# Using the Groups and Chart and Statistics Tools


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# Overview

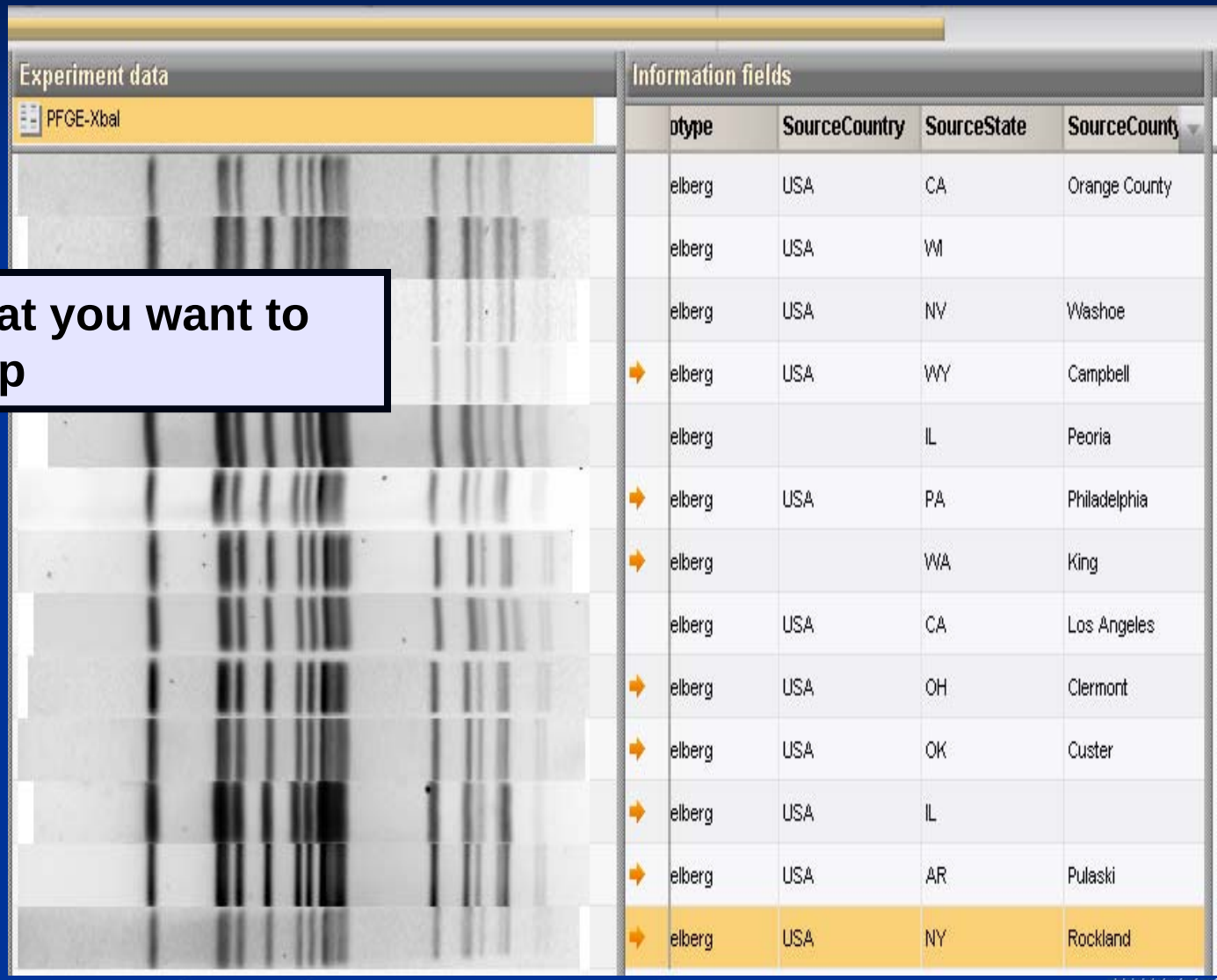
- **Utility of Groups**
- Printing Groups
- Customizing Colors
- Using the Chart and Statistics Tool
- Types of Graphs
- Utility of Graphs in Cluster Detection and Reporting

# Utility of Groups

- In using groups/colors you can distinguish isolates to another level while working with a comparison
  - Example: naming patterns
    - If you make a comparison of all the similar isolates at first glance, you can go back through with a fine tooth comb and designate alternative patterns

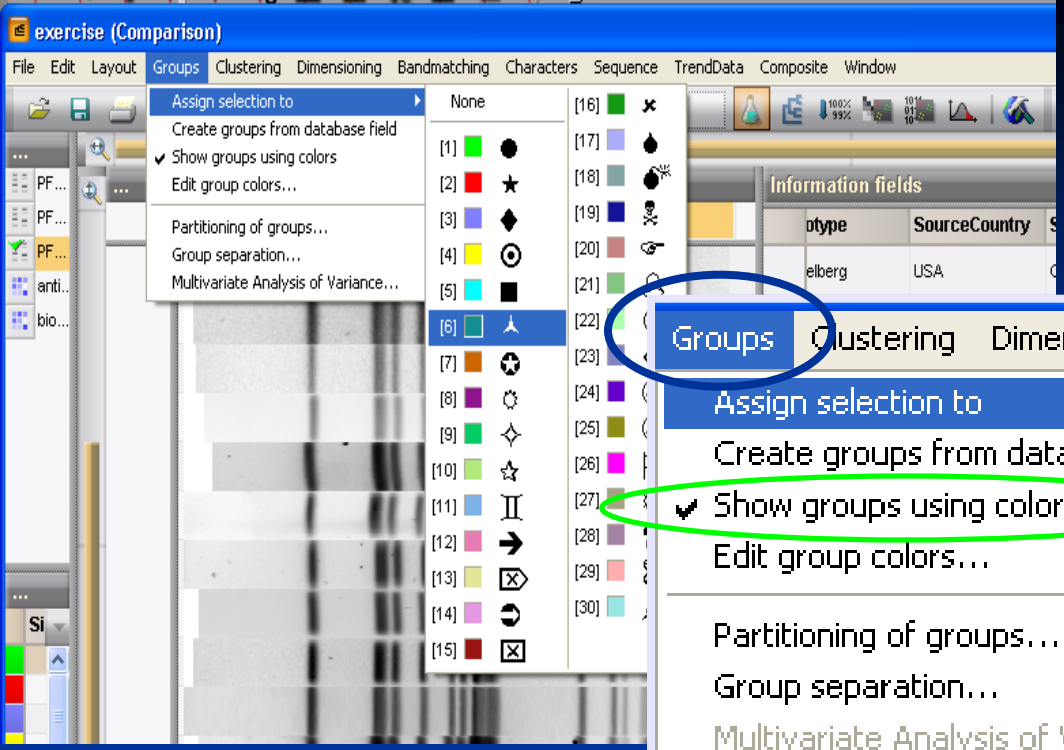
# Utility of Groups

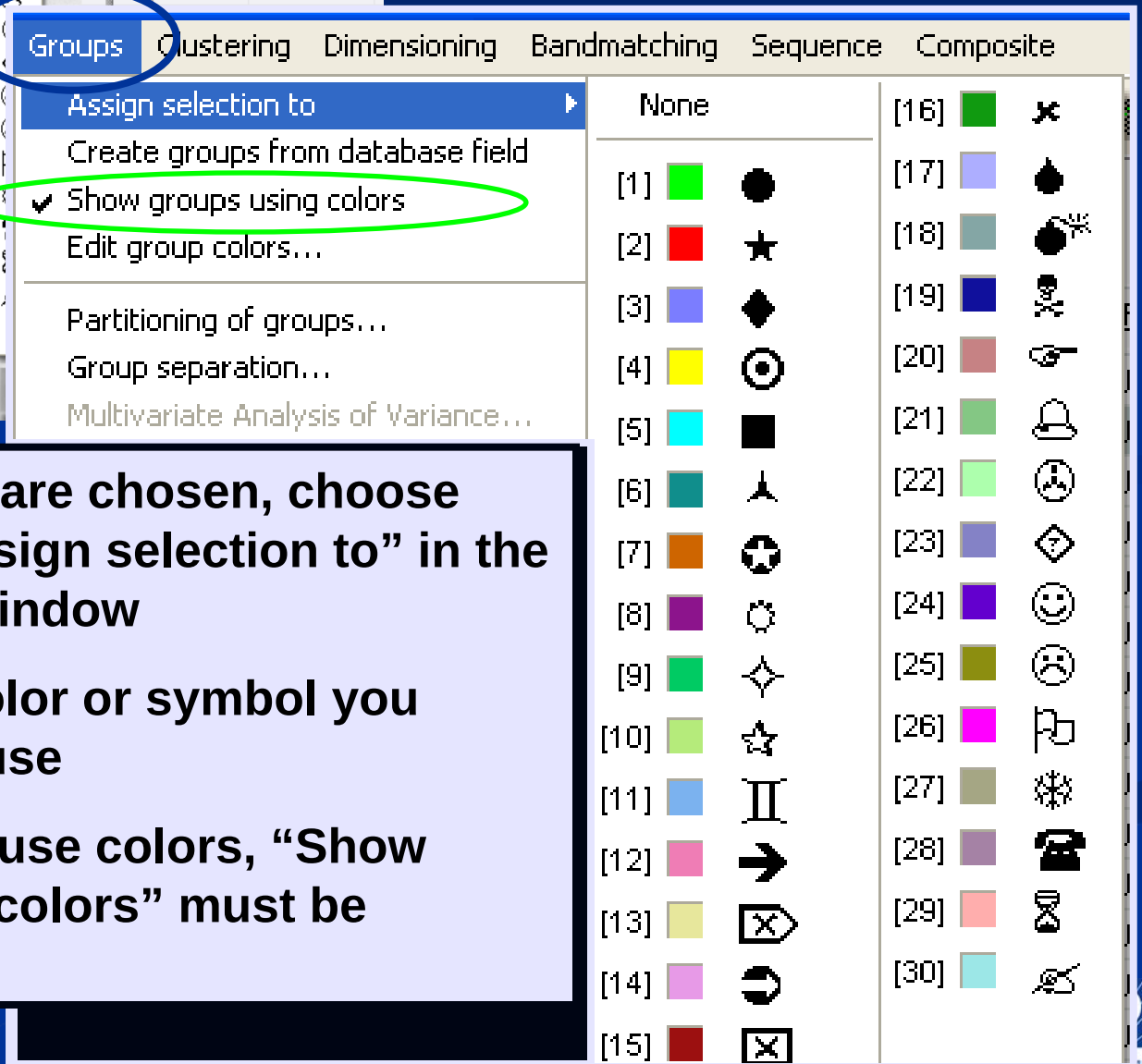
**Choose isolates that you want to highlight as a group**




| otype | SourceCountry | SourceState | SourceCounty |
|---|---|---|---|
| elberg | USA | CA | Orange County |
| elberg | USA | WI | |
| elberg | USA | NV | Washoe |
| elberg | USA | WY | Campbell |
| elberg | | IL | Peoria |
| elberg | USA | PA | Philadelphia |
| elberg | | WA | King |
| elberg | USA | CA | Los Angeles |
| elberg | USA | OH | Clermont |
| elberg | USA | OK | Custer |
| elberg | USA | IL | |
| elberg | USA | AR | Pulaski |
| elberg | USA | NY | Rockland |

# Using Groups




**Once isolates are chosen, choose Groups→ "Assign selection to" in the comparison window**

**Choose the color or symbol you would like to use**

**If you want to use colors, "Show groups using colors" must be checked**

# Utility of Groups

**The isolates that are selected in this comparison are further divided by color after more detailed analysis**


Information fields

| Serotype | SourceCountry | SourceState | SourceC |
|---|---|---|---|
| Heidelberg | USA | CA | Orange Coun |
| Heidelberg | USA | WI | |
| Heidelberg | USA | NV | Washoe |
| Heidelberg | USA | WY | Campbell |
| Heidelberg | | IL | Peoria |
| Heidelberg | USA | PA | Philadelphia |
| Heidelberg | | WA | King |
| Heidelberg | USA | CA | Los Angeles |
| Heidelberg | USA | OH | Clermont |
| Heidelberg | USA | OK | Custer |
| Heidelberg | USA | IL | |
| Heidelberg | USA | AR | Pulaski |
| Heidelberg | USA | NY | Rockland |

