How to Collect and Use Data in Excel

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Texas Juvenile Probation Commission

Data Coordinators' Conference 2008

Goals

- To be able to gather and organize information in Excel
- To be able to perform basic analysis of data in Excel
- To be able to effectively present information in charts

Why Use Excel

- Most computers have Microsoft Office
- Excel is capable of managing a relatively large amount of information which should be suitable for most departments
- It is fairly easy to perform basic analysis using Excel

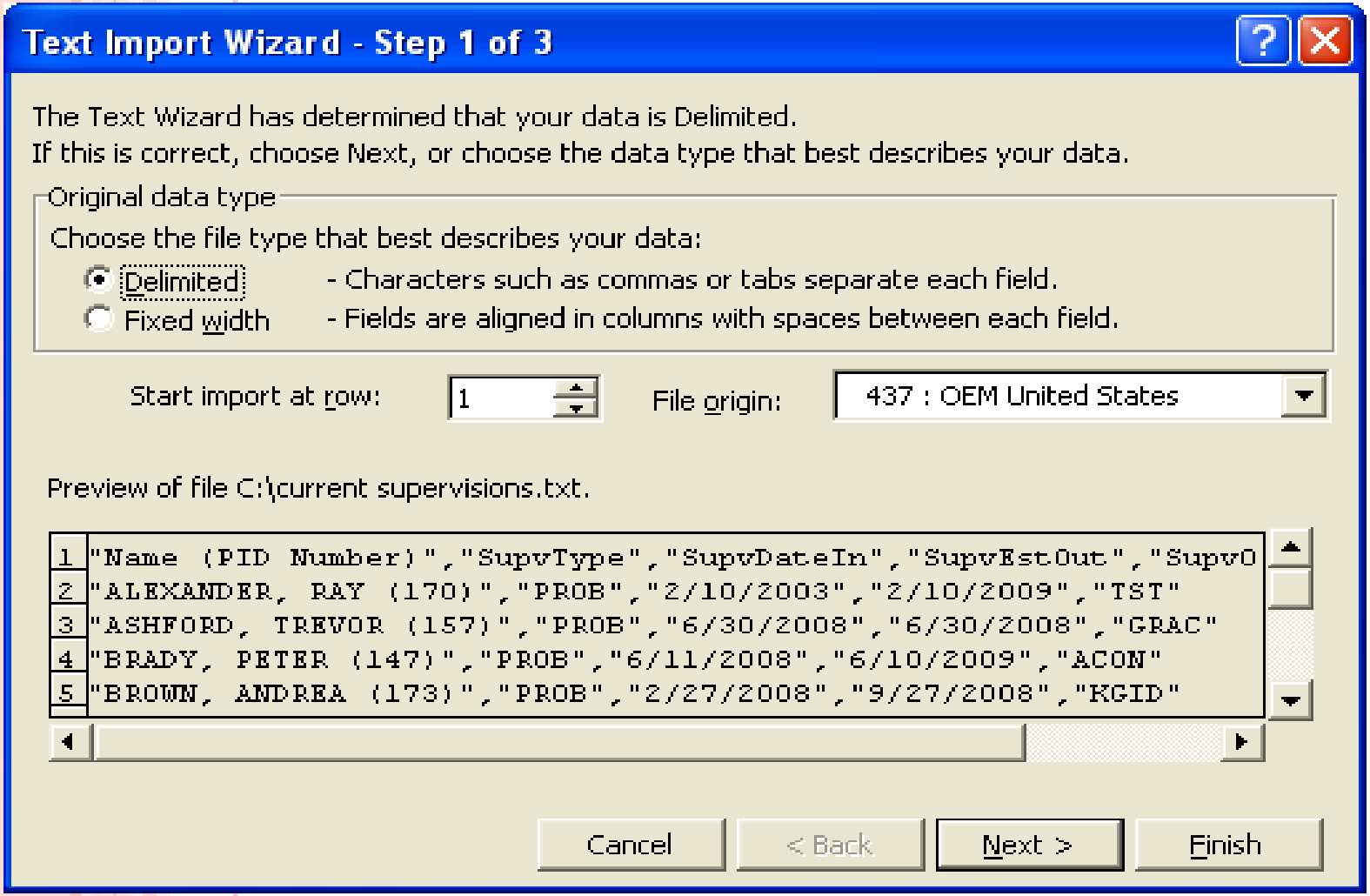
Managing Information

- Extract from Caseworker
- Entering by hand

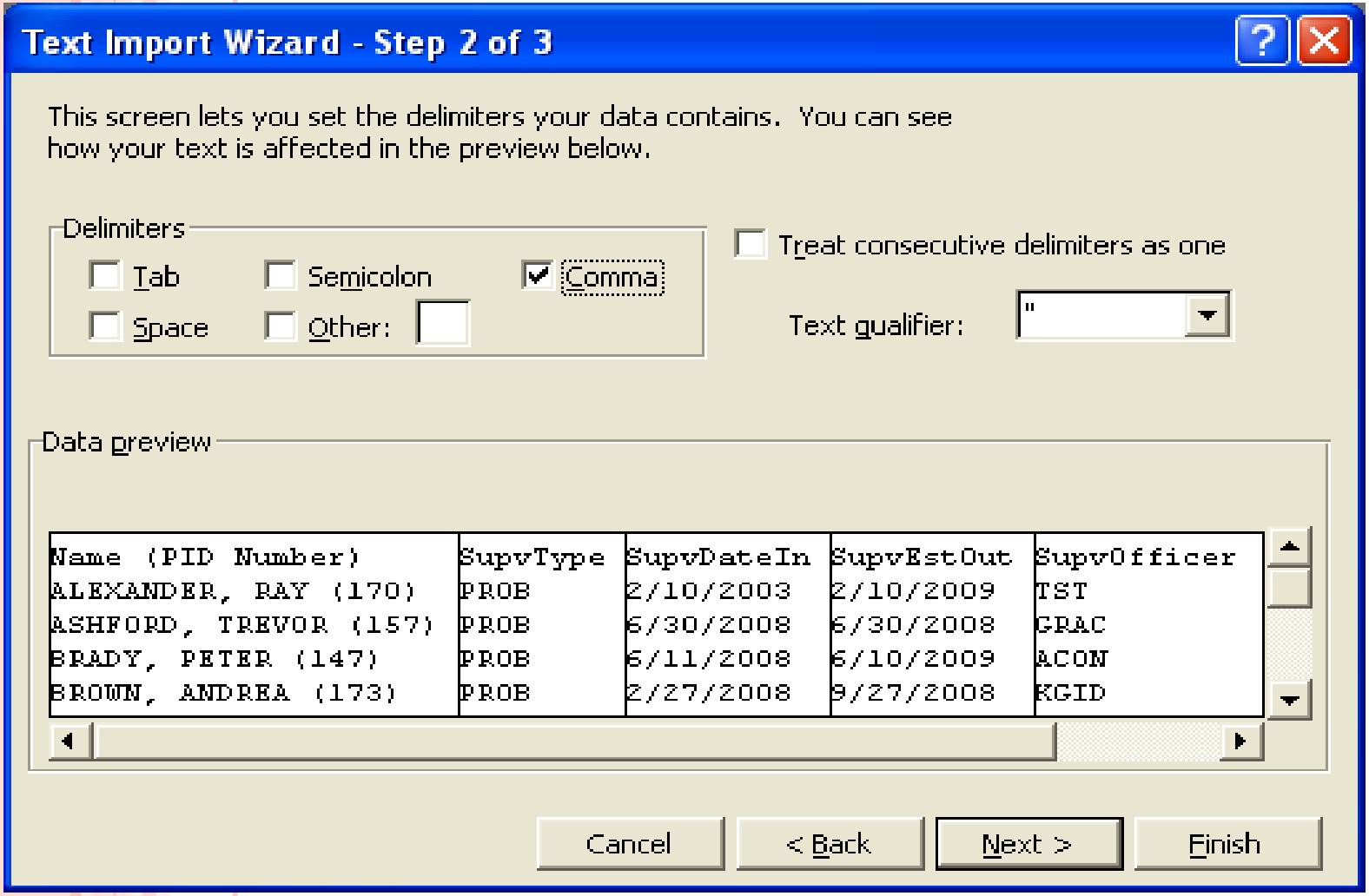
Extracting from Caseworker

- **<u>Create Output File</u>**
- Sneak-a-Peek results saved to a text file can be pulled into an Excel table.
  - Run a Sneak-a-Peek report.
  - At the Results Screen, select Create Output File. This will open the Save As box.
  - Name the file, and save it as a txt file. The default is to save the file on the Local Disk (C:)
  - Open Microsoft Excel.
  - Click File. Click Open.
  - Open the .txt file. When looking for the txt file, make sure to include All Files in the Files of Type box.
- The Text Import Wizard will open.
  - Ensure that Delimited is checked and click Next

Extracting from Caseworker



Extracting from Caseworker



Extracting from Caseworker

- The data in this txt file is separated by commas, therefore, change the Delimiters from Tab to Comma and click Next.
- At the last screen of the Text Import Wizard, click Finish to import the information into the table.
- Once the data is in the table, click the empty box in the upper left corner to highlight the entire table.
- Double click the line between two of the columns (A and B). This will automatically format the width of each column.
- When saving this file, change the extension from .txt to .xls.

