information

The screenshot shows a web application window titled "eDMA 1.0: Data Entry (Supplier Info)". The main heading is "Supplier Information". The form contains the following fields and controls:

- Supplier Code: [Go to last record](#)
- Supplier Name:
- Address:
- Nationality: General Tel:
- Mobile Number: Fax:
- Email:

At the bottom of the form are three buttons: , , and . Below the form is a navigation bar with the text "Record: 1 of 2", navigation arrows, "No Filter", and a "Search" input field.

This is where the information on the supplier who has signed the contract is entered.

New suppliers: If the supplier is new, the information about them has to be entered and saved under a 'supplier code'. The Supplier Code consists of 3 digits which run from '001' to 999. The 'Supplier Code' is a code that is set each time a new supplier is entered.

Existing suppliers: If the supplier is already in the database, then the supplier can be found by scrolling through the 'Record' in the bottom to the right of the screen and scrolling until the supplier is found).

The data fields for a new supplier are: supplier name, address, nationality, general telephone, mobile number, fax number and email.

The country names are pre-entered and can be selected from the drop-down menu (see Annex 1).

Like all other new inputs in the database, it is also possible to choose 'View Table Format' and to enter the data in an Excel spreadsheet format.

2.2.5 Procurement information

When clicking on 'Step 5' on the screen at Figure 2.2 'Supplier Information' in the Data Entry Options, the screen in Figure 2.7 appears.

Here, select the drug code from the drop-down menu. The drop-down menu consists of all the drugs previously entered (under 'Step 1' above in Section 2.4.2).

Note that there can be several types of drugs under one 'drug name'.

Figure 2.7: Procurement Information

The screenshot shows a web-based data entry form for procurement information. The form is titled 'eDMA 1.0: Data Entry (Procurement Info)' and 'Procurement Information'. The specific record is for 'Acyclovi'. The form includes fields for Drug Code, Contract Code, FY Code, Procurement Date#, Supplier Code, Total Quantity, Procured Unit Price, Drug Brand Name, Manufacturer Name, Delivery Place, Unit Market Price, MFG Date#, and Exp Date#. There is a 'New FY Code' button and a 'Total Amount**' display box. At the bottom, there are buttons for 'Add', 'Export', 'Upload', 'Delete', and 'Save'. A status bar at the very bottom shows 'Record: 1 of 1', 'No Filter', and a 'Search' field.

To start entering a new procurement, click 'Add'. Then choose the 'Drug Code'. Once the drug code has been selected, all the details of the procurement can be entered. Remember to click 'Save' at the end.

Note: (1) The Total Amount is for display purposes only. There might be a need to press F5 to check that the data has been entered correctly. (2) If required click 'New FY Code' to add a new financial year for future use.

Using the spreadsheet format: Follow the following steps to use the spreadsheet format.

1. Input at least one record.
2. Click 'Export' and locate the folder so that you save the data entry format in spreadsheet mode.
3. Delete generated information (except the heading row).
4. Input all the required information.

Note: All the codes have to be known when using this approach, such as, drug code, supplier code, while entering information into the spreadsheet format.

Once the data entry has been completed, follow the following steps to upload the record into eDMA 1.0.

1. Copy entire information

Note: The entire range must be copied, not all the columns. Go to Cell A1 and press Ctrl+Shift+Space to select entire range; and Ctrl+C to copy.

2. Switch to or open eDMA 1.0 and go to 'Data Entry Options' and click 'Step 5: Procurement Information.'

3. Click 'Upload' (see bottom middle of the screen) and say 'Yes' when prompted.

Note: You will not be prompted if you are uploading a single record. Also, you will not be able to upload record(s) if the data are not correctly entered.

4. Now, if required, click 'Data Entry Options' and 'Step 5: Procurement Information' and check the number of records at the bottom left.

2.3 DATA ANALYSIS (OVERALL)

Once the 'Data Analysis (Overall)' is clicked on from the master screen, the following screen (Figure 2.8) appears.

