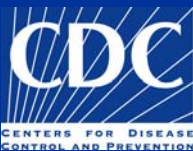


Importing & Exporting Data in BioNumerics



Beth McGlinchey

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Overview

- Import Demographic Information
 - Create ODBC Link
 - Download Data
- Export Data into Excel

Import Demographic Information

- What can be imported?
 - Data located in Microsoft Excel or Microsoft Access
 - Database fields (ex. patient age, source site)
 - Character data (antimicrobial profiles—not covered in this presentation)
 - Sequence data (not covered in this presentation)

Import Demographic Information

| Isolate Number | Serotype | Country | State | County | SourceSite | SourceType | PatientAge | PatientSex | IsolatDat |
|----------------|-------------------------------------|---------|-------|--------------|------------|------------|------------|------------|-----------|
| 07E01714 | Infantis | USA | PA | Philadelphia | Stool | Human | 25 | MALE | 9/6/2007 |
| 07E01715 | Saintpaul | USA | PA | Dauphin | Urine | Human | 63 | FEMALE | 9/6/2007 |
| 07E01716 | Agona | USA | PA | Lycoming | Stool | Human | 37 | FEMALE | 9/6/2007 |
| 07E01718 | Sandiego | USA | PA | Philadelphia | Stool | Human | 25 | FEMALE | 9/4/2007 |
| 07E01719 | Montevideo | USA | PA | Cumberland | Stool | Human | 40 | FEMALE | 9/4/2007 |
| 07E01720 | Typhimurium | USA | PA | Lancaster | Stool | Human | 42 | FEMALE | 9/6/2007 |
| 07E01721 | Typhimurium var. O 5 - (Copenhagen) | USA | PA | Berks | Stool | Human | 42 | MALE | 9/6/2007 |
| 07E01722 | Montevideo | USA | PA | Philadelphia | ankle bone | Human | 33 | MALE | 8/29/2007 |
| 07E01723 | Litchfield | USA | PA | Philadelphia | Stool | Human | 17 | FEMALE | 9/4/2007 |
| 07E01724 | Typhi | USA | PA | Lancaster | Blood | Human | 19 | MALE | 9/3/2007 |

First row of Excel should contain database field names (they do not have to be the same as those found in BioNumerics)

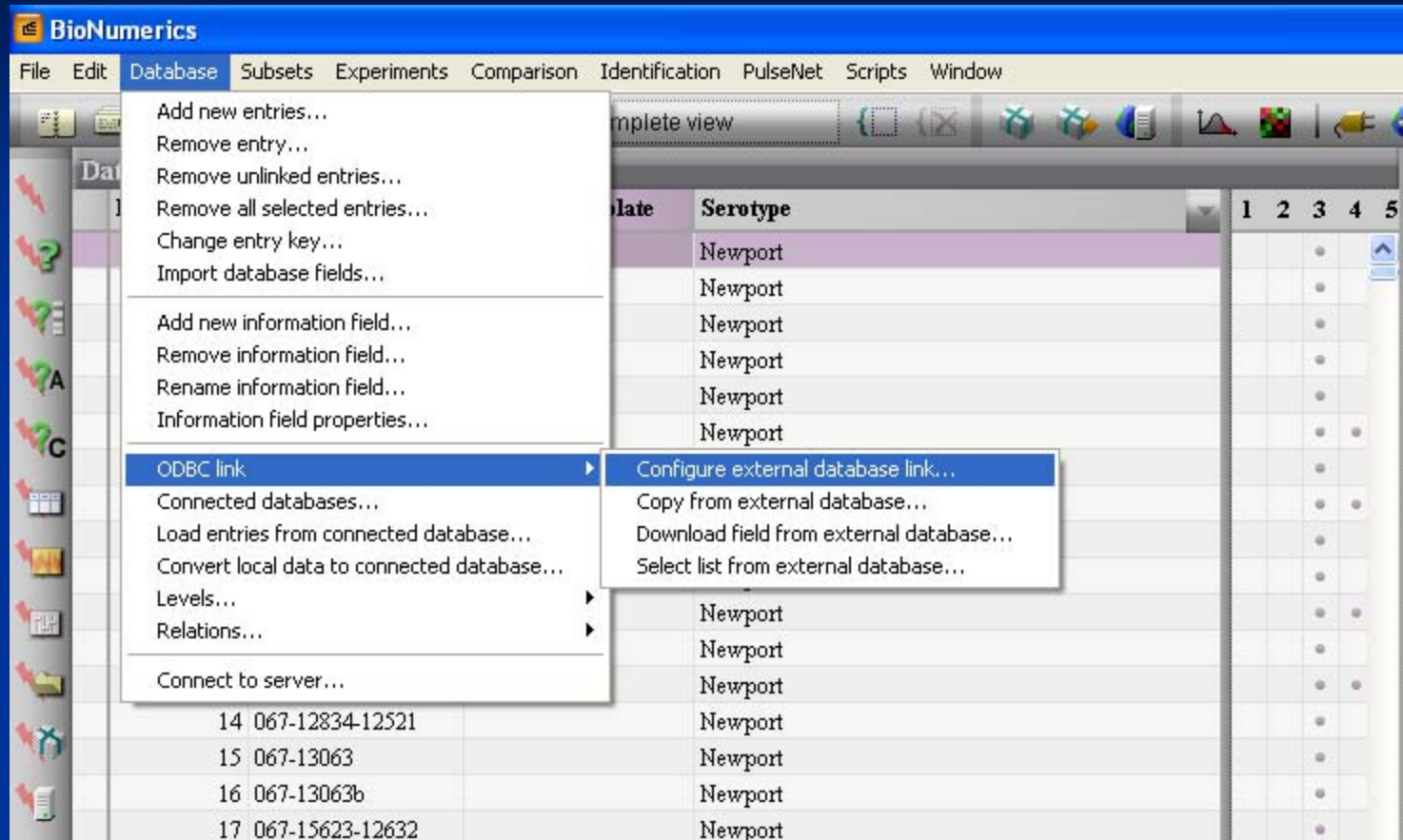
There must be a column containing isolate key numbers