Input by hand

- You can also choose to input information yourself
- You would do this if you were interested in tracking information that may not be kept in Caseworker
- This would also be useful if you would like to keep a readily accessible source of information

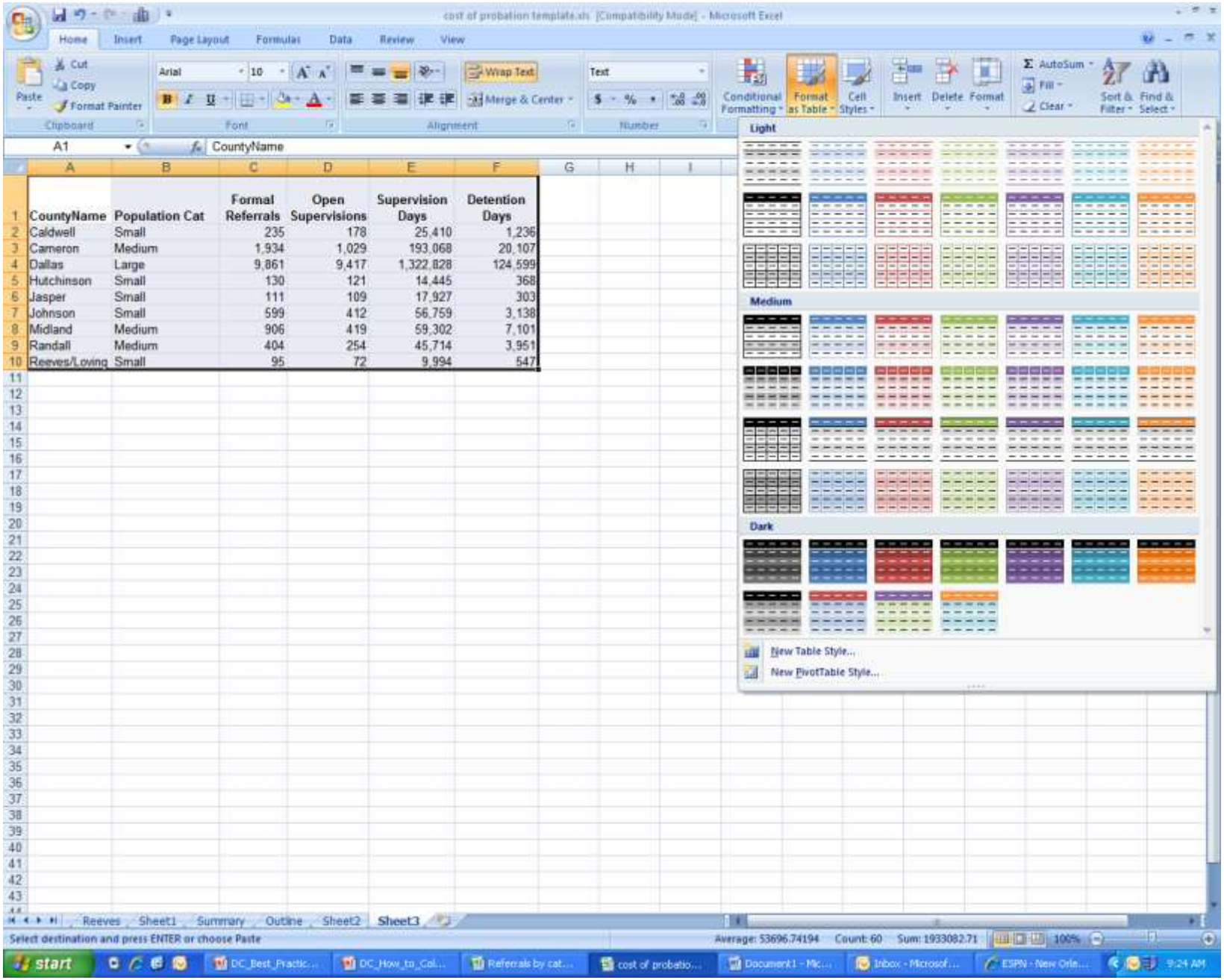
Managing Information

- Use the List function for easy sorting
  - Go to the Insert menu on the menu bar and select List
  - If you have already created your file check that the data source for the list is an existing Excel file and select the entire active section of the worksheet as the source

    Select a new worksheet as the destination page
  - You can change both the source data and the list location in the list wizard after a list has been created
  - The list function allows for easy sorting of information

Format as Table

- With Excel 2007, Format as Table is an easy way to manage data
  - Highlight the cells that you would like to manage
  - Click the Format as Table button
  - Select the type of display for the table



CountyName	Population Cat	Formal Referrals	Open Supervisions	Supervision Days	Detention Days
Caldwell	Small	235	178	25,410	1,236
Cameron	Medium	1,934	1,029	193,068	20,107
Dallas	Large	9,861	9,417	1,322,828	124,599
Hutchinson	Small	130	121	14,445	368
Jasper	Small	111	109	17,927	303
Johnson	Small	599	412	56,759	3,138
Midland	Medium	906	419	59,302	7,101
Randall	Medium	404	254	45,714	3,951
Reeves/Loving	Small	95	72	9,994	547

Managing Data

- You can sort by column, either numerically or alphabetically
- You can filter out specific values
  - For example, you could select to view only small counties, or all counties except midsize counties

