Managing Patient Flow

Using the data effectively – The excel spreadsheet

Using the Spreadsheet to view the graphs

When the database is installed, an excel file called *'model reports v 3.0.xls'* is created in the same directory as the database. This file is linked to the database so can extract data directly from it (there is no need to export data). The data that is in the database is linked into an excel 'pivot table', which then produces the graphs (knowing this may help if you want to modify any of the settings on the graphs as you can learn about excel pivot tables). Pivot tables are a good way of managing large amounts of data, and they have the ability to be extremely flexible in the way they portray information. You can see your data from many different angles, and just by a few mouse clicks you can get a variety of perspectives.

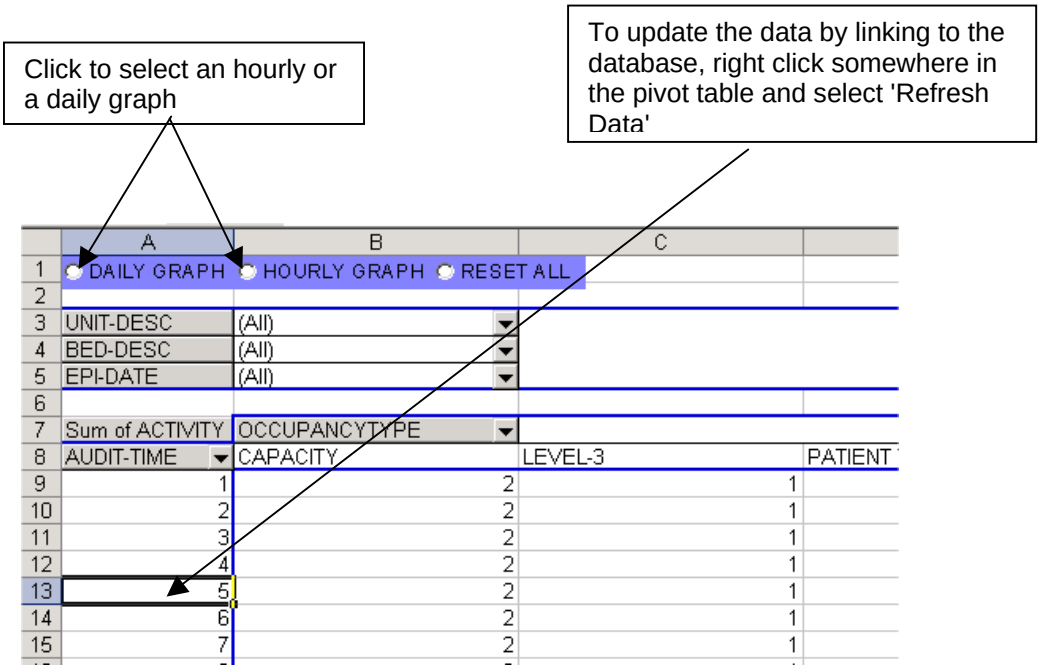
The excel file manipulates the data that is imported from the database– it does not change the initial data that you entered into the database, therefore giving a safe environment to experiment in, knowing your original data is safe.

The excel file also contains a macro (a small program) that does some formatting of the graphs. When opening the file, you may be asked if you want to enable the macros, which you do. If you do not get asked whether you want to enable macros and the excel file doesn't seem to work properly it may be that you need to change some excel settings to allow the macro to work. To do this you need to open excel, from the menu choose the <tools> option, then <macro> and then security. Under the 'security label' tab, you need to select 'medium', then click <ok>. Now if you try opening the excel file again, you should be asked if you want to enable the macros. **(Please note that it is important only to enable macros when opening files from a source that you trust. Never enable macros when opening a file that you are not sure about as they can contain computer viruses)**

So, to look at the graphs for your data –

- Open Excel, and open the file *'model report v3.0.xls'* that is in the directory that you installed the database. If asked, you want to enable macros.
- In the workbook, there are three worksheets (shown by the tabs near the bottom of the screen), called 'pivot data' - which contains the data that is linked to the database, 'graphical data' which contains the chart and 'setup' which you can use to change the colours used in the graphs.

The 'pivot data' sheet



The pivot data table contains numbers that generate the graphs, and give the totals in a tabular form. This data is useful to identify numbers in your patient flow study, and supplements the graphs, which show trends in figures. You can learn about pivot tables and then make modifications and additions if you require them.