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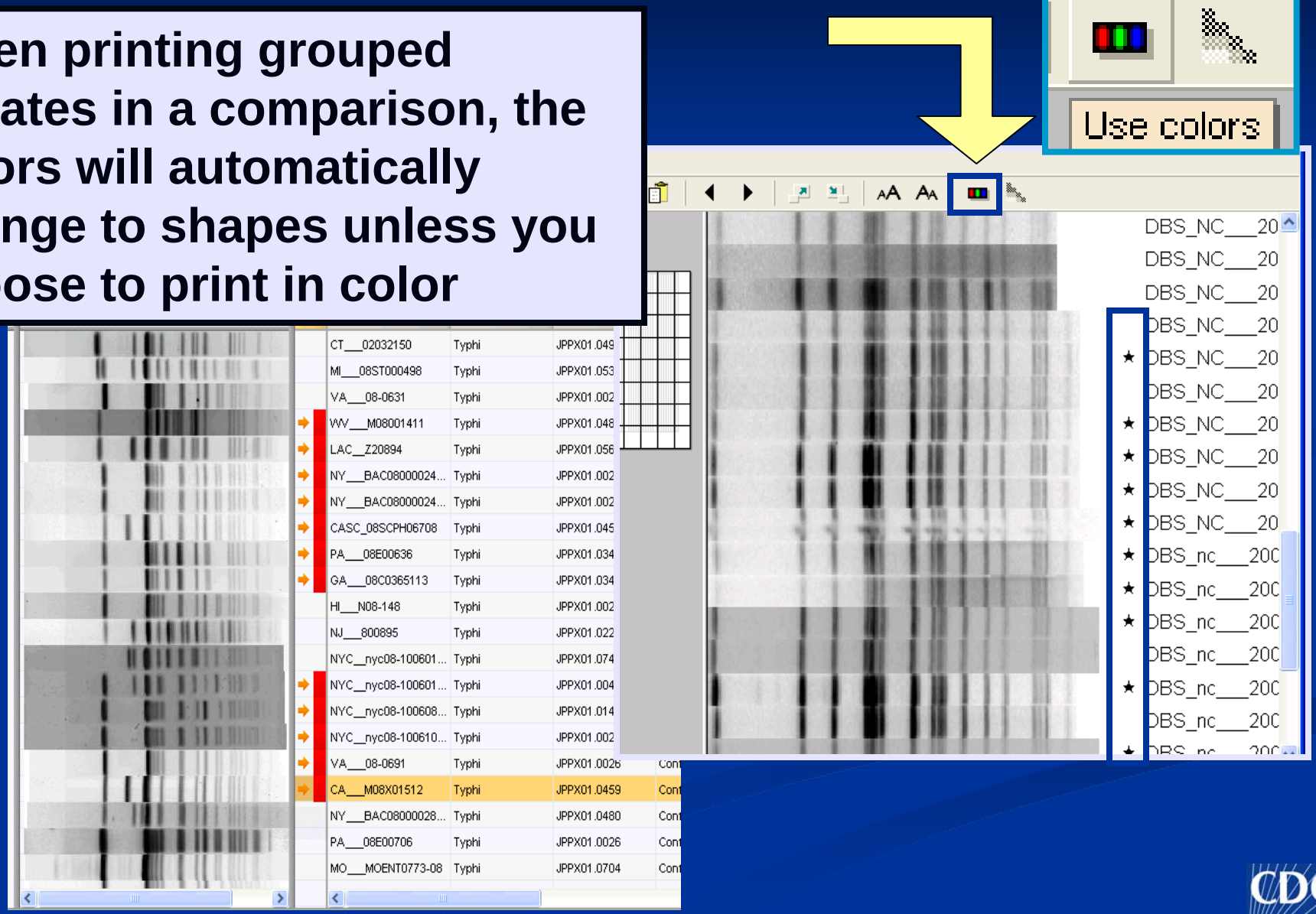
# Printing Groups

**When printing grouped isolates in a comparison, the colors will automatically change to shapes unless you choose to print in color**



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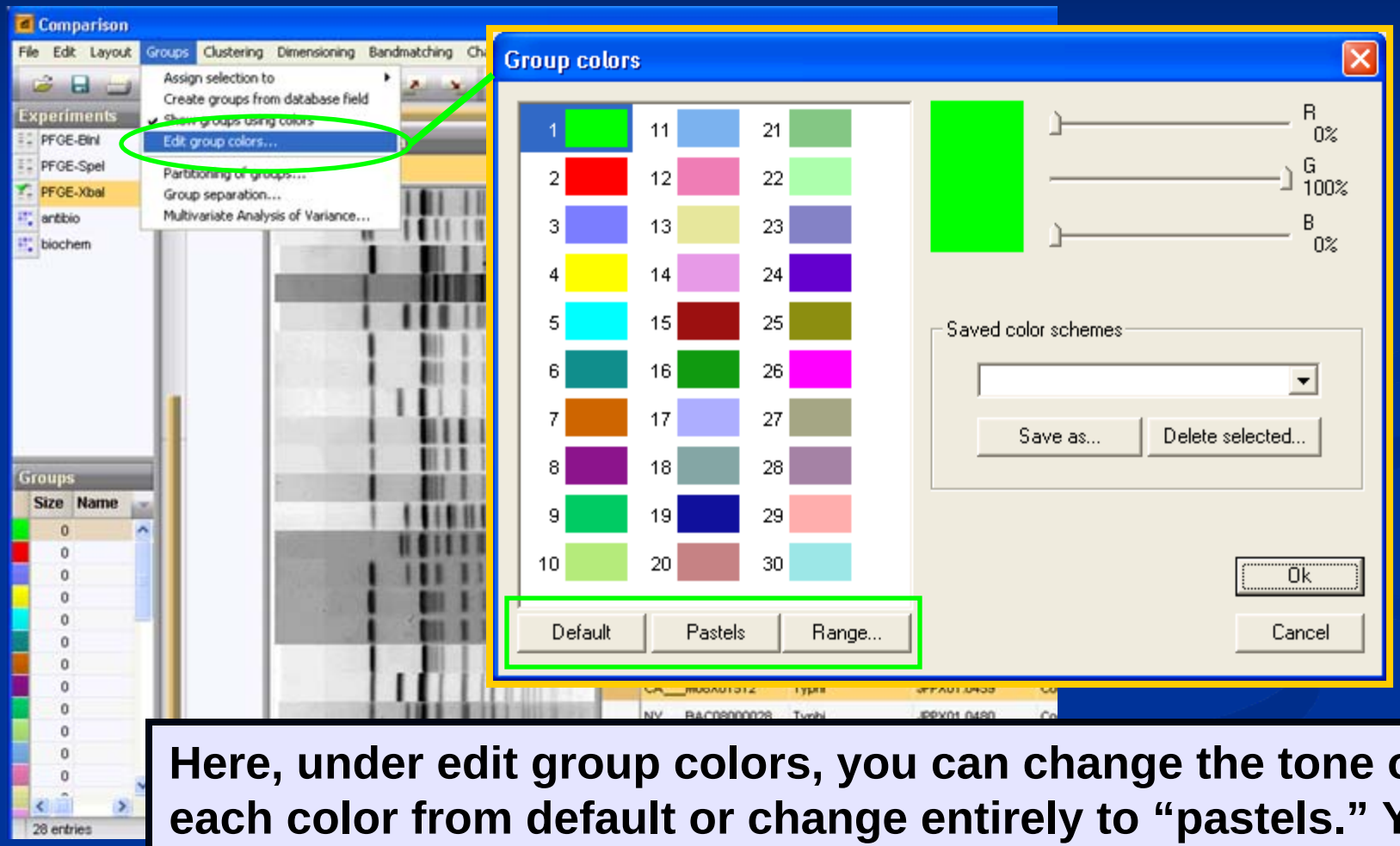
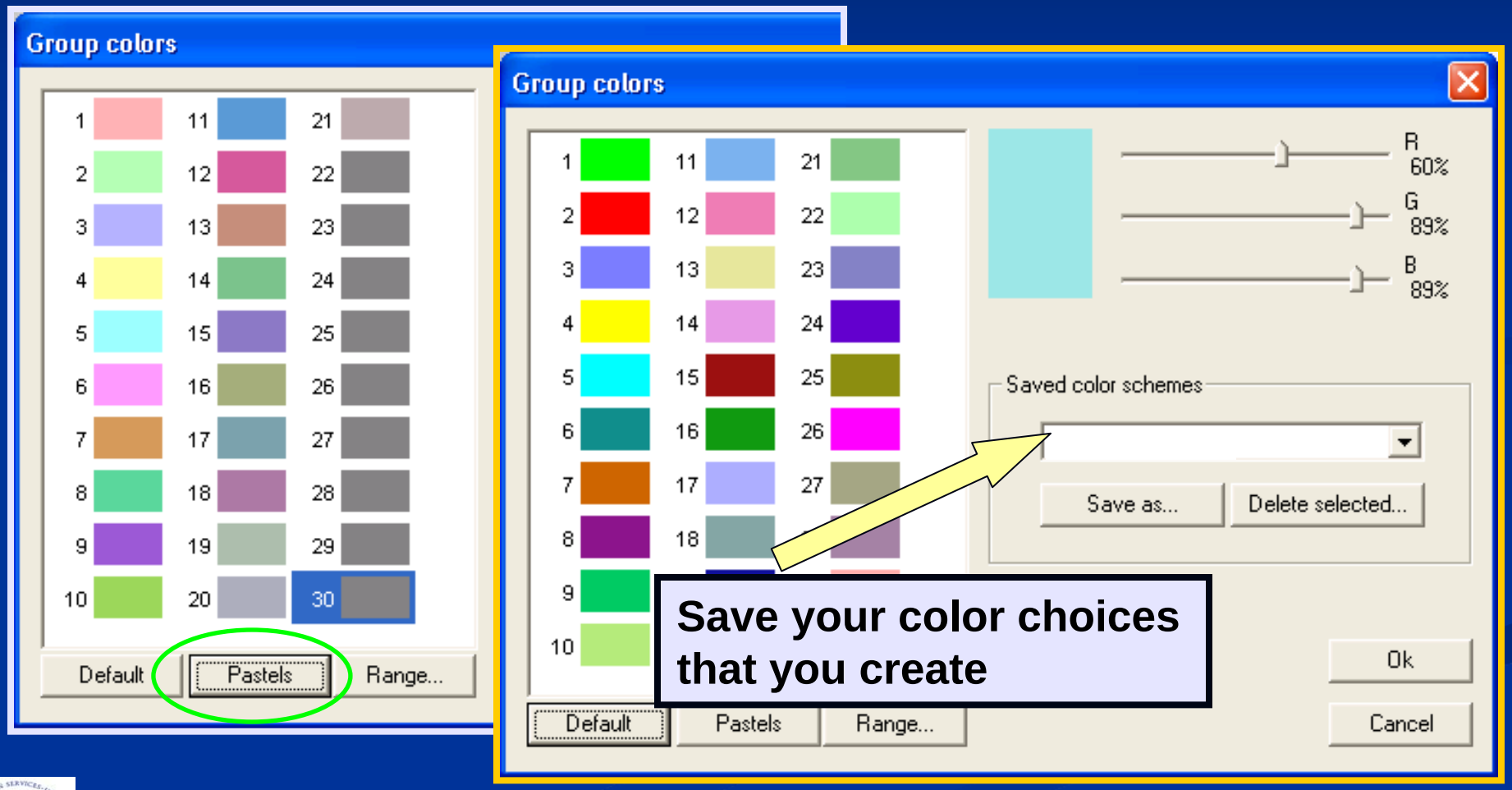
# Customizing Colors




**Here, under edit group colors, you can change the tone of each color from default or change entirely to "pastels." You can also choose to do a color gradient with "range."**

# Customizing Colors



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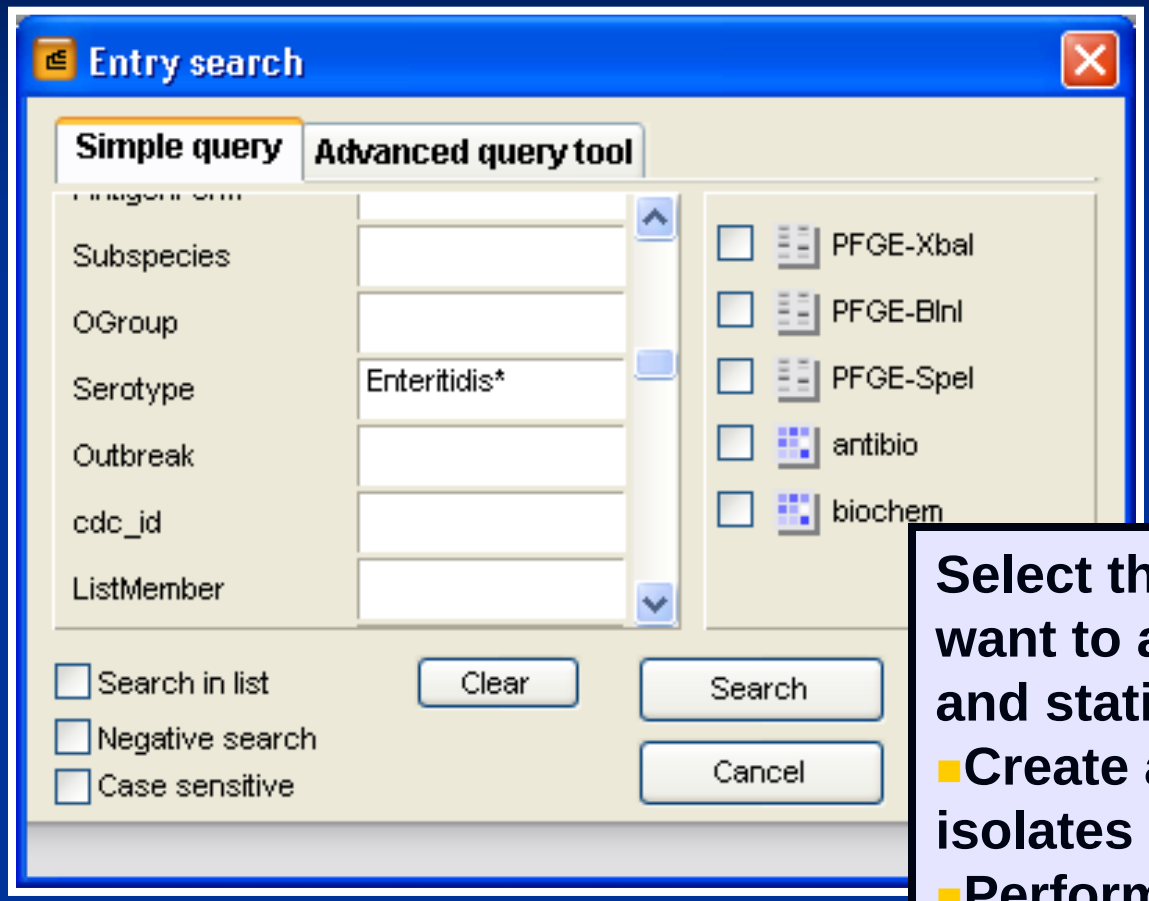
# Chart and Statistics Tool: Functionality