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CountyName	Population Cat	Formal Referral	Open Supervision	Supervision Day	Detention Day
Dallas	L		9,417	1,322,828	124,599
Cameron	N		1,029	193,068	20,107
Midland	M		419	59,302	7,101
Johnson	S		412	56,759	3,138
Randall	N		254	45,714	3,951
Caldwell	S		178	25,410	1,236
Hutchinson	S		121	14,445	368
Jasper	S		109	17,927	303
Reeves/Loving	S		72	9,994	547

Sort Smallest to Largest
Sort Largest to Smallest
Sort by Color
Clear Filter From "Formal Referrals"
Filter by Color
Number Filters

(Select All)
95
111
130
235
404
599
906
1,934
9,861

OK Cancel

Reeves | Sheet1 | Summary | Outline | Sheet2 | Sheet3

Average: 1,586 Count: 9 Sum: 14,275

Common Functions

- =Average(C2:C10)
  - Average of all values in column C, rows two through ten
- =Median(C2:C10)
  - Median of all values in column C, rows two through ten
- =Sum(C2:C10)
  - Sum of all values in column C, rows two through ten
- =Max(C2:C10)
  - Maximum value in column C, rows two through ten
- =Min(C2:C10)
  - Minimum value in column C, rows two through ten
- =Countif(C2:C10,">900")
  - Counts the number of times the value of a cell in column C, rows two through ten is greater than 900

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COUNTIF =countif(C2:C10, ">900")

	A	B	C	D	E	F
1	CountyName	Population Cat	Formal Referrals	Open Supervisions	Supervision Days	Detention Days
2	Caldwell	Small	235	178	25,410	1,236
3	Cameron	Medium	1,934	1,029	193,068	20,107
4	Dallas	Large	9,861	9,417	1,322,828	124,599
5	Hutchinson	Small	130	121	14,445	368
6	Jasper	Small	111	109	17,927	303
7	Johnson	Small	599	412	56,759	3,138
8	Midland	Medium	906	419	59,302	7,101
9	Randall	Medium	404	254	45,714	3,951
10	Reeves/Loving	Small	95	72	9,994	547
11						
12			=countif(C2:C10, ">900")			

Reeves | Sheet1 | Summary | Outline | Sheet2 | Sheet3 | Sheet4 | Sheet5

Enter

Charts

- Different charts serve different needs
  - Pie charts – Shows the share of the total population of various subgroups
  - Column Charts – Compare within groups at a particular point in time
  - Line Charts – Shows continuous changes over time

Pie Charts

- Highlight the area that you would like to be the source data
- From the Insert menu, select chart
  - In Excel 2007 press the button that corresponds with the desired chart
  - In older versions of Excel select the chart type from the menu that corresponds with the desired chart
- Click the pie chart area and select format data labels
- Select the values that you wish to display