Figure 2.8: Data Analysis (Overall)

The screenshot shows a software window titled "eDMA 1.0: Data Analysis Options". The window contains a header "Data Analysis Options" and two dropdown menus labeled "Drug:" and "Fiscal Year:". Below these are three sections of analysis options:

- Drug Information:** All Drug Information by Year, Procurement by Drug Name, Procurement by Drug and Year.
- Price Analysis:** Drug by Variation in Price, Drug by Unit Price, Drug Price by Contract Type.
- Market Analysis:** Share of Supplier in Procurement, Comparison Between Market and Procured Unit Price (Selected), Comparison of Amount Between Market and Procured Price (Selected).

At the bottom of the window are three buttons: Home, Export, and Quit.

This screen has the two main options 1) Drug and 2) Fiscal Year.

Optionally you may click 'Export' to see these tables in MS-Excel format. The details on how to do this can be found below.

2.3.1 Drug Information

Choosing 'Drug' as the option allows for the following analyses:

1. **All Drug Information by Year** displays all the details of the drugs procured in the selected year. Included here are drug(s) name, procurement date(s), country of origin, suppliers' name and country, unit price, quantity and total amount.
2. **Procurement by Drug Name** displays the details of the drugs in the group of drugs with this name that have been procured. The details cover year, types of the selected drug, procurement date, country of origin, suppliers' name and country, unit price, quantity and total amount.
3. **Procurement by Drug and Year** displays the following details for the selected drug in the selected year: drug name, procurement date, country of origin, supplier's name and country, unit price, quantity, and total amount.

2.3.2 Price Analysis

Selecting 'Price Analysis' allows for the following possibilities for analyses and report generation.

- **Drug by Variation in Price** displays the following information: drug name, procurement date, country of origin, suppliers' name and country, unit price, and difference in price in percentage.
- **Drug by Unit Price** displays the following information: drug name, procurement date, country of origin, suppliers' name and country, and unit price.
- **Drug Price by Contract Type** displays the following information drug name, bidding type, procurement date, country of origin, suppliers' name and country, and unit price.

2.3.3 Market Analysis

The market analysis tool allows for the following analyses:

- **Share of Each Supplier Contracted** gives information on the selected suppliers for the selected year by country. It displays the following information: the suppliers' country and name, quantity procured, total contract price of the contract and share in percentage.
- **Comparison between Market and Procured Unit Prices** compares prices between the market rate and the procurement rate for selected years. It displays the following information: the drug's name, procurement date, country of origin, suppliers' name and country, procured price, market price and difference between the procured and market price. *Optionally: click 'Selected' button to see the details of the selected drug only. For this the drug name must also be clicked.*
- **Comparison of Amount between Market and Procured Price** compares retail market unit prices with the unit prices contracted for by LMD for the selected year. It displays the following information: drug name, procurement date, country of origin, suppliers' name and country, procured unit price and percentage, market unit price and percentage and the difference between contracted unit prices and market unit prices. *Optionally: click 'Selected' button to see the details of the selected drug only. For this the drug name must be clicked too.*

2.4 DATA ANALYSIS (BY SUPPLIER)

The option 'Analysis (By Supplier)' is available in both 'Report' format and MS Excel format.

When the 'Data Analysis (By Supplier)' screen is entered from the master screen, the first requirement is to select the supplier's name. Then the following screen at Figure 2.9 appears.

Figure 2.9: Data Analysis (By Supplier)

The screenshot shows a software window titled "eDMA 1.0: Data Analysis Options". The window has a blue header bar with the text "Data Analysis Options" and "Supplier: A.S Enterprises, Nepal" below it. There are two dropdown menus for "Drug:" and "Fiscal Year:". The main content area is divided into three sections: "Drug Information" with buttons for "All Drug Information by Year", "Procurement by Drug Name", and "Procurement by Drug and Year"; "Price Analysis" with buttons for "Drug by Variation in Price", "Drug by Unit Price", and "Drug Price by Contract Type"; and "Market Analysis" with a red text label "Share of Supplier in Procurement" and two buttons: "Comparison Between Market and Procured Unit Price" (with a "Selected" button next to it) and "Comparison of Amount Between Market and Procured Price" (with a "Selected" button next to it). At the bottom, there are three buttons: "Home", "Export", and "Quit".