- The utility of the Chart and Statistics Tool:
  - Database statistics
    - Pattern frequencies
    - Date-oriented calculations
    - Multi-variable options

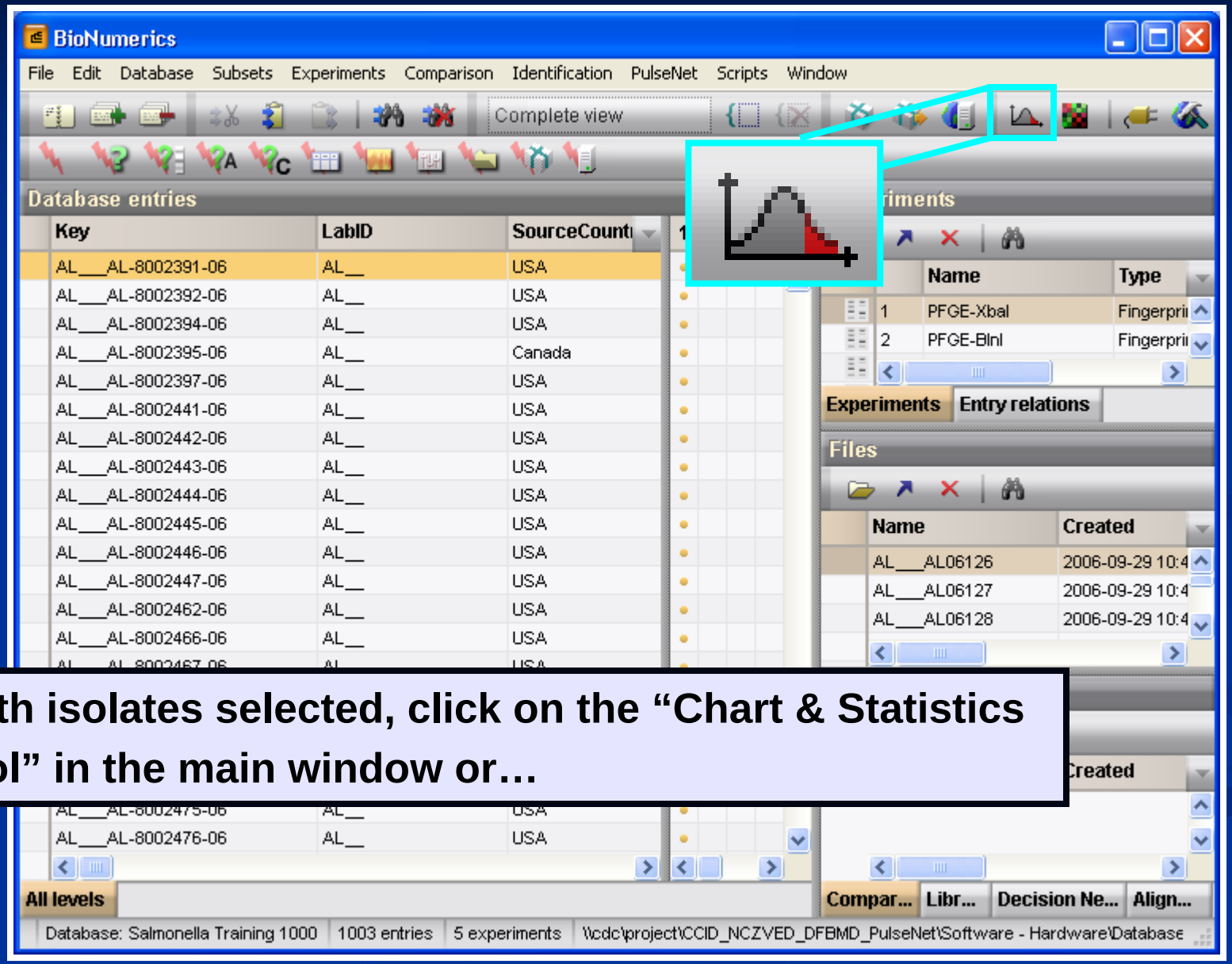
# Chart and Statistics Tool Components




**Select the group of isolates you want to analyze using the chart and statistics tool**

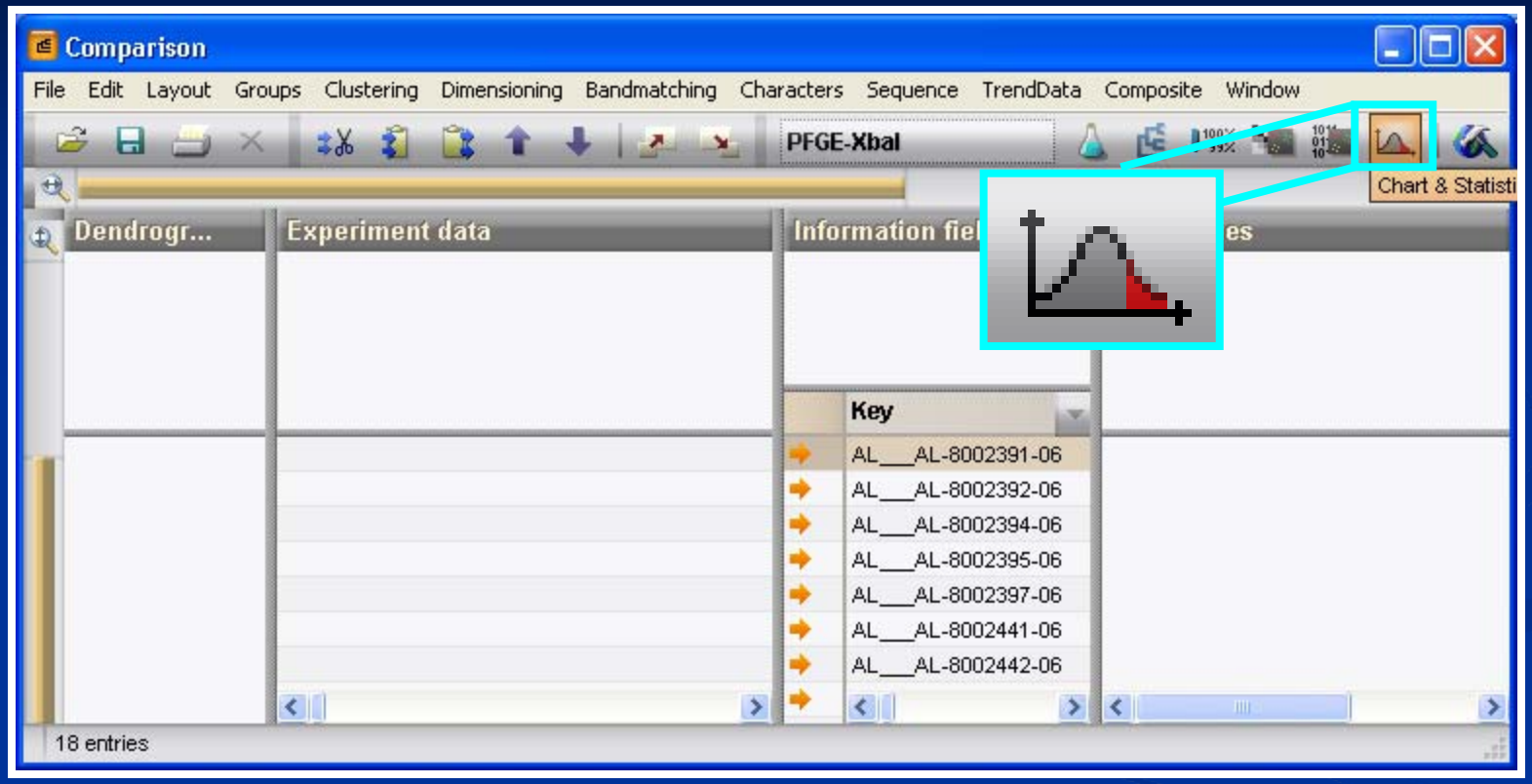
- **Create a comparison of these isolates**
- **Perform a query or**
- **Directly select isolates in the database**