Open the Excel file and note the name of the sheet (default: Sheet1)

Overview

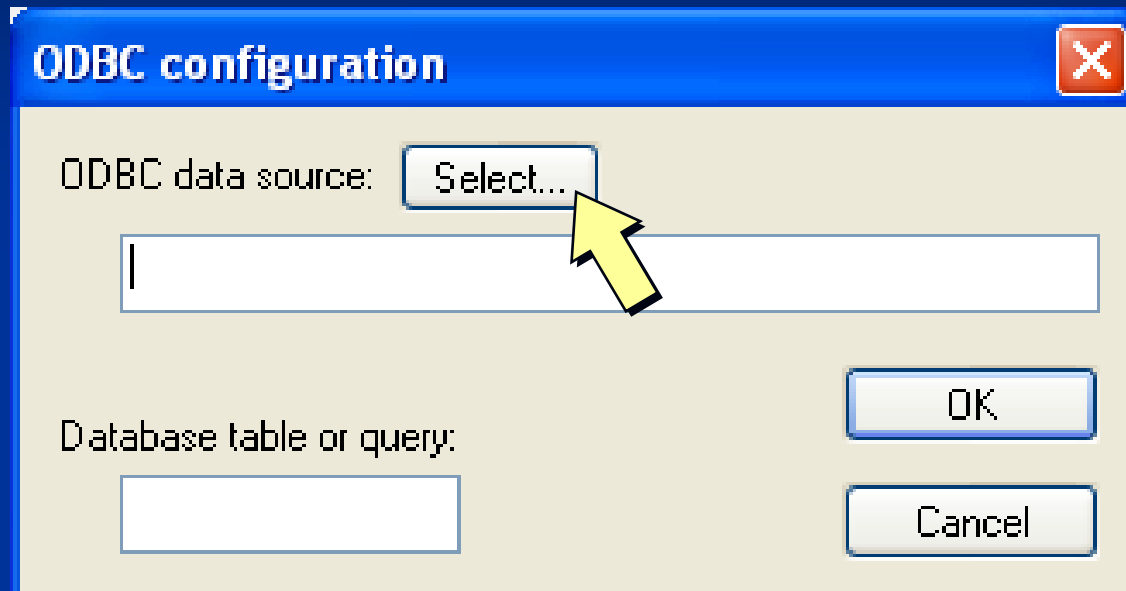
- Import Demographic Information
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Import: Create ODBC Link



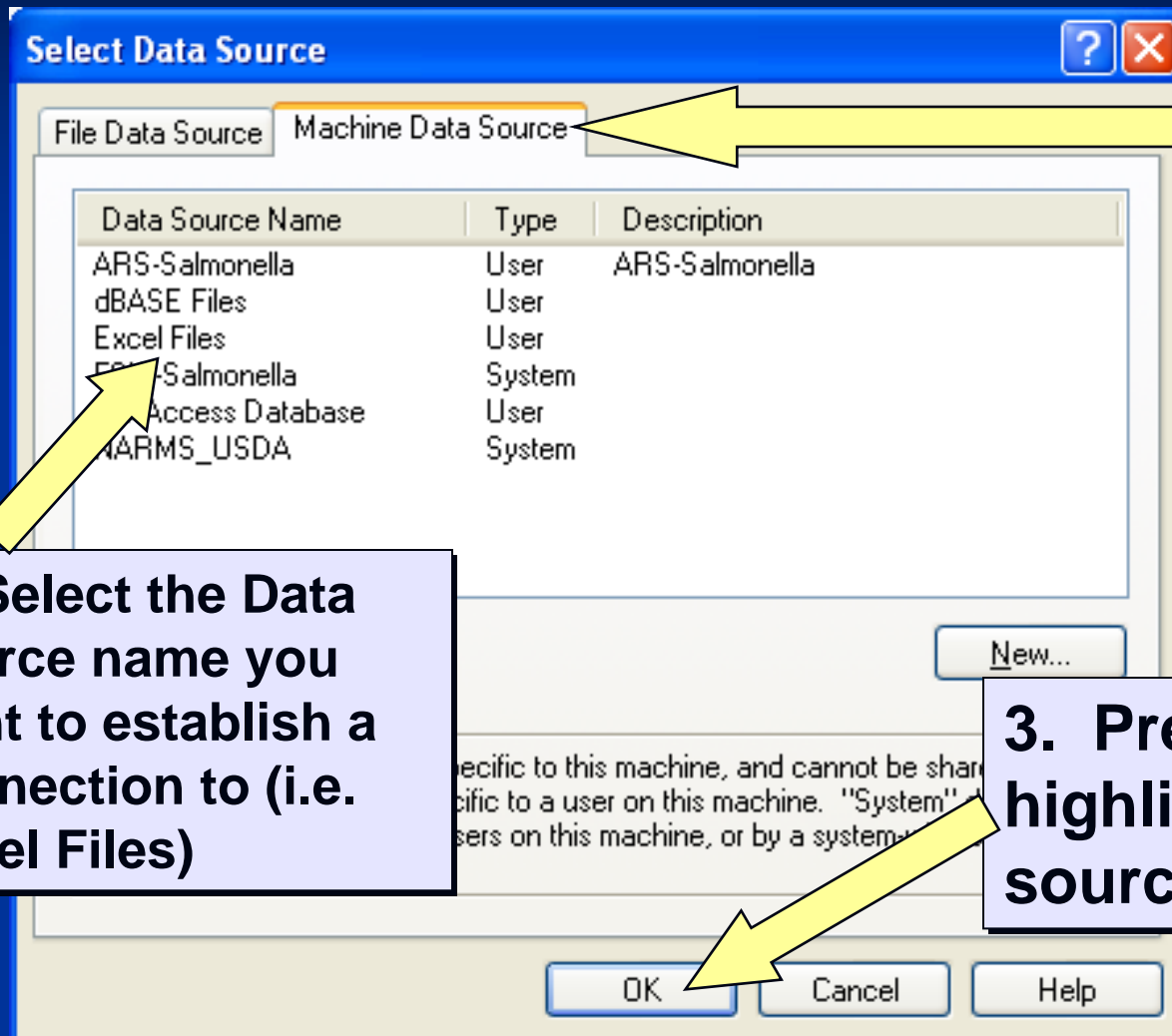
In the main screen of BioNumerics, select Database → ODBC link → Configure external database link...