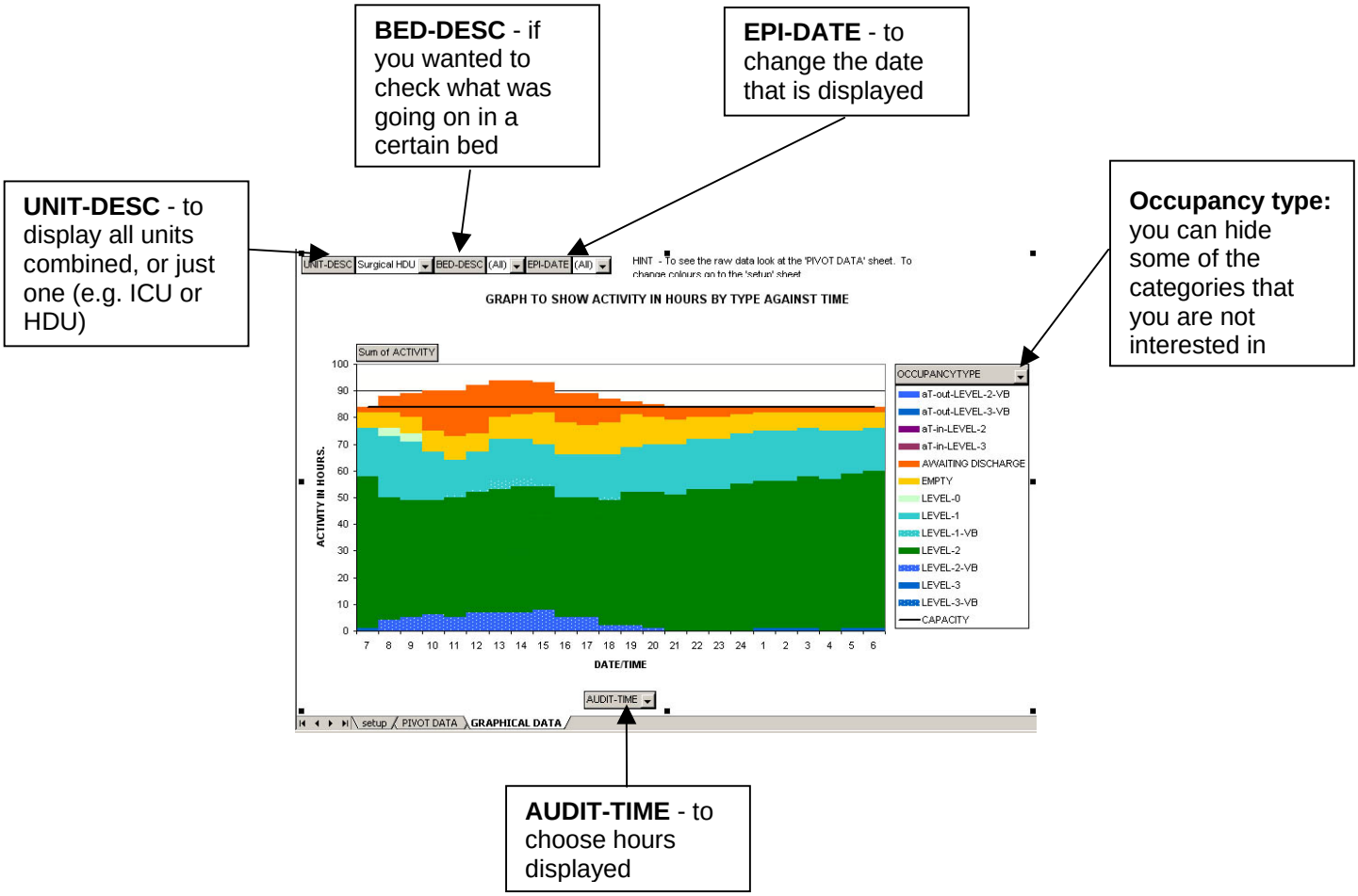
The pivot table worksheet is also where you choose between your graph by hours or days, and where you refresh your data. From there, choose the graphical data tab to switch to the graph worksheet.

The Graphical data sheet

The graphical data allows you to see trends in your data, from both an hourly or a daily angle. It is a more visual representation of your data, and with a little formatting and manipulation you should achieve your units individual data needs. You can use any of the standard excel tools for changing the graph. If you want to change something then it is worth looking under the excel help system.

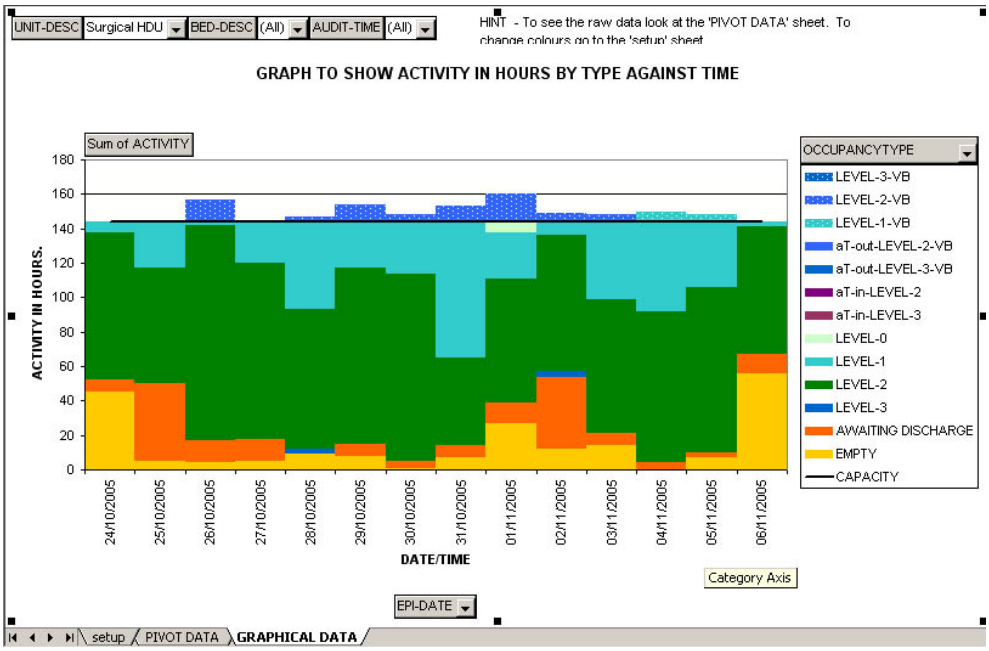
Hourly data

The hourly data in the graph below shows that virtual beds on this busy HDU were at their greatest demand in the early afternoon in the two-week collection period, while patients awaiting discharge were predominantly between the hours of 10:00 and 13:00.



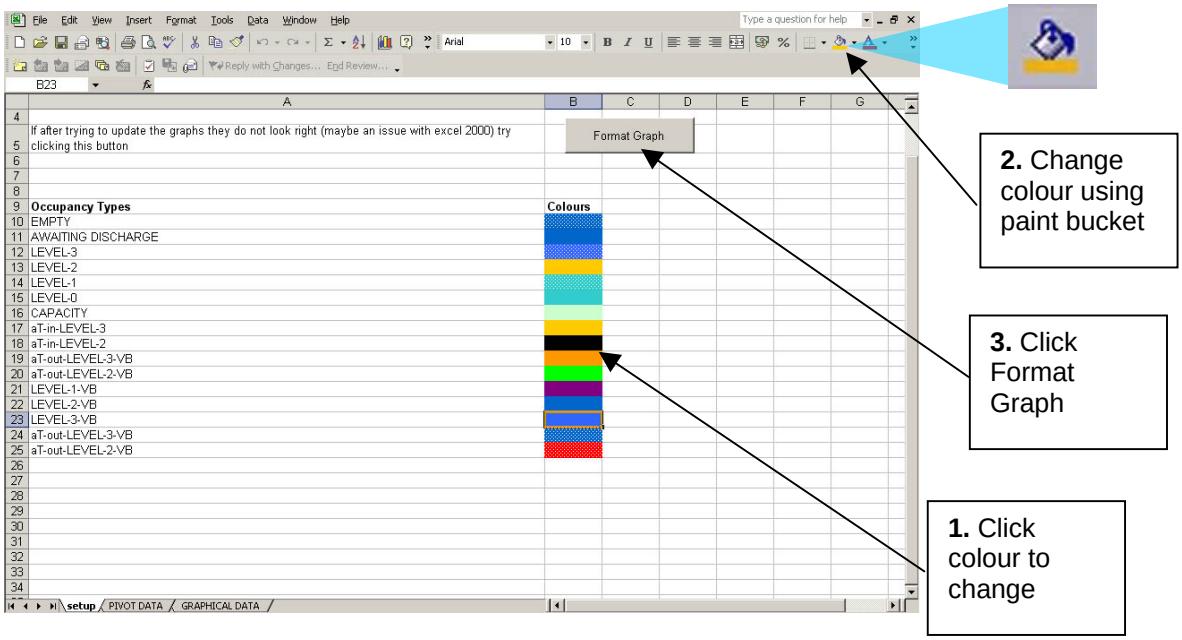
Daily data

The daily graph demonstrates how the patient flow data shows trends over a period of days. The five variable fields (Unit, bed, occupancy, time and date) are still present, but this time date is along the horizontal axis, rather than time. Again, you can hide unwanted fields, such as occupancy type, unit, or days. The graph below shows the same data as above but from a daily perspective over a two-week period.



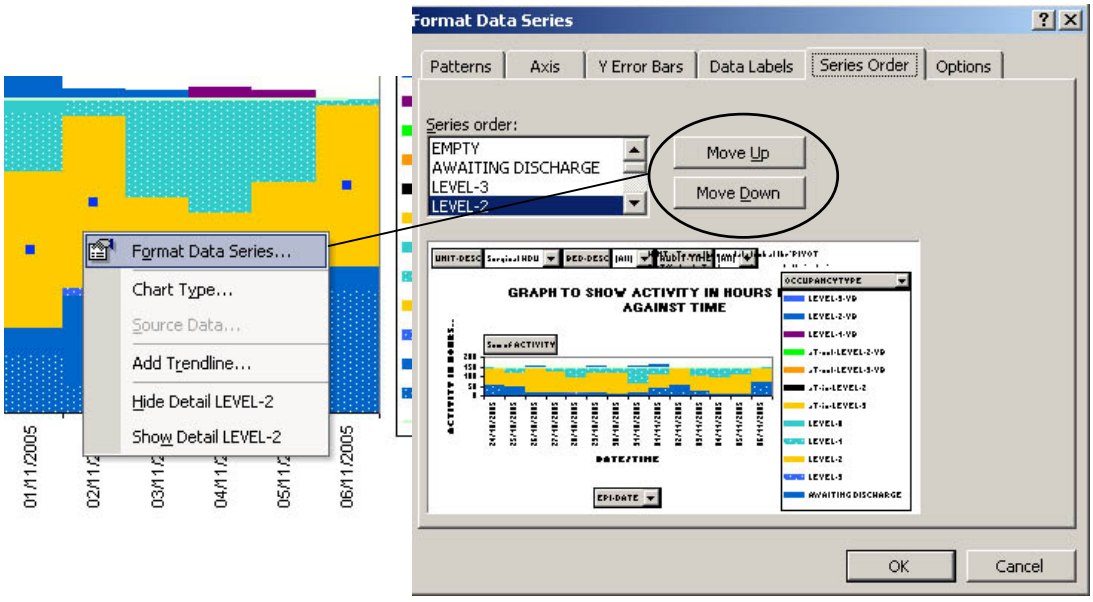
Formatting your graphs

The graphs can be formatted to reflect the colour of your choice to make examination easier. Move to the set up tab, and click on the colour you want to change. Next click the paint bucket tool and choose the colour you require. Click format now and the colours in your graph change to reflect your choices.



You may want to move the occupancy fields up and down, for example you might want your virtual patients on the top of your graph, and your closed beds on the bottom.

- Right click the field on the graph that you want to move up or down.
- Choose *Format data series…*
- Click Move Up, or Move Down to move your field – you can see it move in the preview window, and then click ok when done.



Commonly explored themes

The database can give a host of information both by hour and day. Some common applications of the data are:

- Capacity and demand by hour and day
- Delayed discharges
- Virtual patient demand
- Examination of empty bed availability
- Unmet need
- Occupancy
- Activity by levels of care
- Unplanned admissions

The database and excel spreadsheets are used most effectively if you have a little knowledge of Excel. On the whole, there will be a way to demonstrate what you want, but looking at Excels overview of pivot tables will be beneficial using the help menu on the toolbar.