# Chart and Statistics Tool Components




**With isolates selected, click on the "Chart & Statistics tool" in the main window or…**

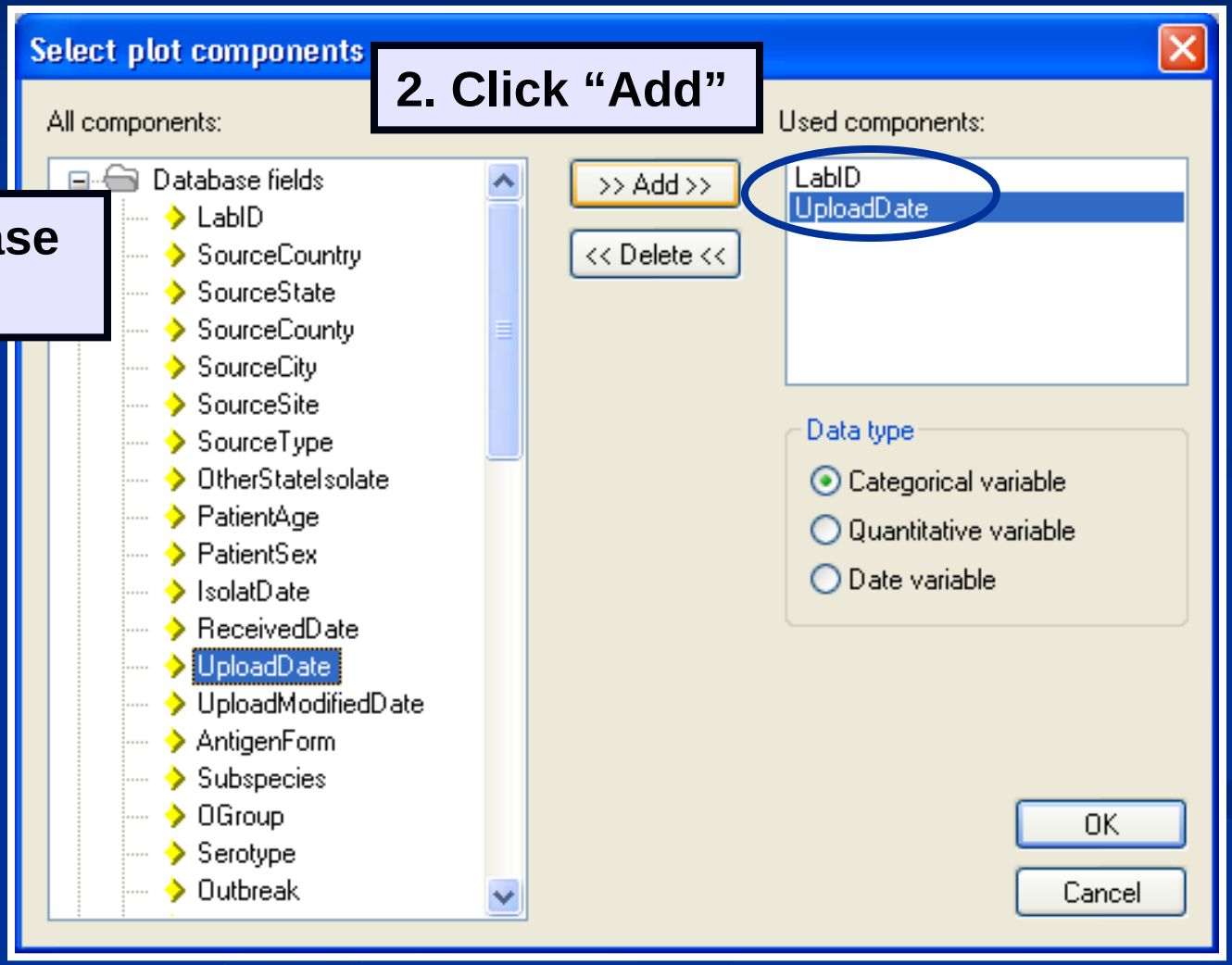
# Chart and Statistics Tool Components



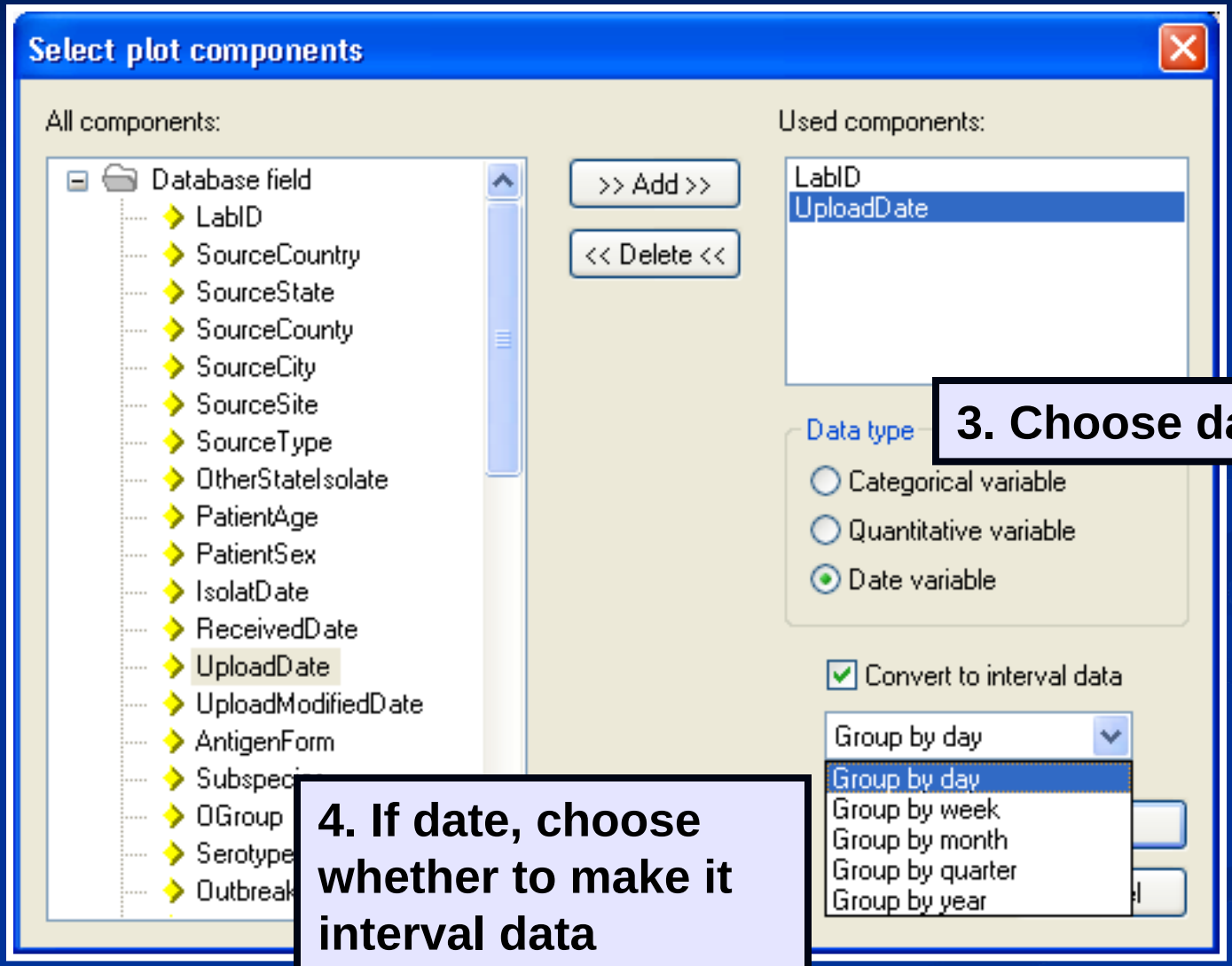

**…from a comparison window**

# Chart and Statistics Tool Components

**1. Choose database components**



# Chart and Statistics Tool Components



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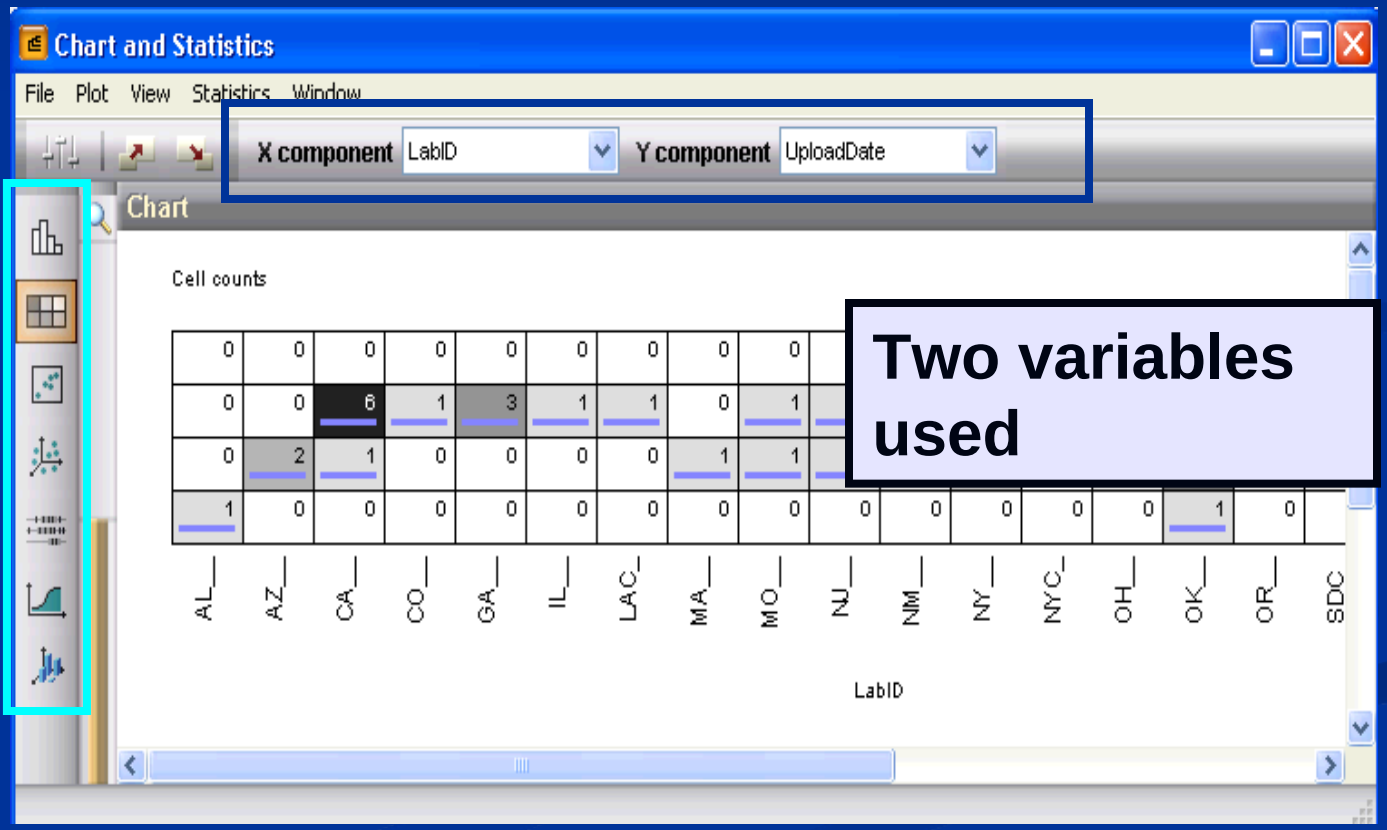
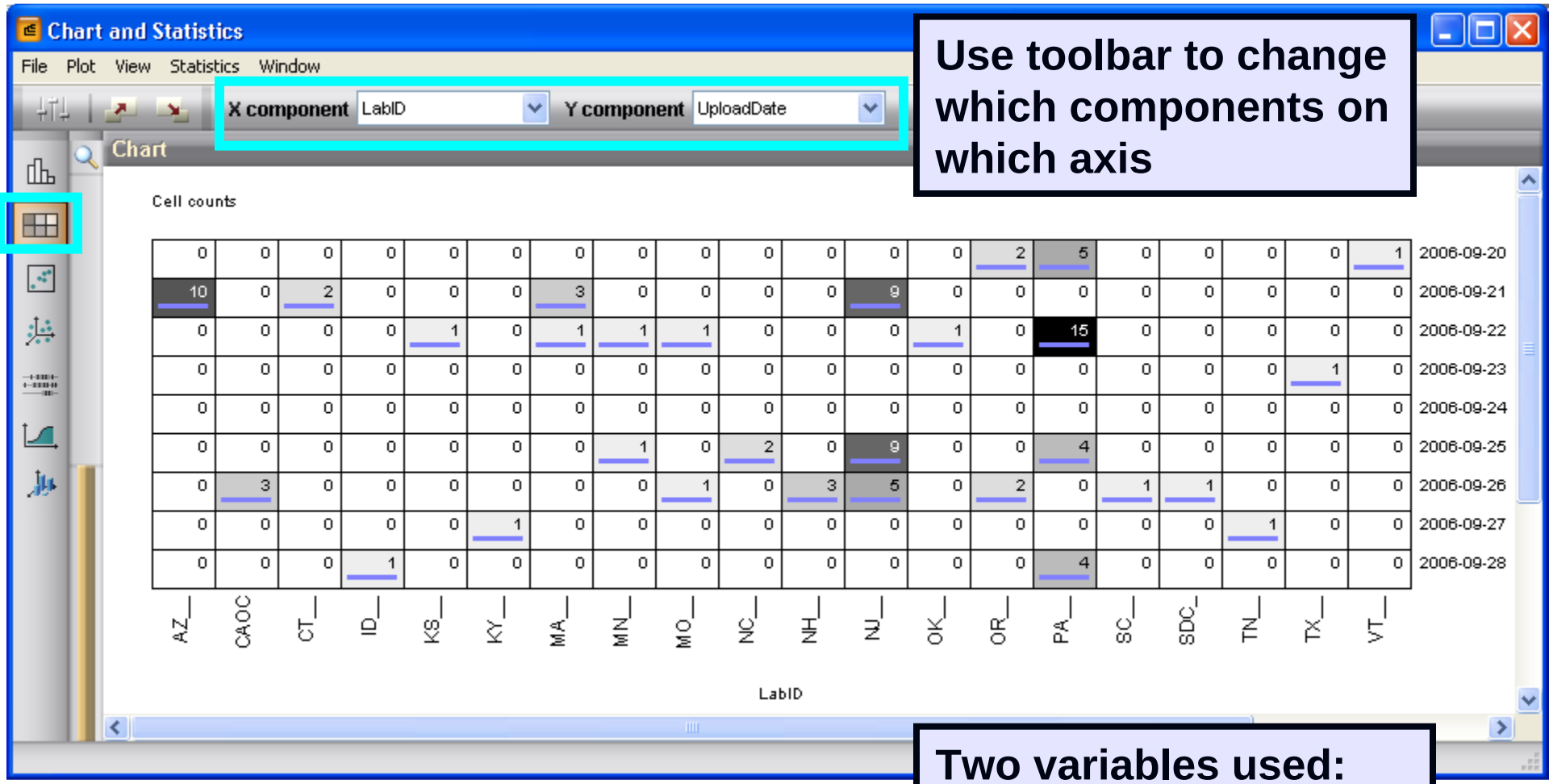
# Chart & Statistics: Changing graph type