Import: Create ODBC Link



Press “Select” to bring up the Windows ODBC configuration wizard

Import: Create ODBC Link

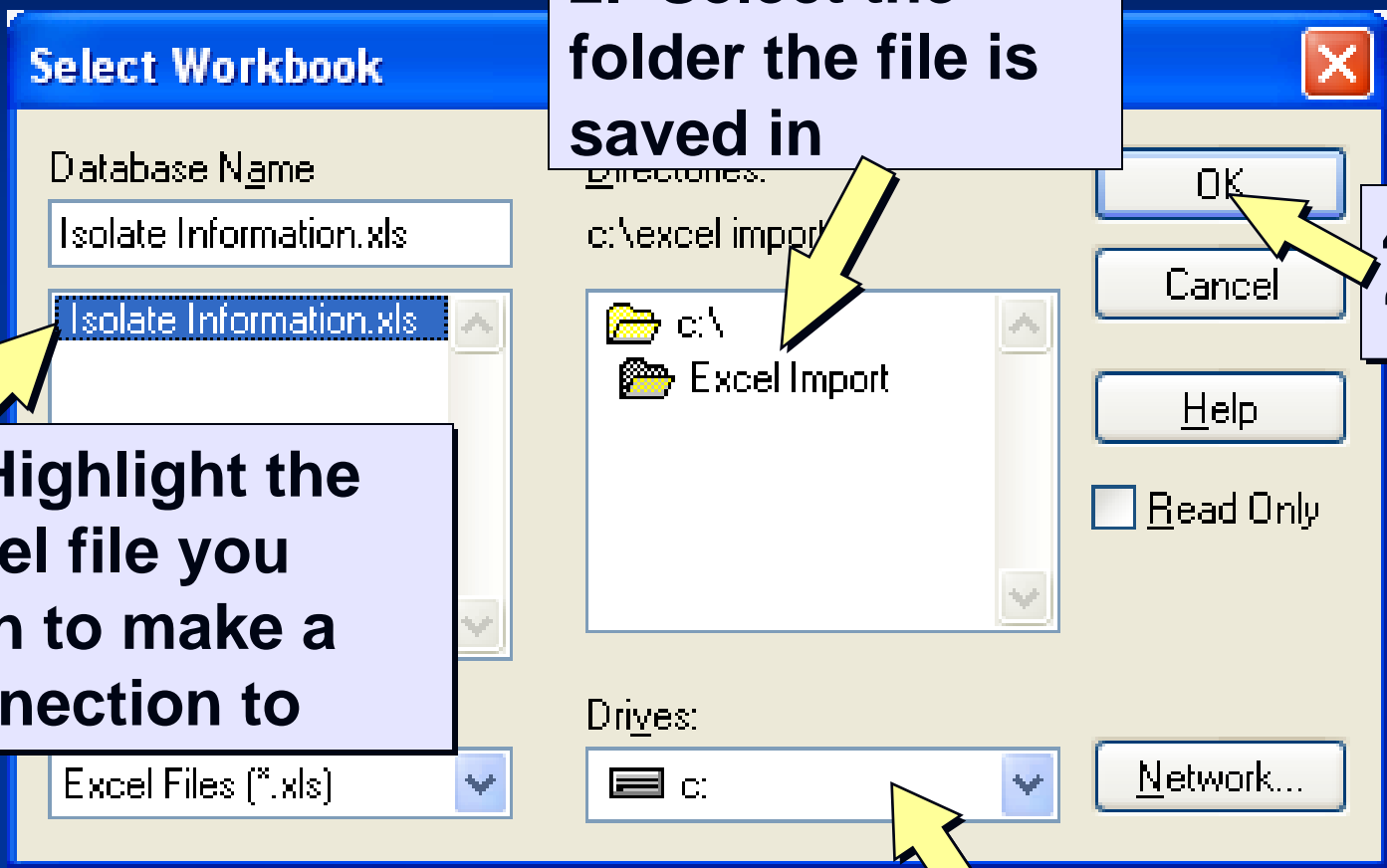


1. Select the Machine Data Source tab

2. Select the Data source name you want to establish a connection to (i.e. Excel Files)

3. Press "OK" after highlighting the data source name

Import: Create ODBC Link



2. Select the folder the file is saved in

4. Press "OK"

3. Highlight the Excel file you wish to make a connection to

1. Navigate to the appropriate drive (i.e. desktop)

Import: Create ODBC Link

ODBC configuration

ODBC data source:

DSN=Excel Files;DBQ=C:\Excel Import\Isolate Information.