The two main options on this screen are to click either 1) 'Drug' and/or Fiscal Year, or 2) the desired command button. *Optionally, click 'Export' to see these tables in MS Excel format. Please find the details below.*

2.4.1 Drug Information

Reaching the above screens allows the following analyses to be conducted for a selected supplier.

- **All Drugs Information by Year** gives the following information: drug(s) name(s), contract date, country of origin, suppliers' name and country, unit price, quantity and total contract amount.
- **Procurement by Drug Name(s)** gives the following information: the fiscal year, types of the selected drug(s), contract date, country of origin, suppliers' name and country, unit price, quantity, and total contract amount.
- **Procurement by Drug and Year** gives the following information: drug name, procurement date, country of origin, supplier's name and country, unit price, quantity, and total amount.

2.4.2 Price Analysis

This option includes the following possible analyses based on a selected supplier.

- **Drug by Variation in Price** gives the following information: drug name, contract date, country of origin, supplier's name and country, unit price, and difference in price by percentage.
- **Drug by Unit in Price** gives the following information: drug name, contract date, country of origin, supplier's name and country and unit price.
- **Drug Price by Contract Type** gives the following information: drug name, bidding type, contract date, country of origin, supplier's name and country and unit price.

2.4.3 Market Analysis

This option gives the following possible analyses based on a selected supplier.

- **Each Supplier's Share of a Certain Drug procured:** This analysis is not available under the 'Budget Analysis (by Supplier)' section. To obtain this analysis, click the 'Budget Analysis (Overall)' button.
- **Comparison between Market and Procured Unit Price** compares prices between market prices and contracted unit prices in a selected year. This gives the following information: drug name, contract date, country of origin, supplier's name and country, procured unit price, market unit price and the difference between the contracted and the market unit prices. *Optionally, click the 'Selected' button to see details of the selected drug only. The relevant drug's name must be clicked first to do this.*
- **Comparison of Amount between Market and Contracted Unit Price** compares the procurement quantities bought at market prices and through a bidding procedure for a selected year. The information provided covers drug name, contract date, country of origin, supplier's name and country, procured amount and percentage, contract price at market rate and percentage and the difference in amount between procured and market rate. *Optionally, click the 'Selected' button to see details of the selected drug only. The relevant drug's name must be clicked first to do this.*

ANNEX 1: List of countries

Code	Country	Code	Country
1	Afghanistan	46	Central African Republic
2	Akrotiri	47	Chad
3	Albania	48	Chile
4	Algeria	49	China
5	American Samoa	50	Christmas Island
6	Andorra	51	Clipperton Island
7	Angola	52	Cocos (Keeling) Islands
8	Anguilla	53	Colombia
9	Antarctica	54	Comoros
10	Antigua and Barbuda	55	Congo, Democratic Republic of the
11	Argentina	56	Congo, Republic of the
12	Armenia	57	Cook Islands
13	Aruba	58	Coral Sea Islands
14	Ashmore and Cartier Islands	59	Costa Rica
15	Australia	60	Cote d'Ivoire
16	Austria	61	Croatia
17	Azerbaijan	62	Cuba
18	Bahamas, The	63	Cyprus
19	Bahrain	64	Czech Republic
20	Bangladesh	65	Denmark
21	Barbados	66	Dhekelia
22	Bassas da India	67	Djibouti
23	Belarus	68	Dominica
24	Belgium	69	Dominican Republic
25	Belize	70	Ecuador
26	Benin	71	Egypt
27	Bermuda	72	El Salvador
28	Bhutan	73	Equatorial Guinea
29	Bolivia	74	Eritrea
30	Bosnia and Herzegovina	75	Estonia
31	Botswana	76	Ethiopia
32	Bouvet Island	77	Europa Island
33	Brazil	78	Falkland Islands (Islas Malvinas)
34	British Indian Ocean Territory	79	Faroe Islands
35	British Virgin Islands	80	Fiji
36	Brunei	81	Finland
37	Bulgaria	82	France
38	Burkina Faso	83	French Guiana
39	Burma	84	French Polynesia
40	Burundi	85	French Southern and Antarctic Lands
41	Cambodia	86	Gabon
42	Cameroon	87	Gambia, The
43	Canada	88	Gaza Strip
44	Cape Verde	89	Georgia
45	Cayman Islands	90	Germany
91	Ghana	140	Luxembourg
92	Gibraltar	141	Macau