**Use toolbar to change chart and type**



# Types of Graphs

**2D Contingency Table: shows the association between 2 categorical variables**

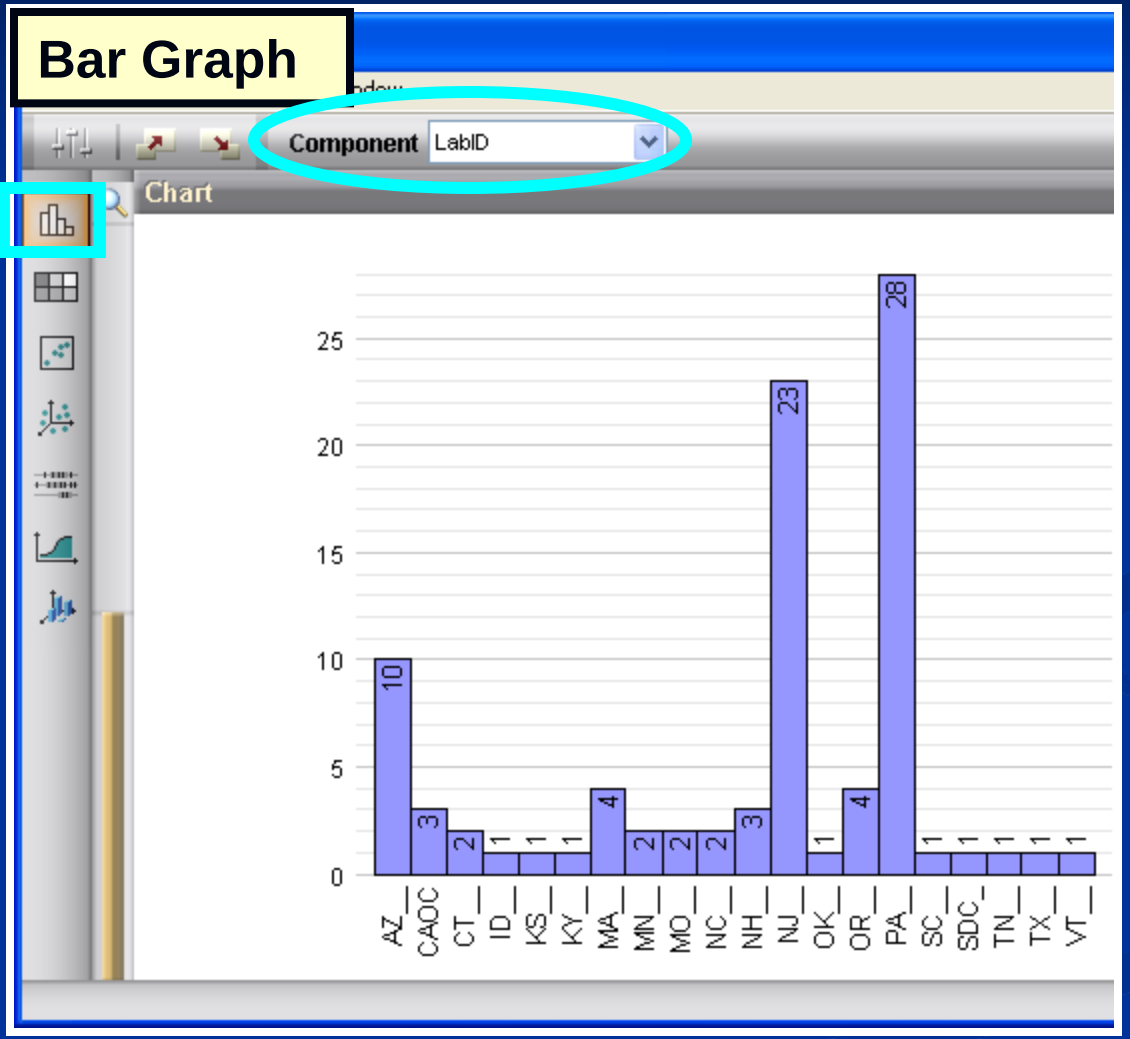


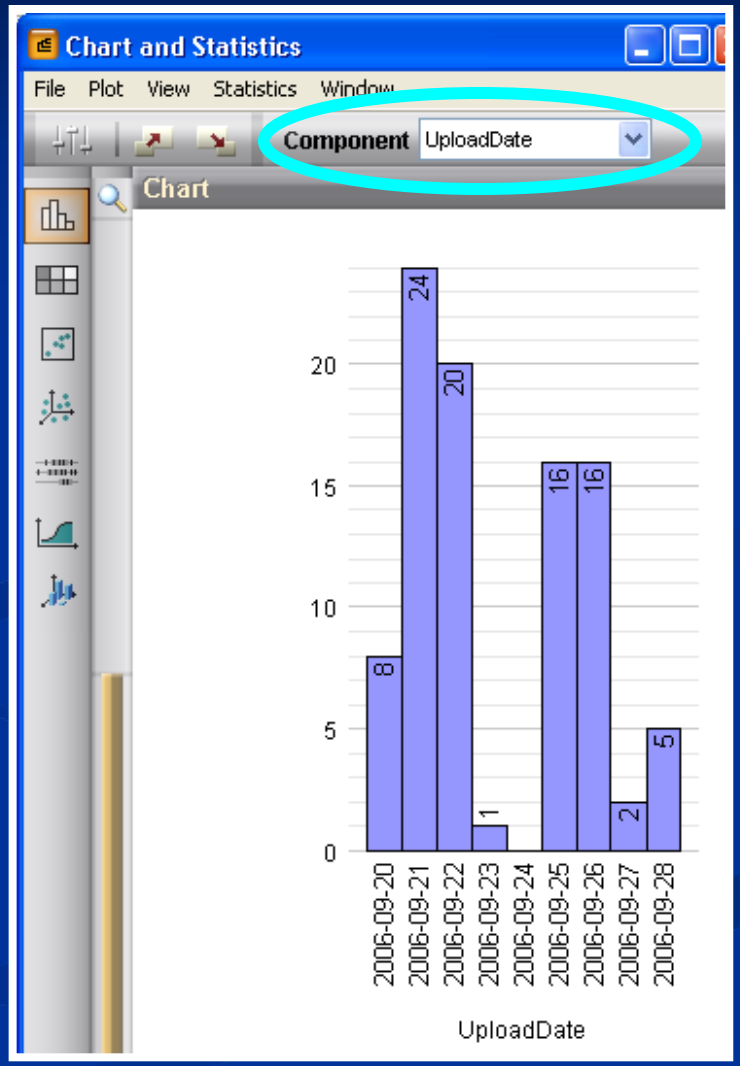

**Use toolbar to change which components on which axis**

**Two variables used: LabID and UploadDate**

# Types of Graphs

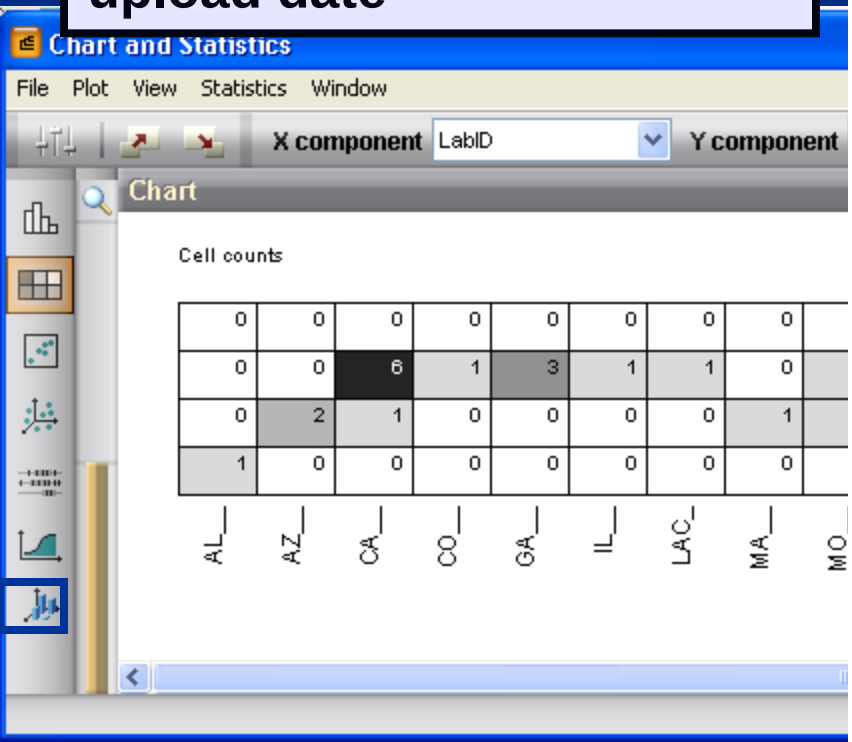
**Bar Graph**



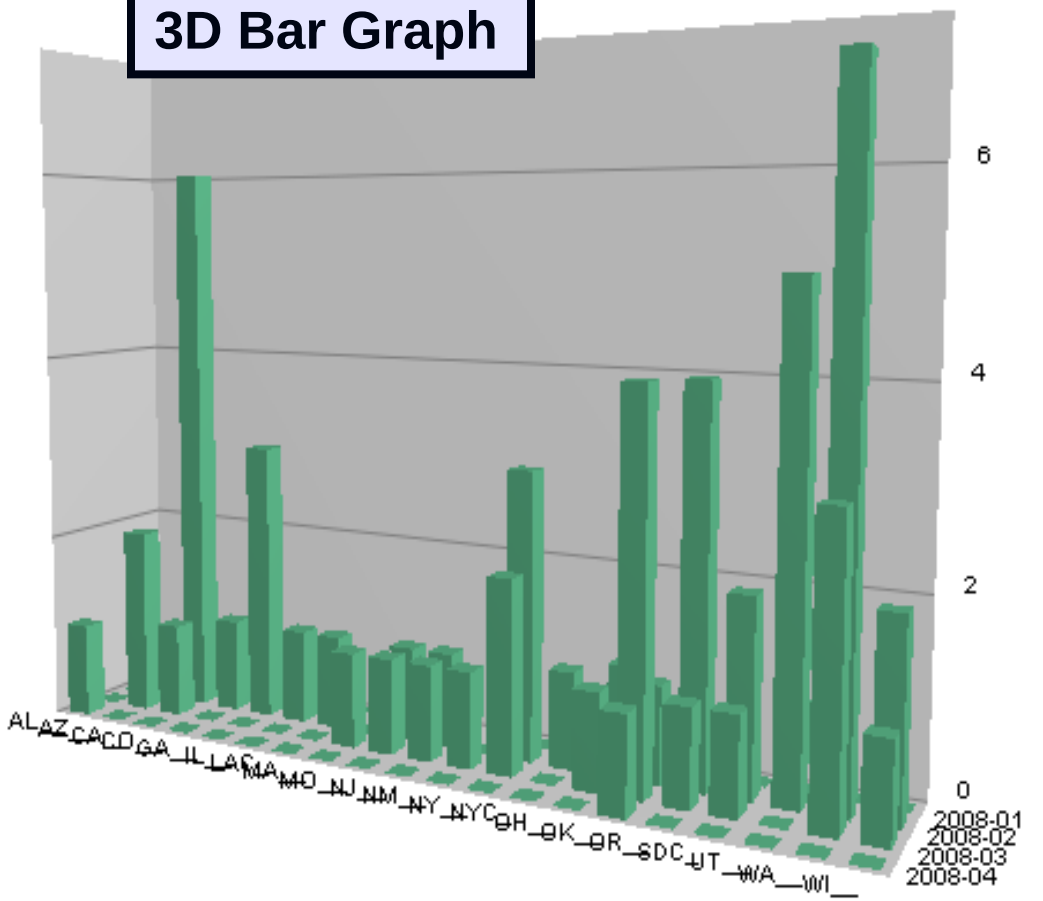



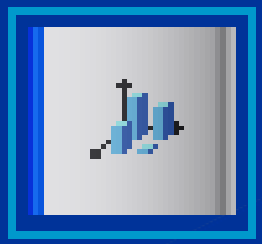
# Chart & Statistics: Changing graph types