Pie Chart

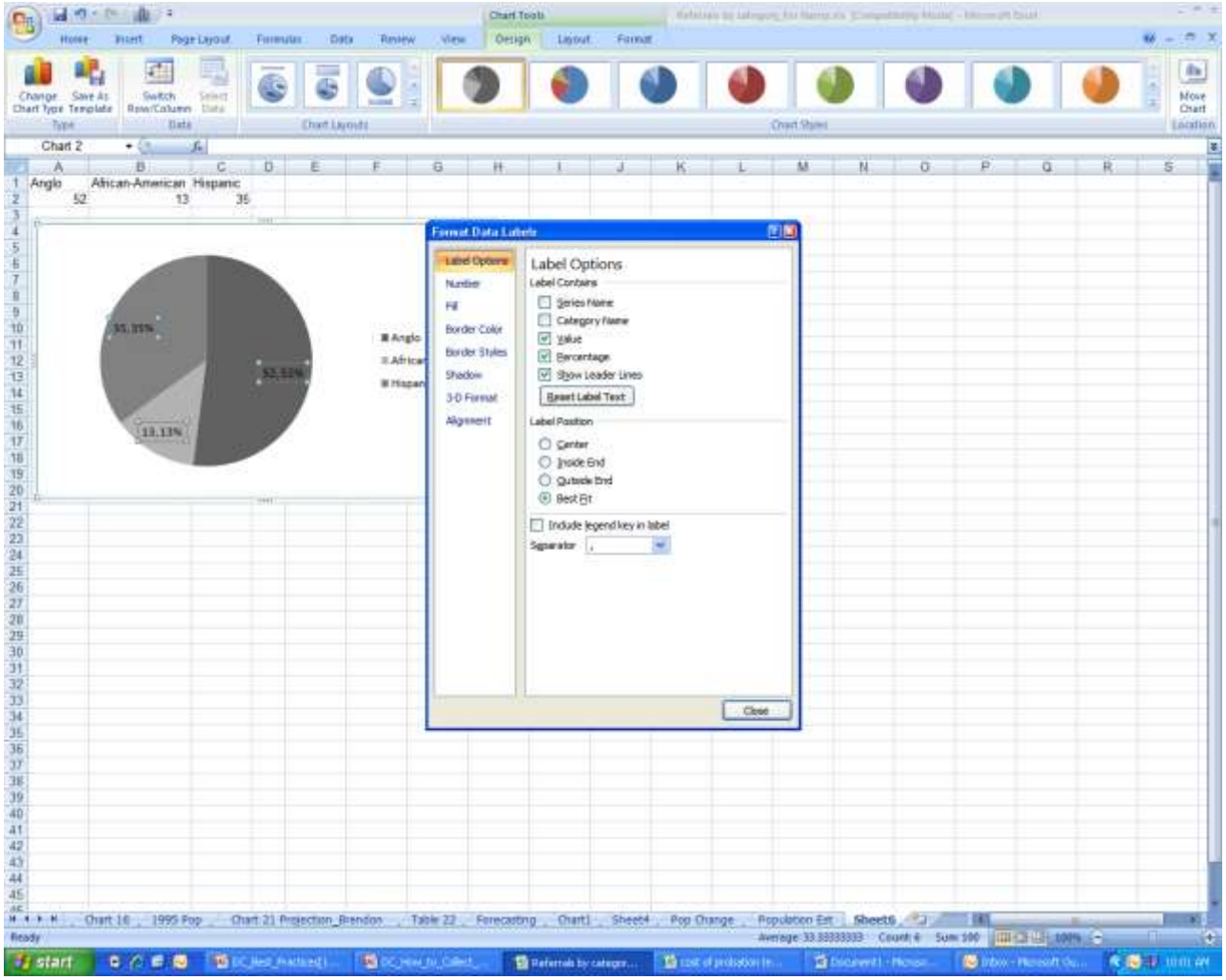


Chart Tools
Home
Insert
Page Layout
Formulas
Data
Review
View
Design
Layout
Format
Change Chart Type
Save As Template
Type
Switch Row/Column
Select Data
Data
Chart Layouts
Chart Styles
Move Chart
Location
Chart 2
Anglo
African-American
Hispanic
52
13
35
35.35%
52.52%
13.13%
Anglo
African
Hispan
Format Data Labels
Label Options
Number
Fill
Border Color
Border Styles
Shadow
3-D Format
Alignment
Label Options
Label Contains
Series Name
Category Name
Value
Percentage
Show Leader Lines
Reset Label Text
Label Position
Center
Inside End
Outside End
Best Fit
Include legend key in label
Separator
Close
Chart 16
1995 Pop
Chart 21 Projection_Brendon
Table 22
Forecasting
Chart1
Sheet4
Pop Change
Population Est
Sheet6
Ready
start