Code	Country
93	Glorioso Islands
94	Greece
95	Greenland
96	Grenada
97	Guadeloupe
98	Guam
99	Guatemala
100	Guernsey
101	Guinea
102	Guinea-Bissau
103	Guyana
104	Haiti
105	Heard Island and McDonald Islands
106	Holy See (Vatican City)
107	Honduras
108	Hong Kong
109	Hungary
110	Iceland
111	India
112	Indonesia
113	Iran
114	Iraq
115	Ireland
116	Isle of Man
117	Israel
118	Italy
119	Jamaica
120	Jan Mayen
121	Japan
122	Jersey
123	Jordan
124	Juan de Nova Island
125	Kazakhstan
126	Kenya
127	Kiribati
128	Korea, North
129	Korea, South
130	Kuwait
131	Kyrgyzstan
132	Laos
133	Latvia
134	Lebanon
135	Lesotho
136	Liberia
137	Libya
138	Liechtenstein
139	Lithuania
189	Puerto Rico

Code	Country
142	Macedonia
143	Madagascar
144	Malawi
145	Malaysia
146	Maldives
147	Mali
148	Malta
149	Marshall Islands
150	Martinique
151	Mauritania
152	Mauritius
153	Mayotte
154	Mexico
155	Micronesia, Federated States of
156	Moldova
157	Monaco
158	Mongolia
159	Montserrat
160	Morocco
161	Mozambique
162	Namibia
163	Nauru
164	Navassa Island
165	Nepal
166	Netherlands
167	Netherlands Antilles
168	New Caledonia
169	New Zealand
170	Nicaragua
171	Niger
172	Nigeria
173	Niue
174	Norfolk Island
175	Northern Mariana Islands
176	Norway
177	Oman
178	Pakistan
179	Palau
180	Panama
181	Papua New Guinea
182	Paracel Islands
183	Paraguay
184	Peru
185	Philippines
186	Pitcairn Islands
187	Poland
188	Portugal
224	Syria

Code	Country
190	Qatar
191	Reunion
192	Romania
193	Russia
194	Rwanda
195	Saint Helena
196	Saint Kitts and Nevis
197	Saint Lucia
198	Saint Pierre and Miquelon
199	Saint Vincent and the Grenadines
200	Samoa
201	San Marino
202	Sao Tome and Principe
203	Saudi Arabia
204	Senegal
205	Serbia and Montenegro
206	Seychelles
207	Sierra Leone
208	Singapore
209	Slovakia
210	Slovenia
211	Solomon Islands
212	Somalia
213	South Africa
214	South Georgia & the South Sandwich Islands
215	Spain
216	Spratly Islands
217	Sri Lanka
218	Sudan
219	Suriname
220	Svalbard
221	Swaziland
222	Sweden
223	Switzerland

Code	Country
225	Taiwan
226	Tajikistan
227	Tanzania
228	Thailand
229	Timor-Leste
230	Togo
231	Tokelau
232	Tonga
233	Trinidad and Tobago
234	Tromelin Island
235	Tunisia
236	Turkey
237	Turkmenistan
238	Turks and Caicos Islands
239	Tuvalu
240	Uganda
241	Ukraine
242	United Arab Emirates
243	United Kingdom
244	United States
245	Uruguay
246	Uzbekistan
247	Vanuatu
248	Venezuela
249	Vietnam
250	Virgin Islands
251	Wake Island
252	Wallis and Futuna
253	West Bank
254	Western Sahara
255	Yemen
256	Zambia
257	Zimbabwe