**2 components Lab ID and upload date**



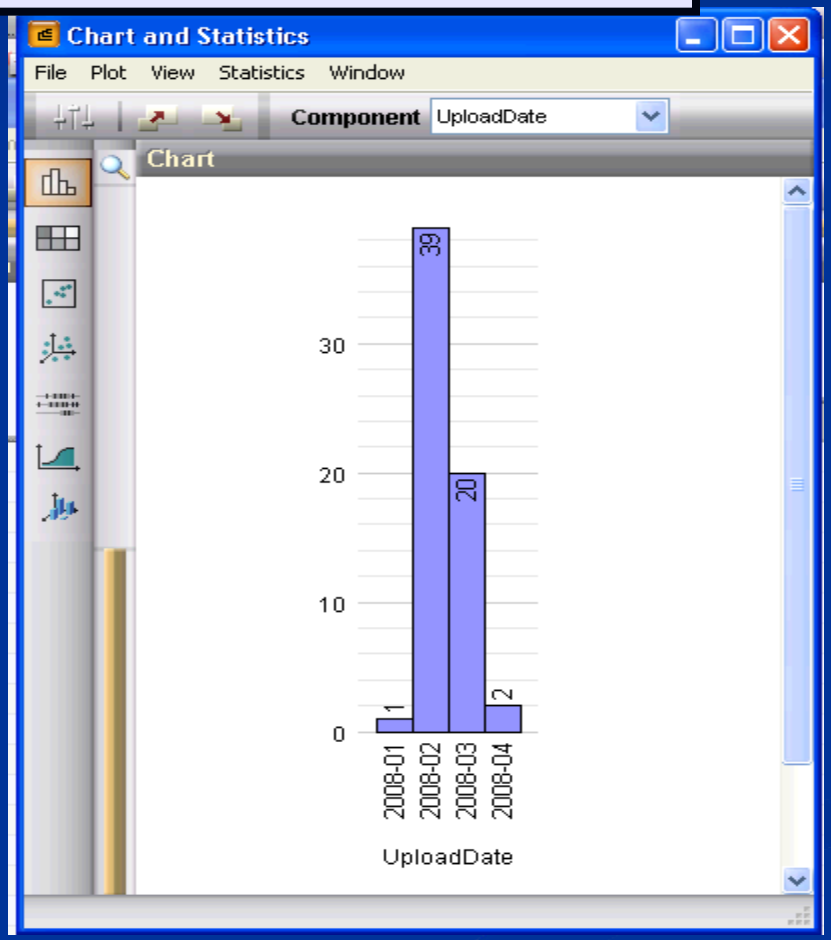

**3D Bar Graph**



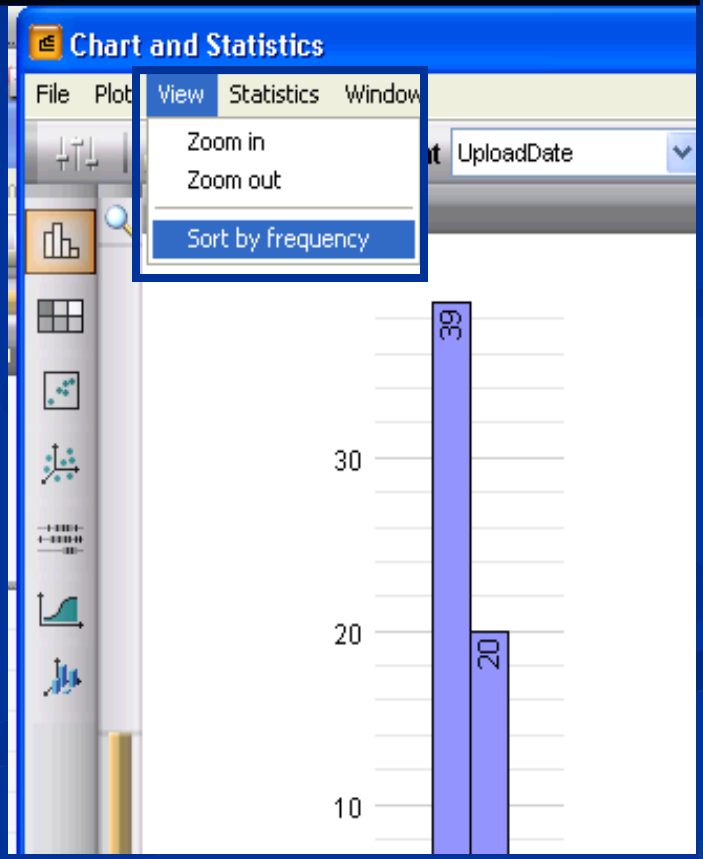



# Chart & Statistics: Changing graph type (bar graph)

**Used upload date as variable (component)**




**You can also choose to sort by frequency using "view" in the tool bar**



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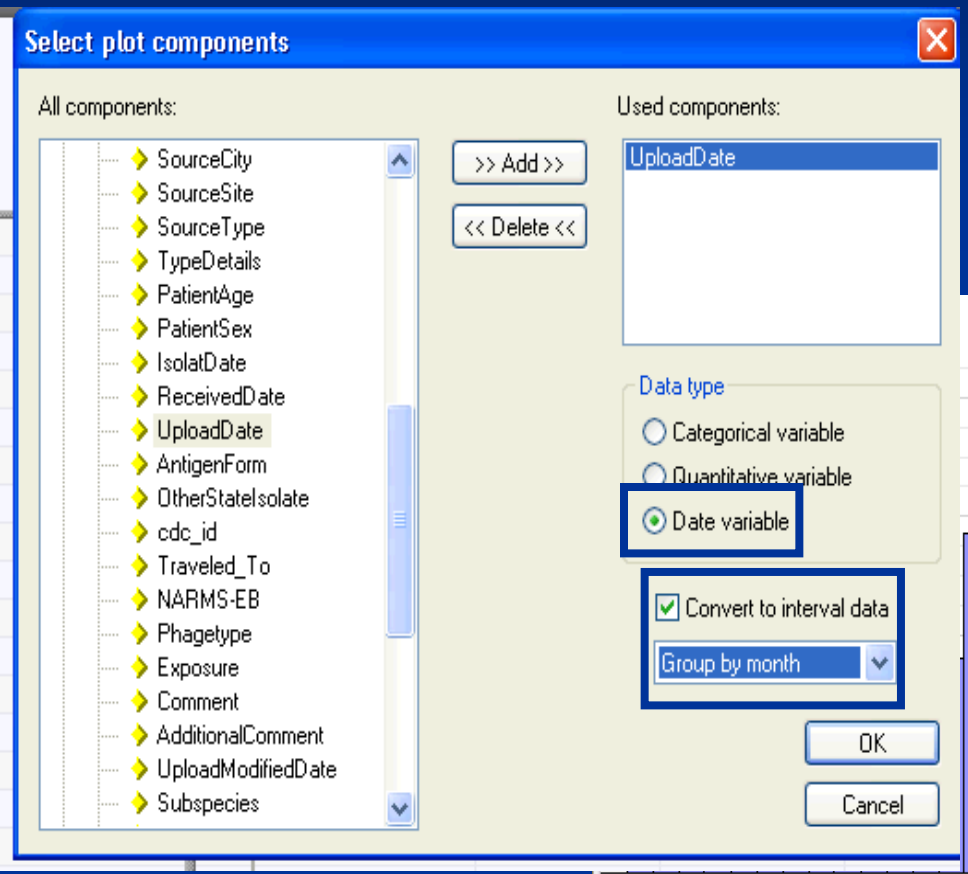
- **Utility of Graphs in Cluster Detection and Reporting**

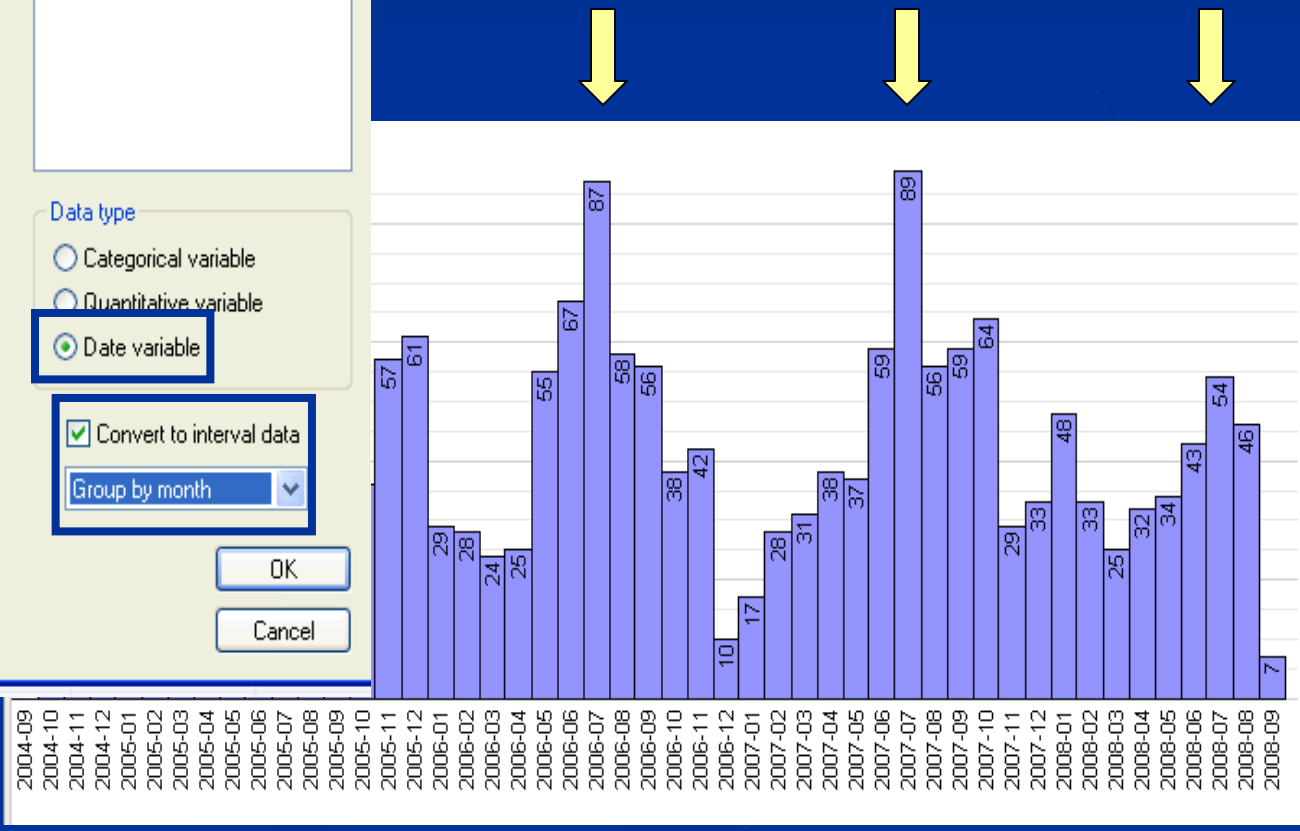
# Utility of Graphs in Cluster Detection and Reporting

- You recently saw a noticeable amount of *Salmonella* Berta come into the lab. You want to determine if Berta is seasonal
  - Step 1: decide on the duration for which you want to do your seasonal tracking (2 years)
  - Step 2: select those entries in your database
  - Step 3: use the chart and statistics tool and choose a database component (isolate, received or upload date), check date variable box and then choose monthly intervals

# Utility of Graphs in Cluster Detection and Reporting




**Seasonal Peaks**

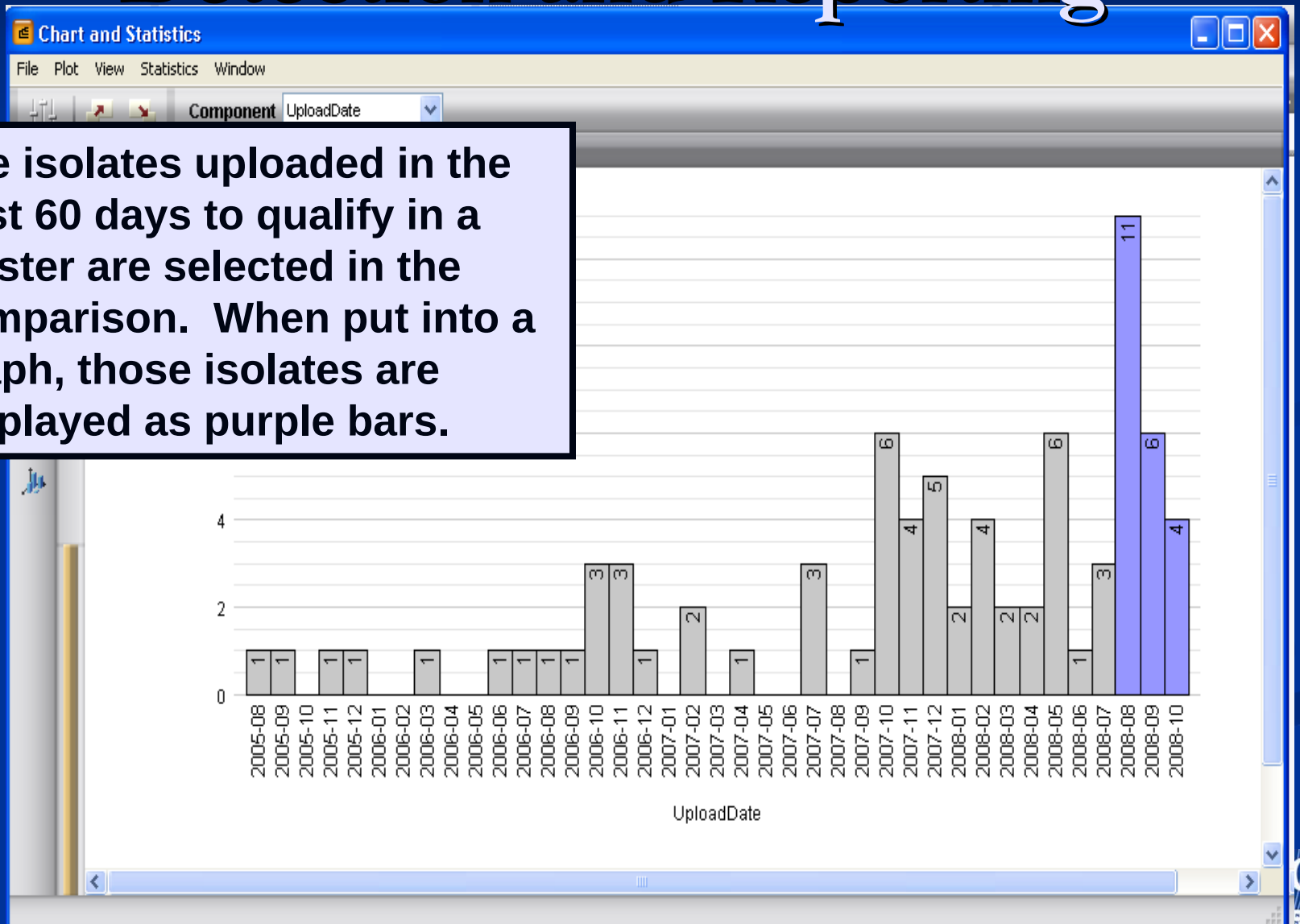


# Utility of Graphs in Cluster Detection and Reporting

- You are trying to decide if there is an increase in a certain pattern of *Salmonella* to post a cluster
  - Step 1: go to your main screen and search for all isolates assigned the pattern of interest and create a comparison
  - Step 2: select all current isolates in your comparison
  - Step 3: select charts and statistics, create a bar graph by upload data and select "date variable" by month