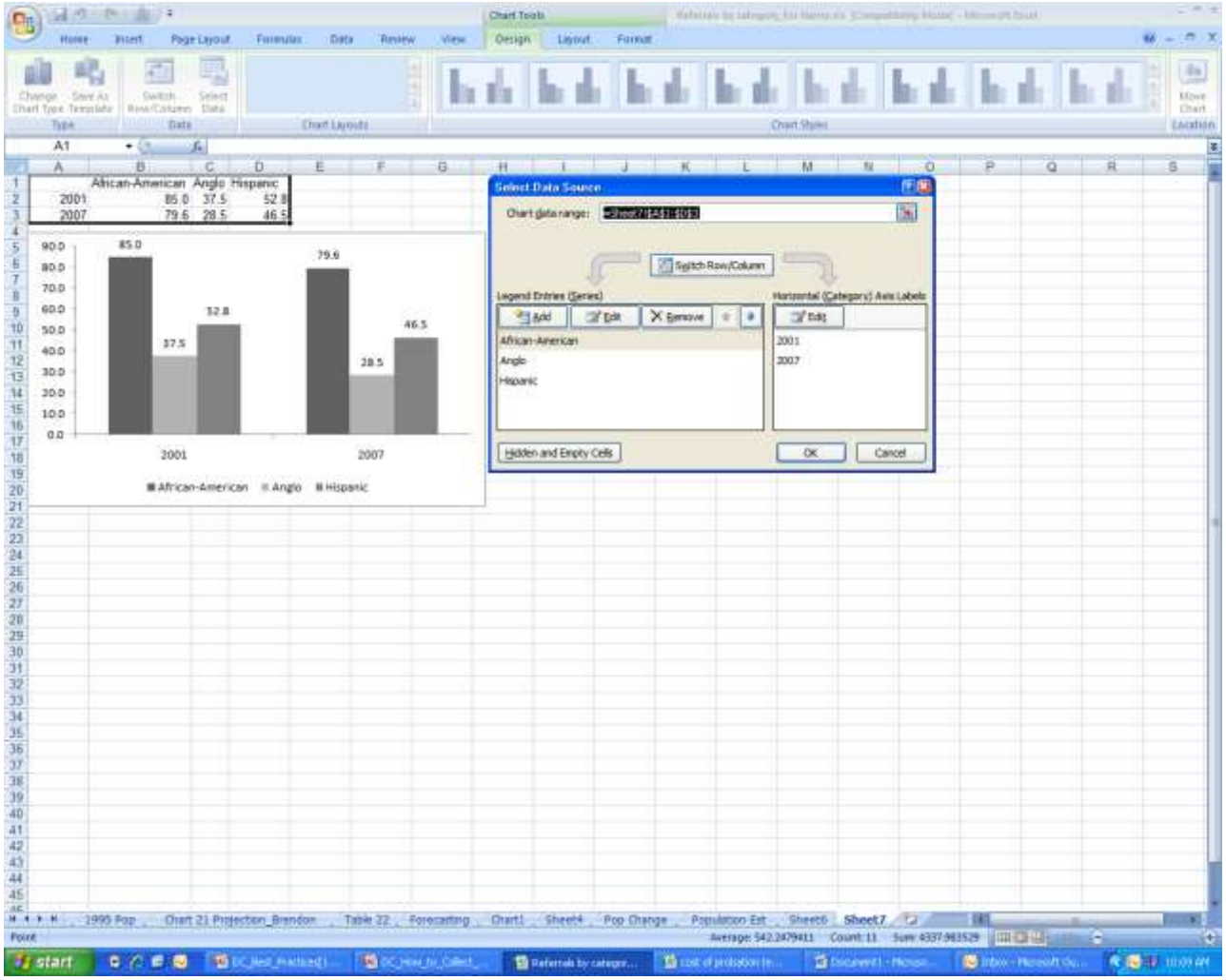
Column Chart

- Highlight the area that you would like to be the source data
- From the Insert menu, select chart
  - In Excel 2007 press the button that corresponds with the desired chart
  - In older versions of Excel select the chart type from the menu that corresponds with the desired chart

Column Chart

- Click the column chart area and select “select data”
  - This will allow you to alter how the information is displayed
    - The current setting will compare referral rates of the different race/ethnic groups within each year
    - Selecting Switch Row/Column will adjust the chart so that it compares referral rates of each race/ethnic group with itself in a given year