Database table or query:

2. Press "OK"

1. Enter the name of the sheet with a '\$' sign added (ex. sheet1\$)

Import: Create ODBC Link

ODBC database import

| BioNumerics | External database |
|-------------|-------------------|
| Key | Isolate Number |
| LabID | |
| PatientAge | Patient Age |
| PatientSex | |
| UploadDate | |
| Serotype | |
| SourceType | |
| SourceSite | |

Link Ok

Unlink Cancel

1. Select a BioNumerics field in the left column and the corresponding Excel field in the right column

2. Press "Link" when both fields are highlighted

Import: Create ODBC Link

ODBC database import

| BioNumerics | External database |
|-------------|-------------------|
| Key | Isolate Number |
| LabID | |
| PatientAge | Patient Age |
| PatientSex | |
| UploadDate | |
| Serotype | Serotype |
| SourceType | |
| SourceSite | |

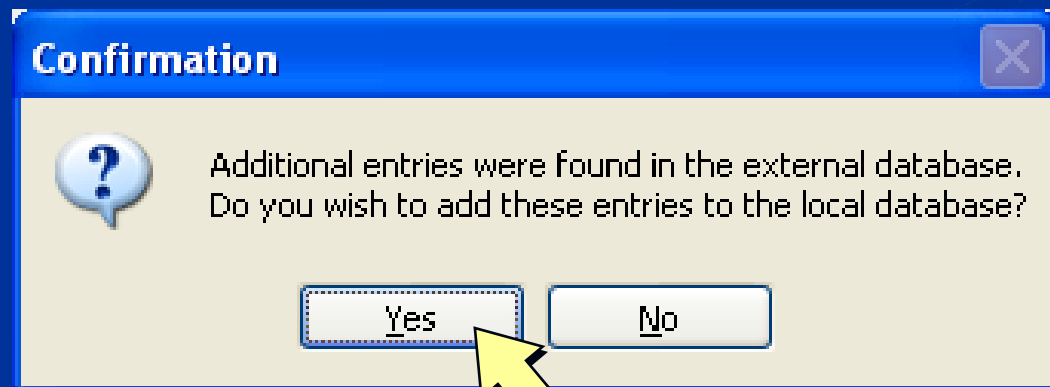
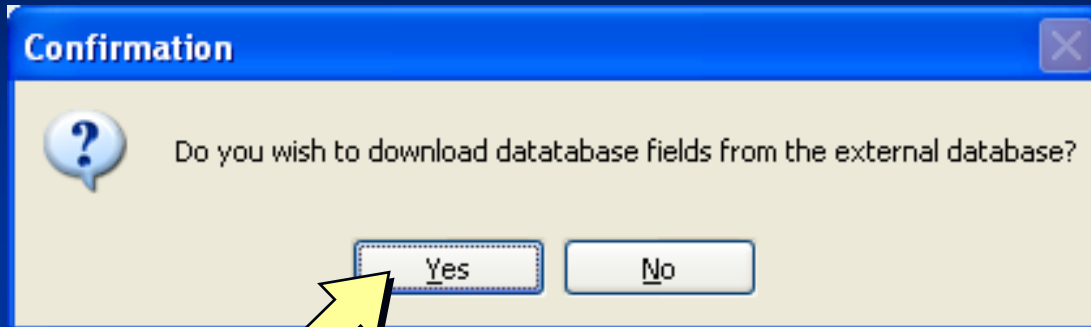
Link Unlink Ok Cancel

Press "OK"
after all
appropriate
fields are
linked

Overview


- Import Demographic Information
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 - Download Data
- Export Data into Excel

Import: Download Data



Now the data from Excel is present in your BioNumerics database!

Import Data into BioNumerics

- Link imported isolates to the appropriate lane on the analyzed gel
- Check for spelling errors for serotype and demographic information
- Click on  to make sure:
 - No extra spaces
 - No spelling errors
 - Information matches the pull-down menus
 - Information is in the proper format
 - i.e. YYYY-MM-DD date format and 00:00:00 does NOT appear after the date
- Download can be performed each time the excel file is modified

Overview

- Import Demographic Information
 - Create ODBC Link
 - Download Data
- Export Data into Excel