# Utility of Graphs in Cluster Detection and Reporting

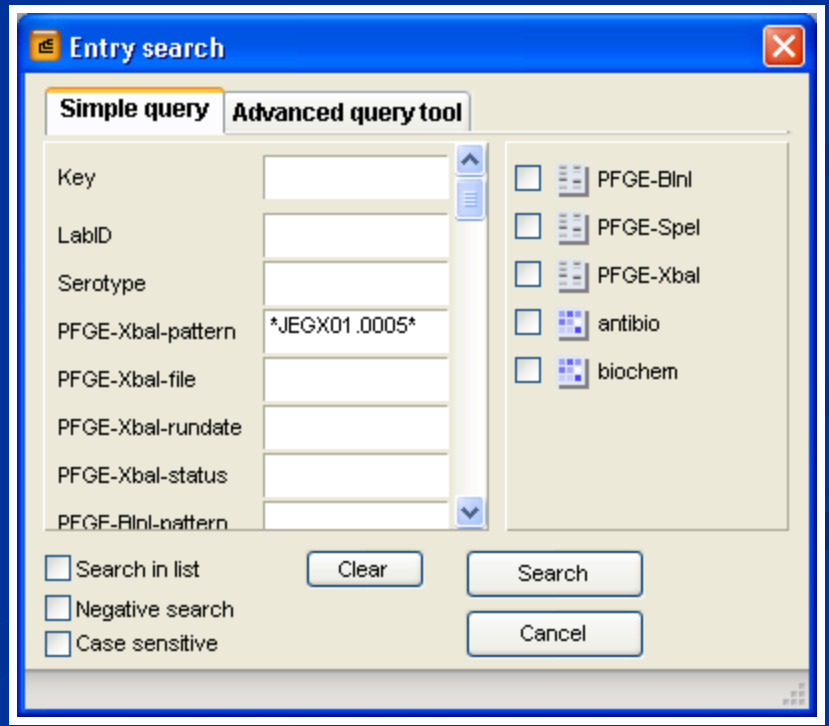
**The isolates uploaded in the past 60 days to qualify in a cluster are selected in the comparison. When put into a graph, those isolates are displayed as purple bars.**



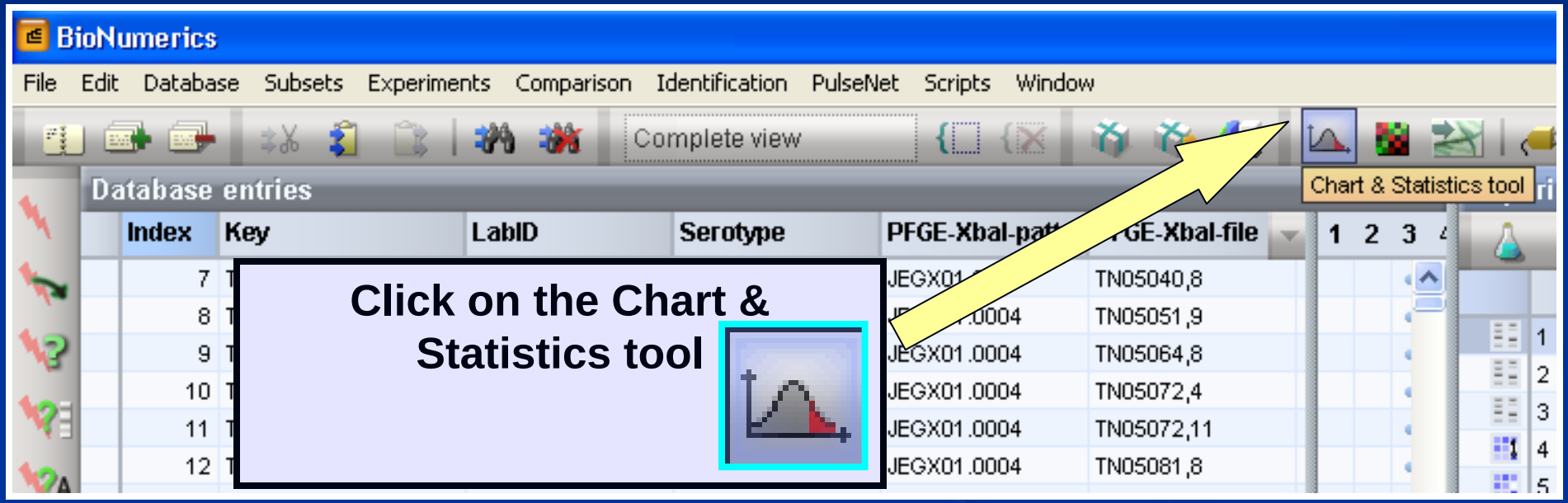
# Utility of Graphs in Cluster Detection and Reporting

- Your lab has seen a fair amount of *Salmonella* Enteritidis in the past few weeks and you want to see if this is an increase for a specific pattern
- You discern that your pattern is JEGX01.0005 based on your local database, and from downloading the CDC pattern name

**Search your database for pattern JEGX01.0005**

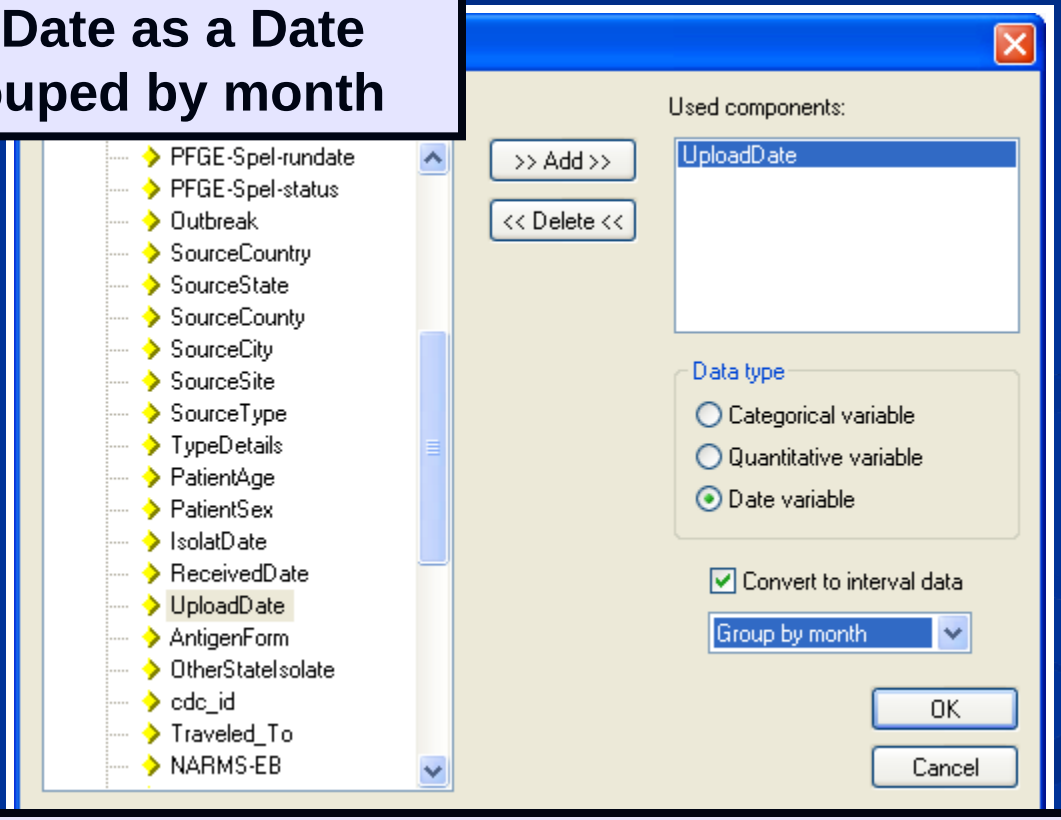


# Utility of Graphs in Cluster Detection and Reporting



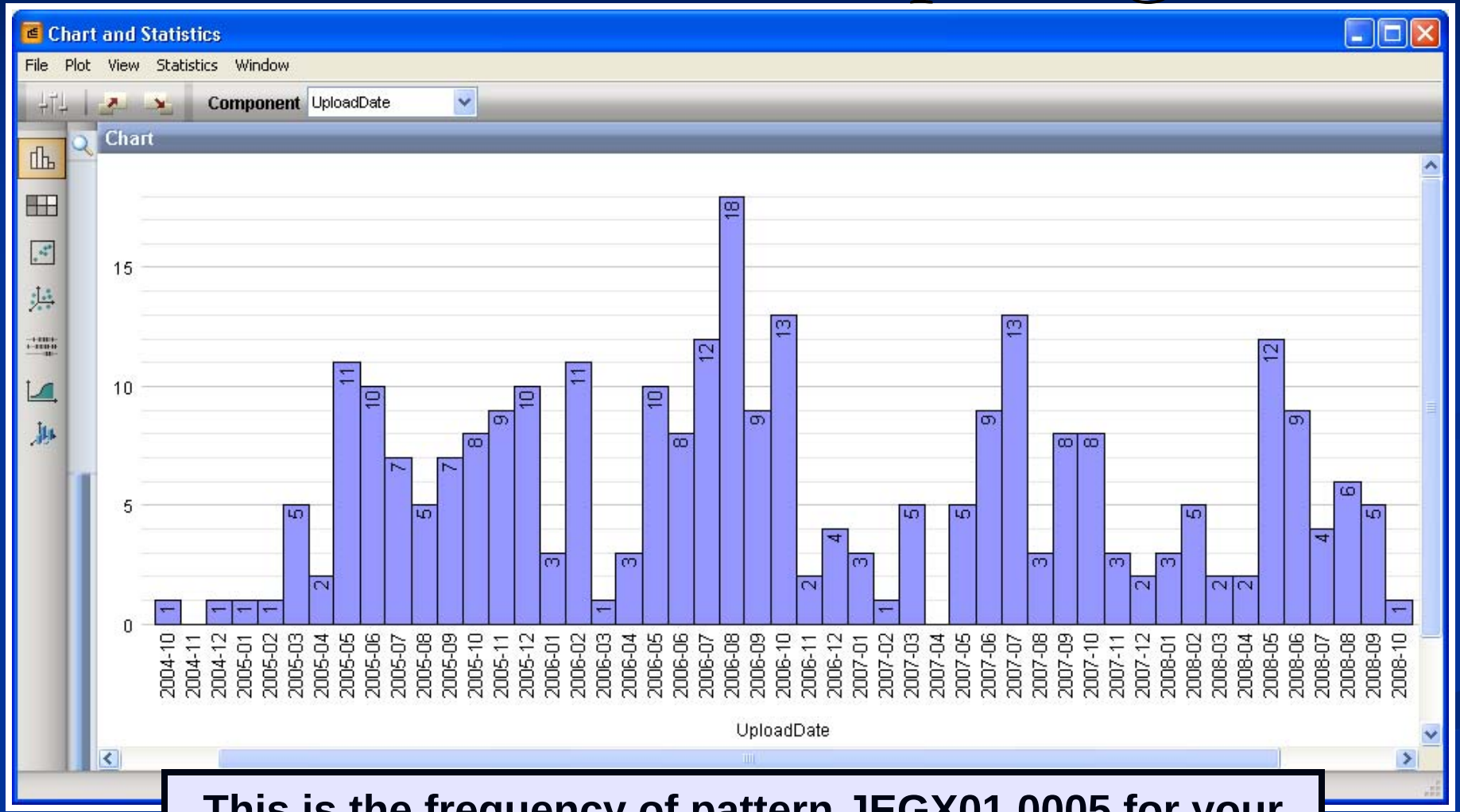
# Utility of Graphs in Cluster Detection and Reporting

**Add UploadDate as a Date variable grouped by month**




**Grouping by month gives a good visual for frequencies over longer periods of time. You can use day or week for shorter periods.**