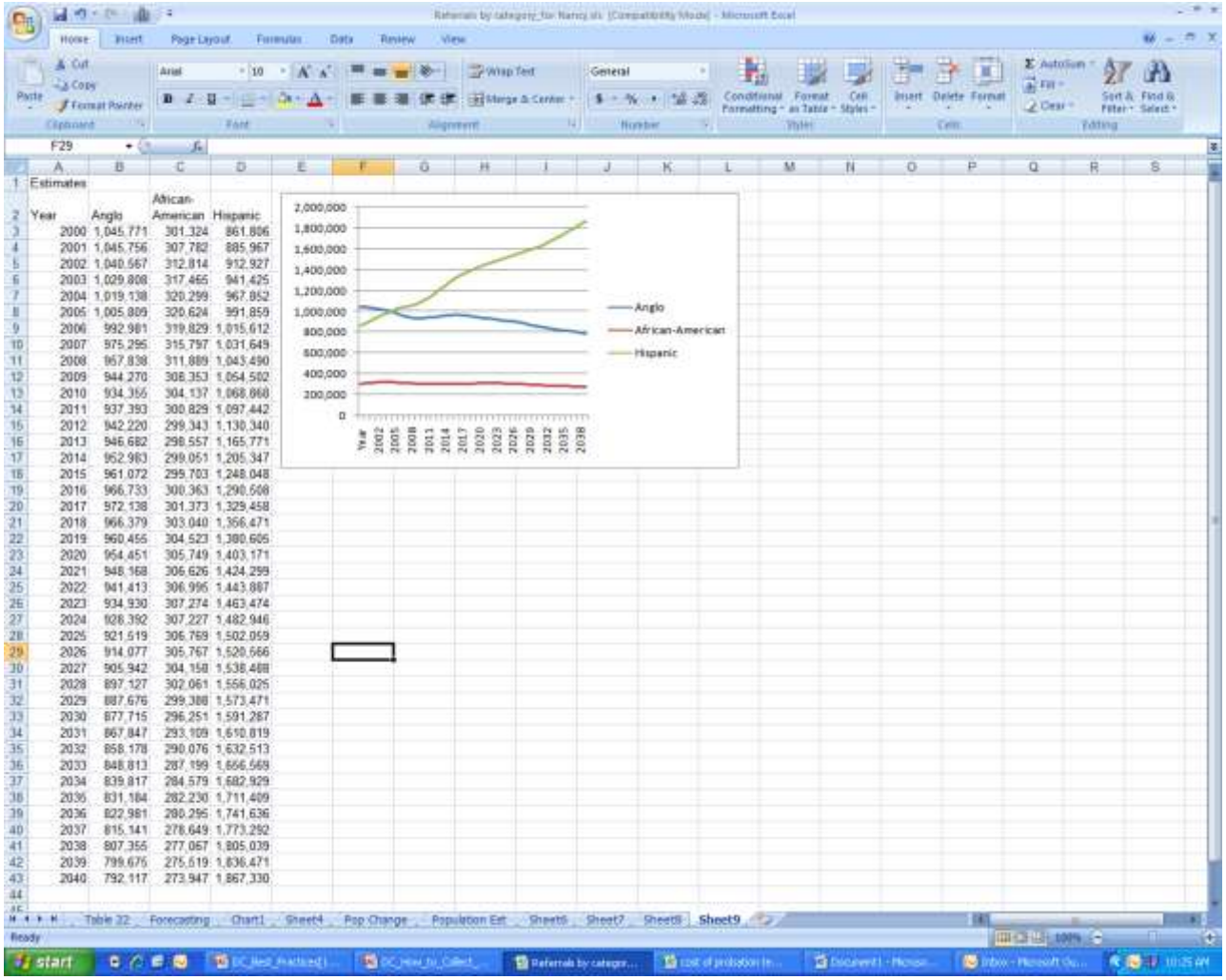
Column Chart



Line Graph

- Highlight the cells that you would like to serve as source data
- From the Insert menu, select chart
  - In Excel 2007 press the button that corresponds with the desired chart
  - In older versions of Excel select the chart type from the menu that corresponds with the desired chart

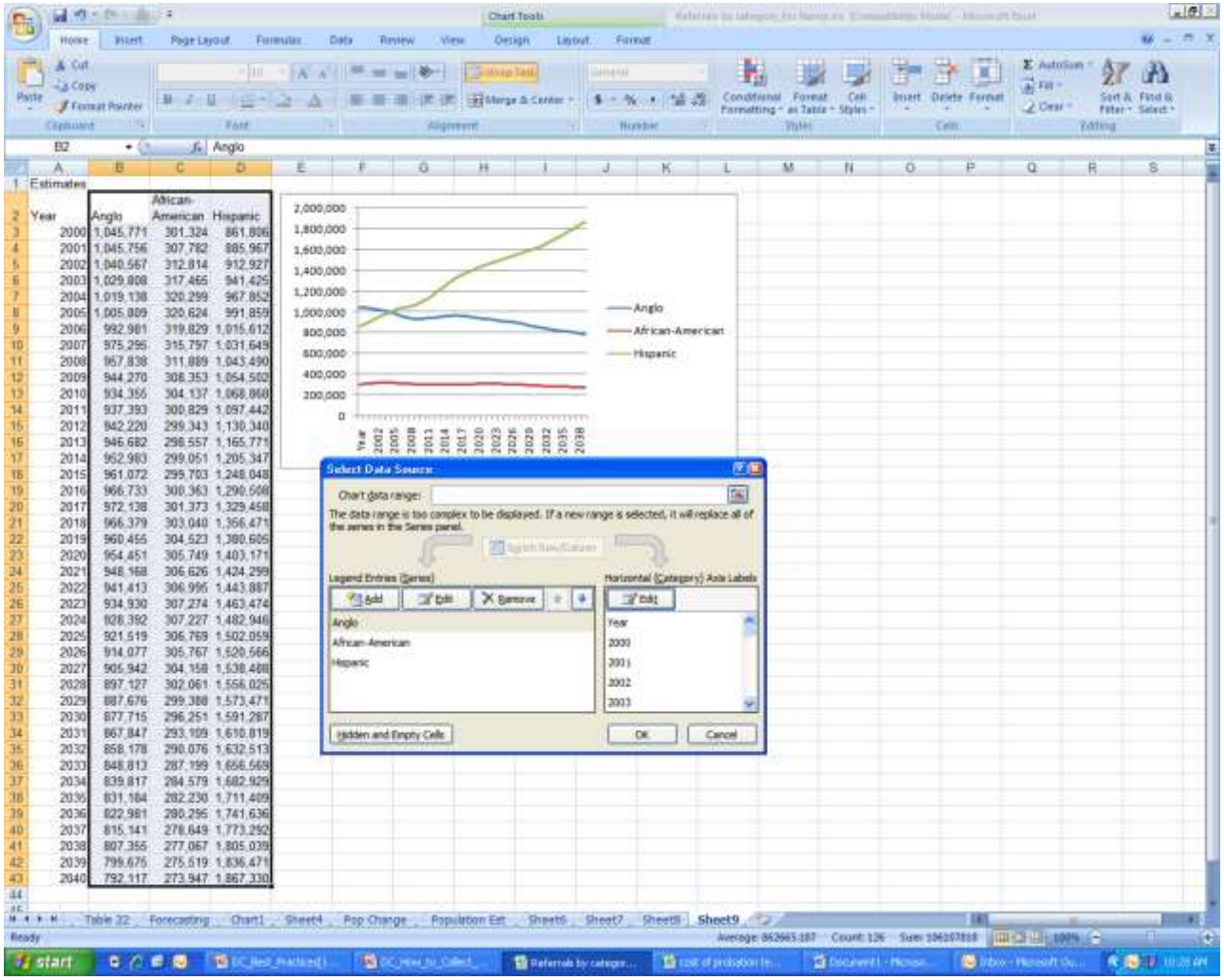
Line Graph


Estimates
Year
Anglo
African-American
Hispanic
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Anglo
African-American
Hispanic

Line Graph

- To change the labels on the horizontal axis click the edit button under the Horizontal (Category) Axis Label
- Drag over the cells or enter in the range manually that you would like to be the axis label

Line Graph


Estimates
Year
Anglo
African-American
Hispanic
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Anglo
African-American
Hispanic
Select Data Source
Chart data range:
The data range is too complex to be displayed. If a new range is selected, it will replace all of the series in the Series panel.
Legend Entries (Series)
Horizontal (Category) Axis Labels
Add
Edit
Remove
Hidden and Empty Cells
OK
Cancel

Using Pivot Tables

- From the Insert menu, select Pivot Table
- Click Select Table or Range and choose the active dataset as source data
- Select the desired location for the Pivot Table and click okay

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Home | Insert | Page Layout | Formulas | Data | Review | View

A13 | CountyName

CountyName	Population Cat	Formal Referrals	Open Supervisions	Supervision Days	Detention Days
Caldwell	Small	235	178	25,410	1,236
Cameron	Medium	1,934	1,029	193,068	20,107
Dallas	Large	9,861	9,417	1,322,828	124,599
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Randall	Medium	404	254	45,714	3,951
Reeves/Loving	Small	95	72	9,994	547

Create PivotTable

Choose the data that you want to analyze

- Select a table or range
  - Table/Range: Sheet2!$A$1:$F$10
- Use an external data source
  - Choose Connection...
  - Connection name:

Choose where you want the PivotTable report to be placed

- New Worksheet
- Existing Worksheet
  - Location: Sheet2!$A$13

OK | Cancel

Reeves | Sheet1 | Summary | Outline | Sheet2

Using Pivot Tables

- Select the variable that you want to be the row label
  - If you select multiple variables to be row labels, the top variable will be the main heading and the subsequent variables will be subheadings
- Drag the variables that you want to summarize in the columns to the $\sum$ values box

CountyName	Population Cat	Formal Referrals	Open Supervisions	Supervision Days	Detention Days
Caldwell	Small	235	178	25,410	1,236
Cameron	Medium	1,934	1,029	193,068	20,107
Dallas	Large	9,861	9,417	1,322,828	124,599
Hutchinson	Small	130	121	14,445	368
Jasper	Small	111	109	17,927	303
Johnson	Small	599	412	56,759	3,138
Midland	Medium	906	419	59,302	7,101
Randall	Medium	404	254	45,714	3,951
Reeves/Loving	Small	95	72	9,994	547

Drop Page Fields Here

Population Cat	CountyName	Data: Sum of Open Supervisions	Sum of Formal Referrals
Large	Dallas	9417	9861
Large Total		9417	9861
Medium	Cameron	1029	1934
	Midland	419	906
	Randall	254	404
Medium Total		1702	3244
Small	Caldwell	178	235
	Hutchinson	121	130
	Jasper	109	111
	Johnson	412	599
	Reeves/Loving	72	95
Small Total		892	1170
Grand Total		12011	14275

Using Pivot Tables

- You can change the type of information presented in the columns by double-clicking the column header and selecting the type of calculation that you'd like to use
- You can click the + or – button in front of the row header to either show or hide the subheadings

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D14 | Sum of Formal Referrals

CountyName	Population Cat	Formal Referrals	Open Supervisions	Supervision Days	Detention Days
Caldwell	Small	235	178	25,410	1,236
Cameron	Medium	1,934	1,029	193,068	20,107
Dallas	Large	9,861	9,417	1,322,828	124,599
Hutchinson	Small	130	121	14,445	368
Jasper	Small	111	109	17,927	303
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Midland	Medium	906	419	59,302	7,101
Randall	Medium	404	254	45,714	3,951
Reeves/Loving	Small	95	72	9,994	547

Drop Page Fields Here

Population Cat	CountyName	Data: Sum of Open Supervisions	Sum of Formal Referrals
Large	Dallas	9417	9861
Large Total		9417	9861
Medium	Cameron	1029	1934
	Midland	419	906
	Randall	254	404
Medium Total		1702	3244
Small	Caldwell	178	235
	Hutchinson	121	130
	Jasper	109	111
	Johnson	412	599
	Reeves/Loving	72	95
Small Total		892	1170
Grand Total		12011	14275

Value Field Settings

Source Name: Formal Referrals

Custom Name: Max of Formal Referrals

Summarize by | Show values as

Summarize value field by

Choose the type of calculation that you want to use to summarize the data from selected field

Count
Average
Max
Min
Product
Count Numbers

Number Format | OK | Cancel

PivotTable Field List

Choose fields to add to report:

- CountyName
- Population Cat
- Formal Referr...
- Open Supervis...
- Supervision Days
- Detention Days

Report Filter

Row Labels: Population Cat, CountyName

Column Labels: Σ Values

Σ Values: Sum of Open S..., Sum of Formal ...

Reeves | Sheet1 | Summary | Outline | Sheet2

Ready

start | DC_Best_Practices[1]... | DC_How_to_Collect_... | Referrals by categor... | cost of probation tem... | Document1 - Microsof... | 8:53 AM

Thank You

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