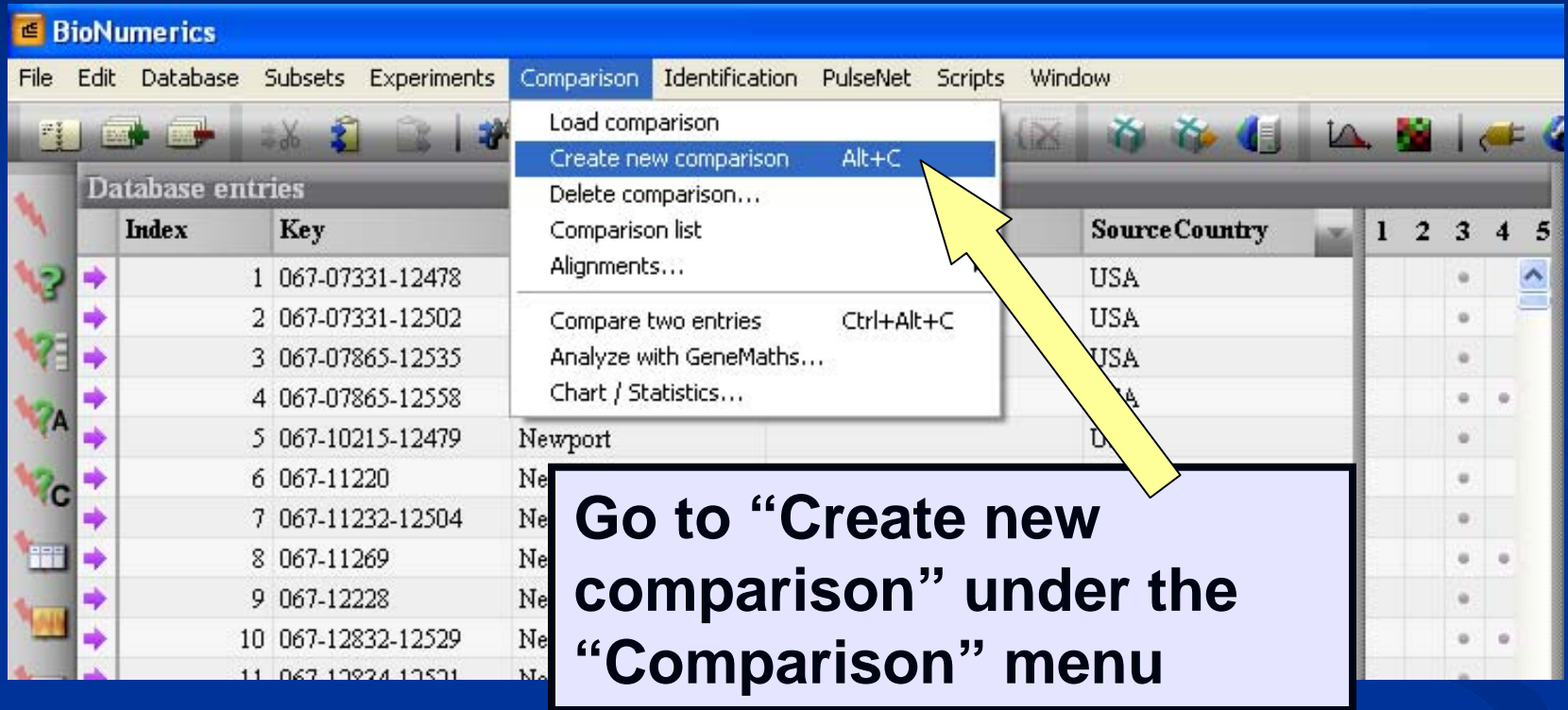
Export Data into Excel

- Manually select isolates or select isolates by query (i.e., isolates that are in cluster 0901NYJJP-1) that you want to export into Microsoft Excel

The screenshot shows the 'nerics' database interface. The main window displays a table of database entries with columns for Index, Key, Serotype, LabID, and SourceCountry. An 'Entry search' dialog box is open, showing a search interface with two tabs: 'Simple query' and 'Advanced query tool'. The 'Outbreak' field in the search dialog is highlighted with a yellow arrow and contains the value '0901NYJJP-1'. The search dialog also includes fields for SourceCountry, SourceCity, Traveled_To, Exposure, Phagetype, PatientAge, PatientSex, OGroup, PFGE-Blnl-status, cdc_id, Status, NARMS-EB, FoodNet, PFGE-XbaI-pattern, PFGE-SpeI-status, and PFGE-XbaI-status. There are checkboxes for 'Search in list', 'Negative search', and 'Case sensitive', along with 'Clear', 'Search', and 'Cancel' buttons.

| Index | Key | Serotype | LabID | SourceCountry |
|-------|---------------------|--------------------|-------|---------------|
| 1 | ARS_056-83515 | Newport | | |
| 2 | ARS_067-06257 | Newport | | |
| 3 | ARS_067-07331-12478 | Newport | | |
| 4 | ARS_067-07331-12502 | Newport | | |
| 5 | ARS_067-07865-12535 | Newport | | |
| 6 | ARS_067-07865-12558 | Newport | | |
| 7 | ARS_067-10215-12479 | Newport | | |
| 8 | ARS_067-10842-1823 | Newport | | |
| 9 | ARS_067-11220 | Newport | | |
| 10 | ARS_067-11232-12504 | Newport | | |
| 11 | ARS_067-11269 | Newport | | |
| 12 | ARS_067-12228 | Newport | | |
| 13 | ARS_067-12832-12529 | Newport | | |
| 14 | ARS_067-12834-12521 | Newport | | |
| 15 | ARS_067-13063 | Newport | | |
| 16 | ARS_067-13063b | Newport | | |
| 17 | ARS_067-15623-12632 | Newport | | |
| 18 | ARS_100060 | Gaminara | | |
| 19 | ARS_100093 | Braenderup | | |
| 20 | ARS_100195 | Uganda | | |
| 21 | ARS_100220 | Newport | | |
| 22 | ARS_100225 | Anatum | | |
| 23 | ARS_10037 | Enteritidis | | |
| 24 | ARS_1005 | Untypable | | |
| 25 | ARS_1006 | IV 11 z4,z23:- (Pe | | |
| 26 | ARS_10062 | Heidelberg | | |
| 27 | ARS_10066 | Typhimurium var | | |
| 28 | ARS_10067 | Typhimurium | | |
| 29 | ARS_10077-NVSL04 | Brandenburg | | |
| 30 | ARS_100929A | Miami | | |

Create New Comparison

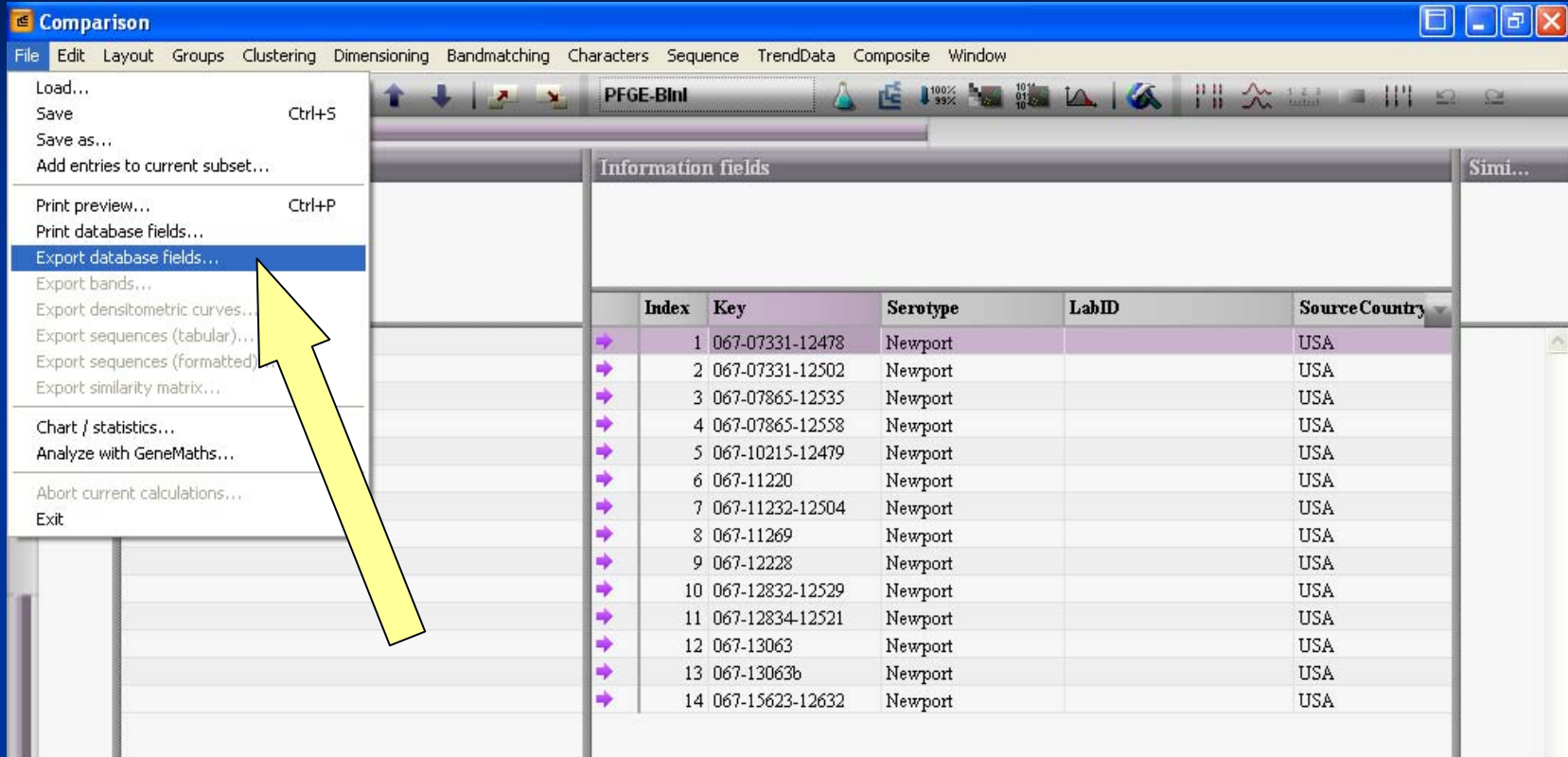


The screenshot shows the BioNumerics software interface. The 'Comparison' menu is open, and the 'Create new comparison' option is highlighted in blue. A yellow arrow points from a text box to this option. The background shows a table of database entries with columns for Index, Key, and Source Country.

| Index | Key | Source Country |
|-------|-----------------|----------------|
| 1 | 067-07331-12478 | USA |
| 2 | 067-07331-12502 | USA |
| 3 | 067-07865-12535 | USA |
| 4 | 067-07865-12558 | USA |
| 5 | 067-10215-12479 | USA |
| 6 | 067-11220 | USA |
| 7 | 067-11232-12504 | USA |
| 8 | 067-11269 | USA |
| 9 | 067-12228 | USA |
| 10 | 067-12832-12529 | USA |
| 11 | 067-12834-12531 | USA |

Go to “Create new comparison” under the “Comparison” menu

Export Data into Excel



The screenshot shows the BioNumerics software interface in the 'Comparison' window. The 'File' menu is open, and the 'Export database fields...' option is highlighted. A yellow arrow points to this option. The main window displays a table of data with the following columns: Index, Key, Serotype, LabID, and Source Country. The table contains 14 rows of data, all with 'USA' as the source country.

| Index | Key | Serotype | LabID | Source Country |
|-------|-----------------|----------|-------|----------------|
| 1 | 067-07331-12478 | Newport | | USA |
| 2 | 067-07331-12502 | Newport | | USA |
| 3 | 067-07865-12535 | Newport | | USA |
| 4 | 067-07865-12558 | Newport | | USA |
| 5 | 067-10215-12479 | Newport | | USA |
| 6 | 067-11220 | Newport | | USA |
| 7 | 067-11232-12504 | Newport | | USA |
| 8 | 067-11269 | Newport | | USA |
| 9 | 067-12228 | Newport | | USA |
| 10 | 067-12832-12529 | Newport | | USA |
| 11 | 067-12834-12521 | Newport | | USA |
| 12 | 067-13063 | Newport | | USA |
| 13 | 067-13063b | Newport | | USA |
| 14 | 067-15623-12632 | Newport | | USA |

In the comparison screen of BioNumerics, select File → Export database fields

Export Data into Excel

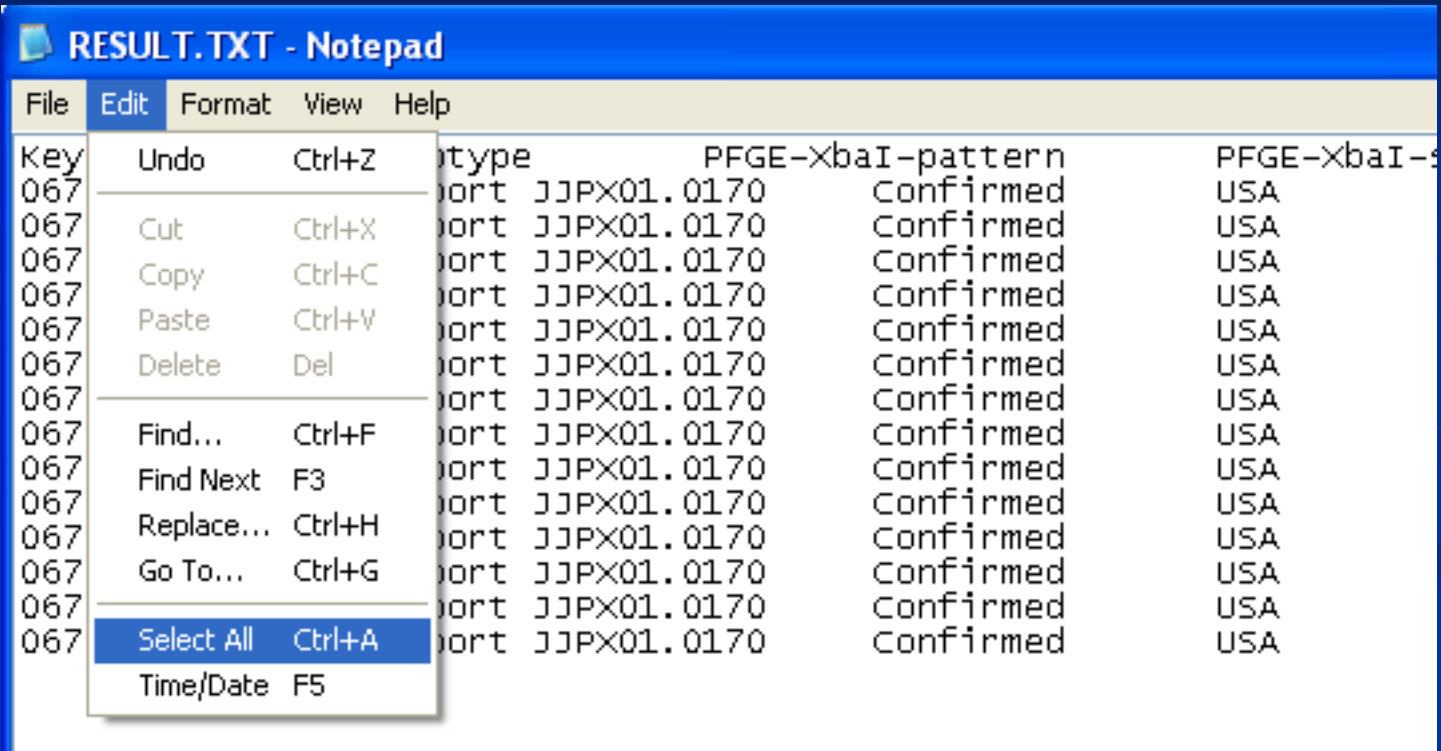
The screenshot shows a software window titled "Comparison" with a menu bar (File, Edit, Layout, Groups, Clustering, Dimensioning, Bandmatching, Characters, Sequence, TrendData, Composite, Window) and a toolbar. The main area is divided into three panes: "Experiment data", "Information fields", and "Simi...". The "Information fields" pane contains a table with the following data:

| Index | Key | Serotype | LabID | SourceCountry |
|-------|-----------------|----------|-------|---------------|
| 1 | 067-07331-12478 | Newport | | USA |
| 2 | 067-07331-12478 | Newport | | USA |
| 3 | 067-07331-12478 | Newport | | USA |
| 4 | 067-07331-12478 | Newport | | USA |
| 5 | 067-07331-12478 | Newport | | USA |
| 6 | 067-07331-12478 | Newport | | USA |
| 7 | 067-07331-12478 | Newport | | USA |
| 8 | 067-07331-12478 | Newport | | USA |
| 9 | 067-07331-12478 | Newport | | USA |
| 10 | 067-07331-12478 | Newport | | USA |
| 11 | 067-07331-12478 | Newport | | USA |
| 12 | 067-07331-12478 | Newport | | USA |
| 13 | 067-07331-12478 | Newport | | USA |
| 14 | 067-07331-12478 | Newport | | USA |

A dialog box titled "Use tab-delimited fields?" is overlaid on the table. It contains a question mark icon and the text "Use tab-delimited fields?". There are two buttons: "Yes" and "No". A yellow arrow points from the "Yes" button to a text box below the screenshot.

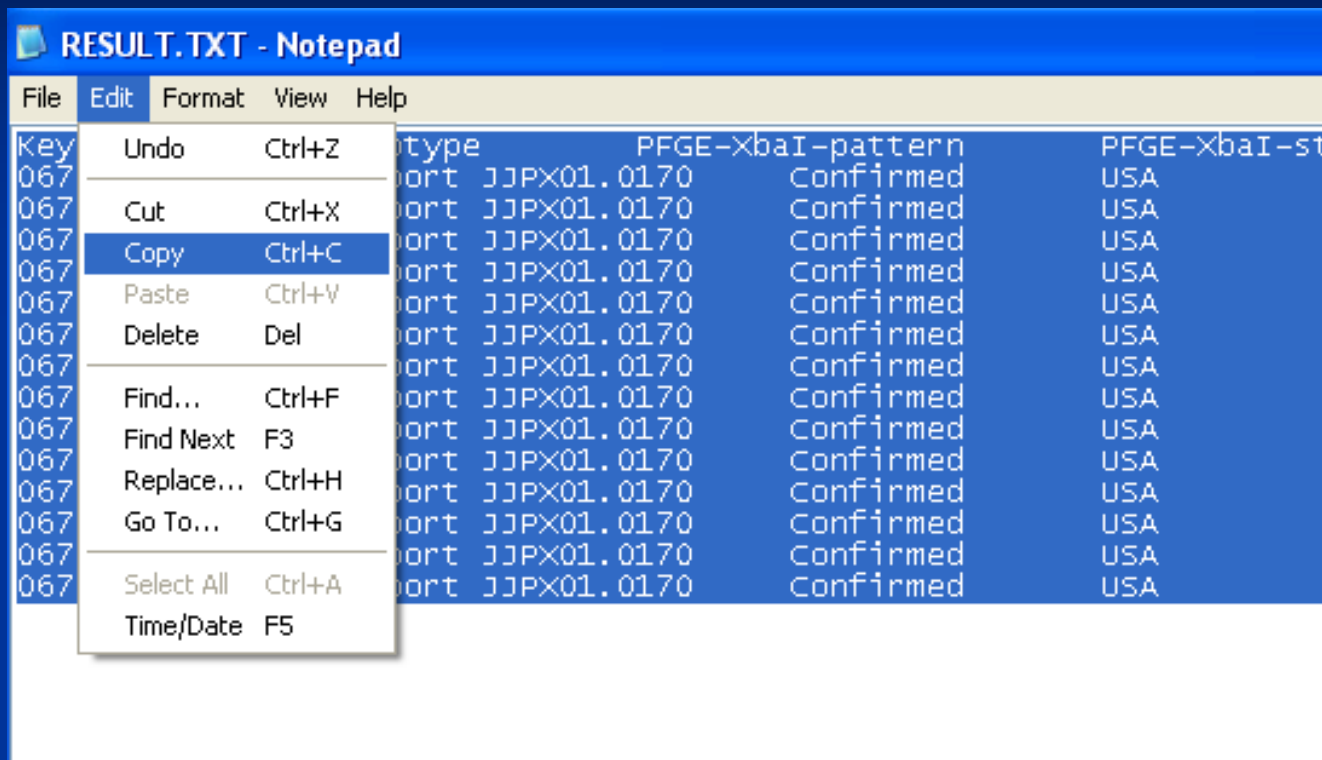
Press "Yes"

Export Data into Excel



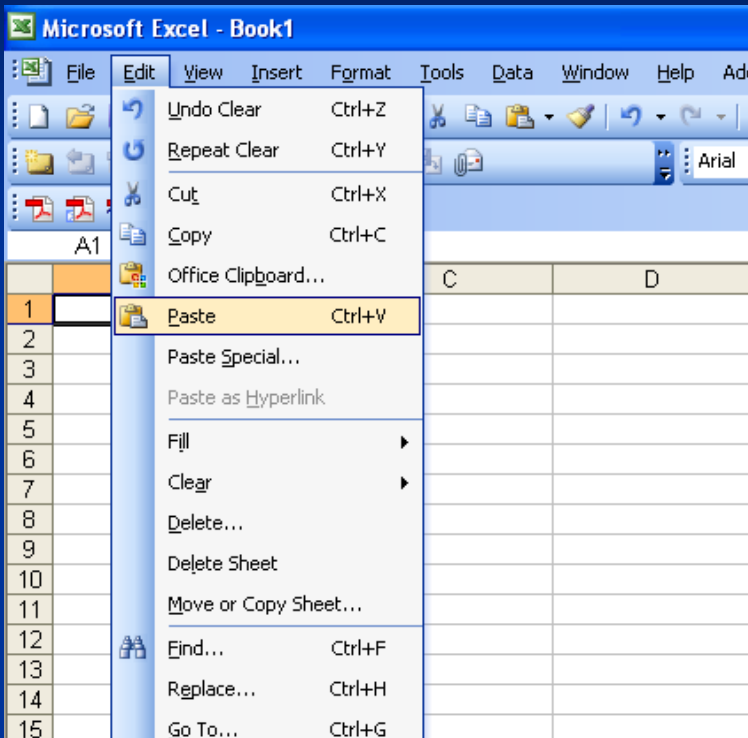
Select Edit → Select All

Export Data into Excel



Select Edit → Copy

Export Data into Excel



**In an Excel file,
Select Edit → Paste**

A screenshot of the Microsoft Excel application window titled "Microsoft Excel - Book1". The spreadsheet area displays a table with the following data:

| | A | B | C | D | E | F |
|----|-----------------|----------|-------------------|------------------|---------------|--------------|
| 1 | Key | Serotype | PFGE-Xbal-pattern | PFGE-Xbal-status | SourceCountry | ReceivedDate |
| 2 | 067-07331-12478 | Newport | JJPD1.0170 | Confirmed | USA | 9/21/2006 |
| 3 | 067-07331-12502 | Newport | JJPD1.0170 | Confirmed | USA | 9/21/2006 |
| 4 | 067-07865-12535 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 5 | 067-07865-12558 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 6 | 067-10215-12479 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 7 | 067-11220 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 8 | 067-11232-12504 | Newport | JJPD1.0170 | Confirmed | USA | 9/21/2006 |
| 9 | 067-11269 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 10 | 067-12228 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 11 | 067-12832-12529 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |
| 12 | 067-12834-12521 | Newport | JJPD1.0170 | Confirmed | USA | 8/31/2006 |

Summary

- Imported Demographic Information
 - Created ODBC Link
 - Downloaded Data
- Exported Data into Excel

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