# Utility of Graphs in Cluster Detection and Reporting




**This is the frequency of pattern JEGX01.0005 for your database…is this an increase in the past 60 days?**

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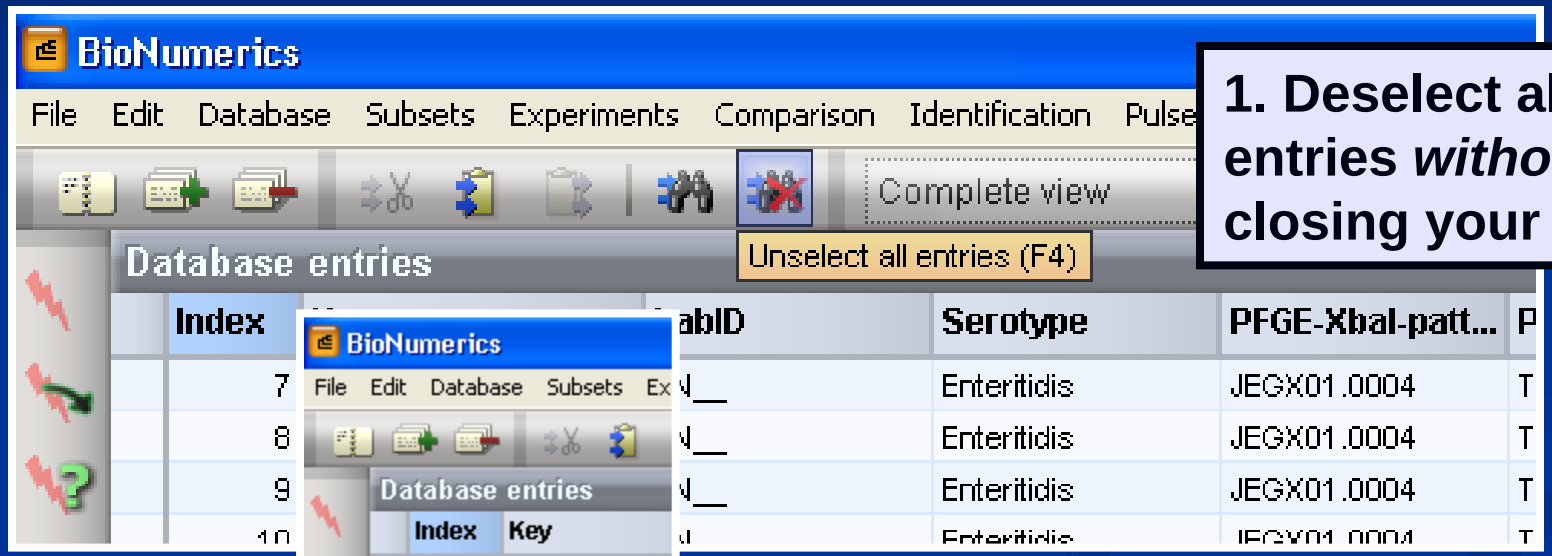



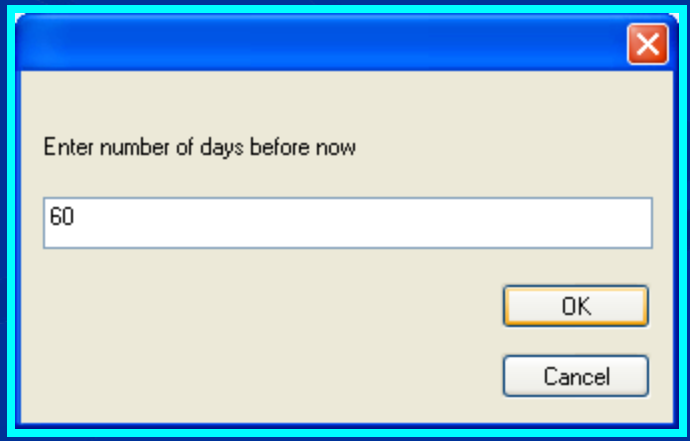

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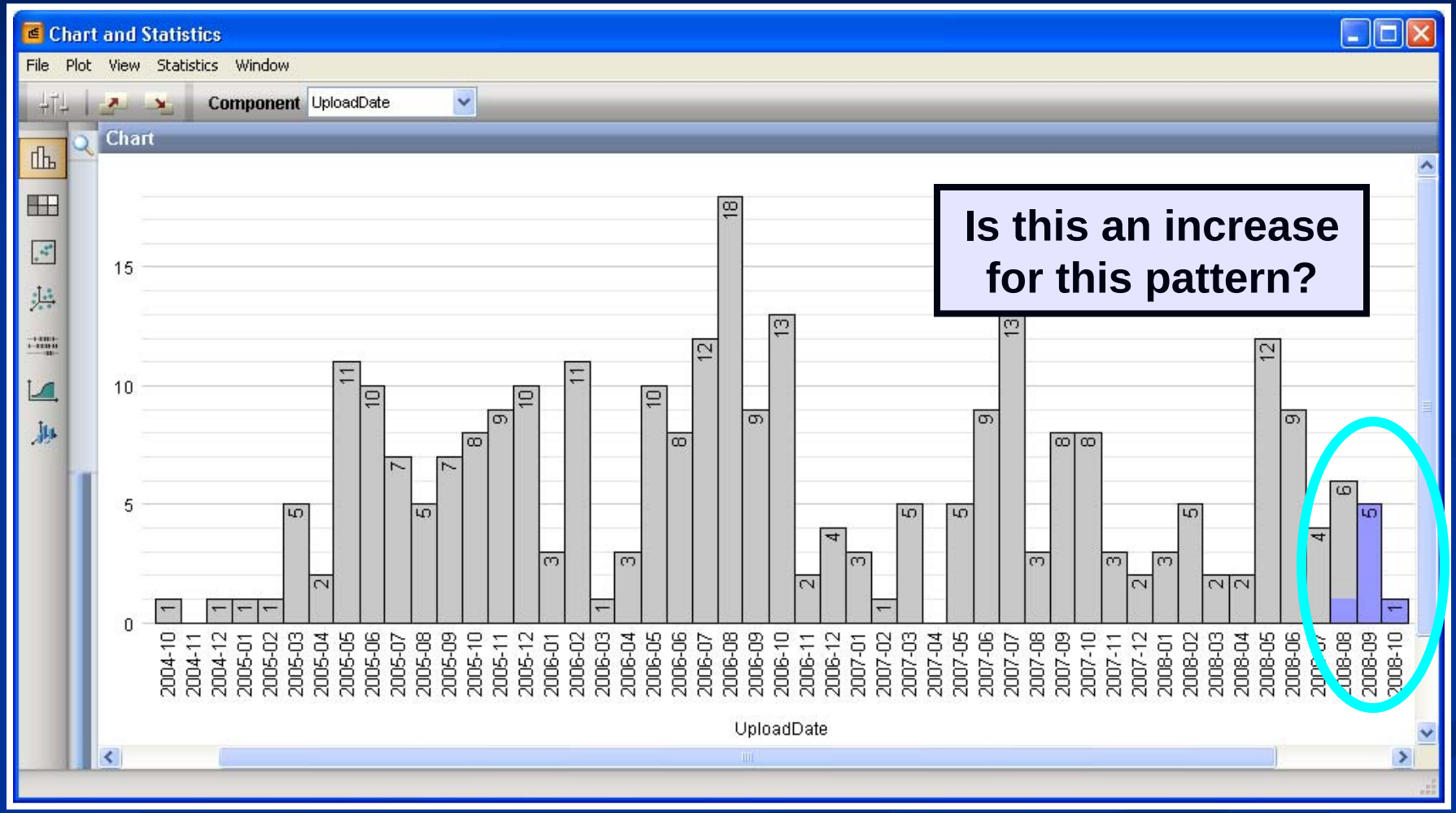


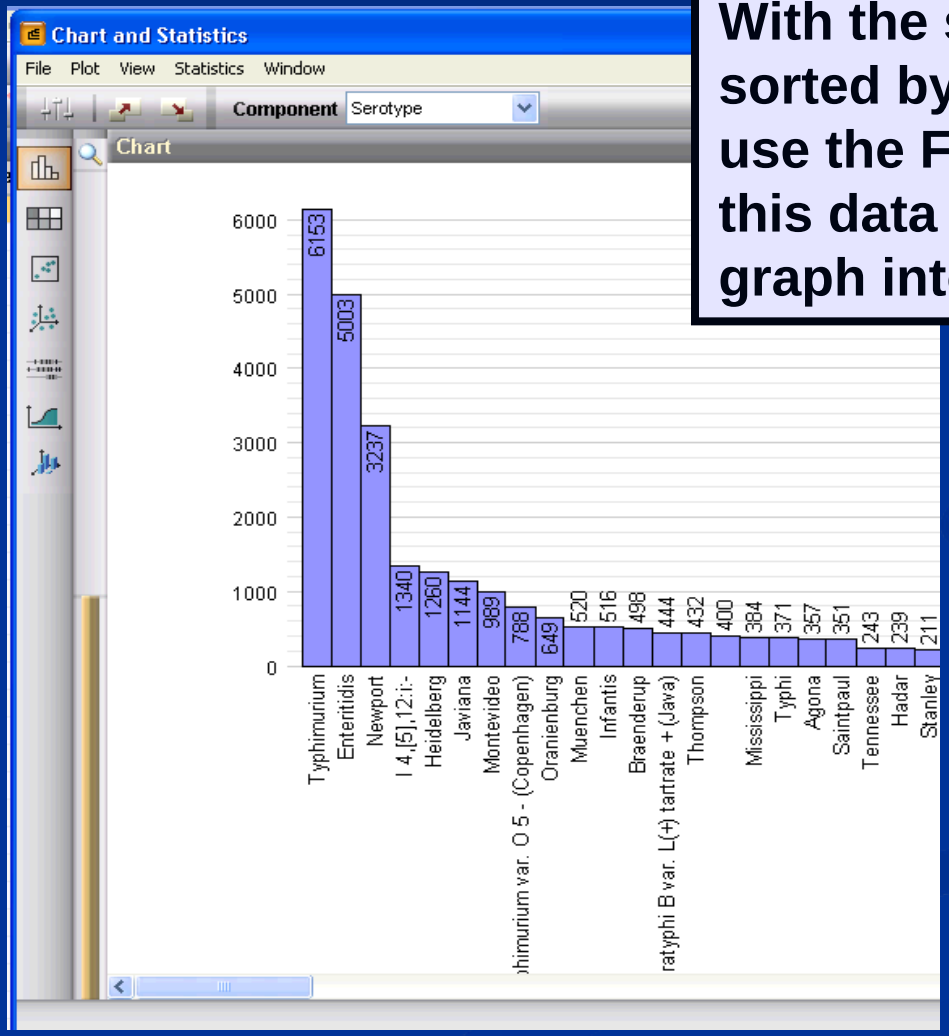

**Open your graph to see the past 60 days selected (in blue, all others grayed out)**

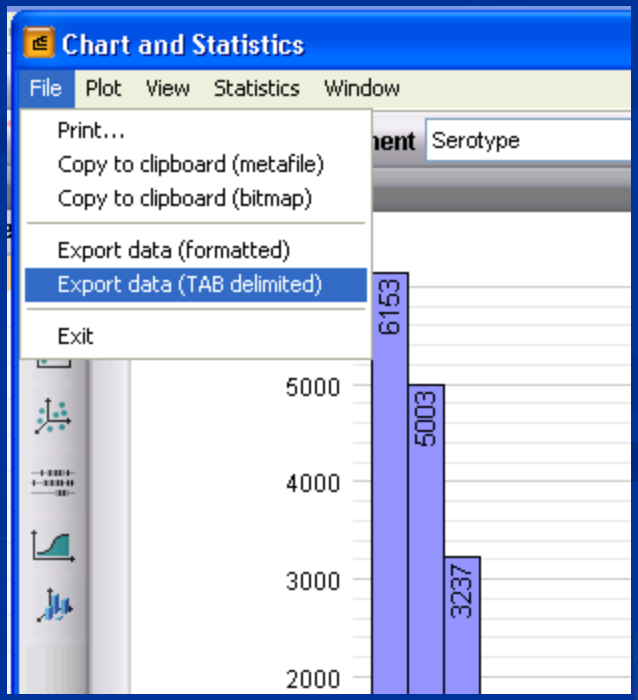
# Utility of Graphs in Cluster Detection and Reporting

- Your supervisor has asked how much of each *Salmonella* Serotype was analyzed in 2006
  - Step 1: go to your main screen and search for 2006 isolates and select the chart and statistics tool
  - Step 2: select "serotype" as the database component
  - Step 3: select "categorical variable"

# Utility of Graphs in Cluster Detection and Reporting

**With the serotype information sorted by frequency, you can use the File menu to export this data into excel or copy graph into power point…**



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# Questions?


**Thank you for your attention**

The findings and conclusions in this presentation are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention