

VitalPro™ User's Guide

Texas Population Data

Expert Health Data Programming, Inc.

VitalPro™ User's Guide

Texas Population Data

Expert Health Data Programming, Inc.

Published: April 2, 2014

Comments and suggestions: This user's guide has been carefully prepared, but is not guaranteed against errors or omissions. Please report any errors, omissions, or suggestions concerning the user's guide, using the contact system at the www.ehdp.com web site, or by calling us at 888-709-5319. Also, please send us suggestions for new capabilities you would like added to the software, or if you find any possible errors in the software.

For more information: The www.ehdp.com web site has current information on VitalPro software (desktop platform), VitalWeb software (browser platform), and other Vitalnet information.

Printing: This user guide is designed to accommodate two-sided printing. You may need to use 'fit to page' setting when printing.

Table of Contents

Chapter 1: Introduction	1
1-1: Advantages and Benefits	2
1-2: Data Within the Program	3
1-3: Accessing the Program	3
1-4: Confidentiality Policy	3
Chapter 2: Understanding Results	4
2-1: Typical VitalPro Table	5
2-2: Table #1 to Interpret	6
2-3: Table #1, Interpreted	7
2-4: Table #2 to Interpret	8
2-5: Table #2, Interpreted	9
Chapter 3: Using VitalPro Interface	10
3-1: Start at Main Menu	11
3-2: Use a Simple Submenu	12
3-3: Use Geographic Submenu	13
3-4: Back at Main Menu	14
3-5: Produce a Table	15
3-6: Switch to Designing a Map	16
3-7: Continue with Analyses	17
3-8: More Practice Analyses	18
Chapter 4: Outlines of Submenus	19
4-1: Table Layout Submenus	20
4-2: Data Variable Submenus	21
Chapter 5: Table Variables	22
5-1: Main Statistic [Outcome]	22
5-2: Rows and Columns, Row Sorting	23
5-3: By Variable (Multi-Tables)	24
Chapter 6: Data Variables	25
6-1: Geo Selection [Area Sets]	25
6-2: Range and Categorical Variables	26
Chapter 7: Other Parameters	27
7-1: Decimal Places	27
7-2: Trend Analysis	28
7-3: CSV and DBF Output	29
7-4: Bar Charts	30
7-5: Line Charts	31
7-6: Pie Charts	32
7-7: Maps	33
Checklist of Key Tasks	34
Glossary	35

Chapter 1: Introduction

Nature of the software - Vitalnet is a health data warehouse / data analysis system. Vitalnet makes analyzing data faster, easier, and more reliable. This user's guide describes VitalPro, which runs directly on a PC or LAN.

Advice about user guide - We have made the software as self-explanatory as possible. You don't have to read this user's guide. If you pay attention to the menus, you can use the software.

However, we recommend you read the user's guide. 1) Many users learn better from a written text. 2) It is helpful to have an overview of what the software can do, to know its capabilities, before using it. 3) The user's guide explains many concepts necessary for properly interpreting and using the data.

Notes for Adobe Acrobat pdf version: The screenshots may look sharper or fuzzier at different magnifications. The screenshots will be sharp when printed.

Tutorial - This user's guide incorporates a tutorial, to help you get started using the software. Tutorial sections are highlighted as shown in this example:

Sample Tutorial Step - Press 'A' to add Texas as one area set.

Here's how this user's guide is organized:

- **Chapter 1: Introduction** - Describes general characteristics of Texas VitalPro.
- **Chapter 2: Understanding Results** - Shows and explains typical VitalPro tables.
- **Chapter 3: Using VitalPro Interface** - Describes and shows how to use VitalPro menus.
- **Chapter 4: Outlines of Submenus** - Lists program menus and capabilities.
- **Chapter 5: Table Variables** - Explains how table variables specify table layout.
- **Chapter 6: Data Variables** - Documents and explains variables such as race and age.
- **Chapter 7: Other Parameters** - Explains chart, map and other various parameters.
- **Checklist of Key Tasks** - Lists essential tasks and provides overview.
- **Glossary** - Defines terms related to population data and VitalPro.

Citation for VitalPro - Expert Health Data Programming, Inc., Texas VitalPro User's Guide: Data Warehouse Software for Analyzing Texas Population Data. Bellevue, Washington. 1998-2013. Browse www.ehdp.com for more information about the software or to contact EHDP.

Acknowledgements - We gratefully acknowledge the suggestions and ideas we have received from Texas Department of State Health Services staff and other users. Please contact us at 888-709-5319 or at www.ehdp.com if you have suggestions or requests.

Copyright 1998-2013 by Expert Health Data Programming, Inc. All rights reserved. VITALNET, VITALWEB, and VITALPRO are trademarks of Expert Health Data Programming, Inc.

1-1: Advantages and Benefits

· **VitalPro makes it easy to analyze Texas population data.**

Fast - You get results in seconds or minutes. Depending on the analysis, alternate methods could easily require hours or days to complete.

Reliable - VitalPro automates data analysis, and automatically incorporates needed complex algorithms and relationships. In contrast, analyses with SAS, SPSS, etc. are quite tedious, error-prone, and labor-intensive.

Flexible - A wide variety of tables and maps may be produced. You may set table rows and columns however you want. Standard parameters may be selected and combined as needed. VitalPro provides many options. You do not need to set every option. All options are set to a reasonable default value.

Efficient - You can make a whole series of tables with one keystroke (multi-tables). Bar, pie, and line charts allow for quick scanning for trends.

Easy to use - Operations are menu-driven. Scrolling windows are used to select items from lists. You don't need to know any special codes such as FIPS codes.

Online help - If needed, context-sensitive help is also available from each menu. In addition, you may select from a list of on-line help topics, providing advice on topics related to VitalPro and data analysis. The on-line help complements the information in this user's guide.

Output documentation - All output is fully documented, so there is no confusion or question about the exact analysis that was done, and so the analysis can be exactly replicated if needed.

Makes charts and maps - VitalPro automatically makes charts (bar, line, and pie) and maps. The charts and maps can be customized in a wide variety of ways, as explained later.

Integrates with other software - VitalPro automatically displays HTML output in your desktop browser. In addition, an extensive set of alternative formats is automatically made with each analysis: ASCII text format, delimited format (for importing into spreadsheets), and dBASE III format (for importing into statistical, GIS, mapping, graphing and other software).

Can be customized - Let us know if other capabilities you would like added. We want to further improve Vitalnet to meet your needs.

1-2: Data Within the Program

- **This program links and analyzes population and geographic data.**

Geographic information - This program includes a database of Texas counties and regions, linked to the population data sets. Boundary files are included for making maps.

Population data - The Center for Health Statistics at DSHS provides 1980-1999 Texas population data. The Texas State Data Center at Texas A&M provides Texas population data for 2000 and beyond. The Texas State Data Center periodically revises its estimates for years between censuses, but the changes are typically small. The population variables included within the program are age, county of residence, race, sex, and year.

1-3: Accessing the Program

- **Access VitalPro on a standalone PC or via LAN.**

Local access (PC's and local area networks) - You may use Texas VitalPro on a stand-alone PC or laptop running any version of Windows. Texas VitalPro may also be run from a local area network. Generally, VitalPro runs faster from a standalone installation, since it does not have to send data over the network.

Execution speed - VitalPro is fast. The program has been tested to produce rapid results on any Windows PC, and simply runs faster on faster computers. Analyses that might otherwise take hours to days to set up and run are done in seconds or minutes.

The program execution speed depends on: 1) the type of PC you are using, 2) the characteristics of the network you are working on, 3) the specific analysis. It typically takes a second or two to generate output.

1-4: Confidentiality Policy

- **Texas VitalPro users must comply with confidentiality requirements.**

Confidentiality policy - Your use of Texas VitalPro indicates your agreement to the following conditions: You will not try to use Texas VitalPro results nor let anyone else use Texas VitalPro results for any purpose other than statistical analysis. If you discover the identity of a population number, you will advise the Director of the Center for Health Statistics at the Texas Department of State Health Services of the incident, will safeguard or delete the information that would identify the individual, will make no use of the knowledge, and will inform no one else of the discovered identity.

Chapter 2: Understanding Results

What's in this chapter - Before jumping in and using the program (next chapter), it is advised to get a good understanding of the results of the program. This chapter explains the organization and content of VitalPro tables.

This chapter explains the four sections of a VitalPro table:

- **Header** - Basic analysis parameters.
- **Data section** - Numerical results.
- **Bar graphs** - Graphical results.
- **Footnotes** - Other analysis parameters.

In addition, this chapter shows examples of actual Texas VitalPro tables, to give you an idea of what is possible. You are given an opportunity to practice interpreting sample tables.

2-1: Typical VitalPro Table

- Each table has four parts: header, data section, tabular chart, footnotes.

```

Population
Tabulated by Age and Sex
Years: 2000
Place of Residence: Galveston, Harris

Age                Male          Female         Total
-----
Birth-19           566,937      547,337       1,114,274
20-39              582,844      574,295       1,157,139
40-59              454,842      471,562       926,404
60-99+            155,304      202,304       357,608
-----
Total              1,759,927    1,795,498     3,555,425

Horizontal Bar Graphs (X = 38,856 Population, x = 19,428):

Age                Male          Female
-----
Birth-19           XXXXXXXXXXXXXx XXXXXXXXXXXXXXX
20-39              XXXXXXXXXXXXXx XXXXXXXXXXXXXXX
40-59              XXXXXXXXXXXXXx XXXXXXXXXXXXXXX
60-99+            XXXX          XXXXX
-----

Analysis Footnotes:
Unique ID, for Keeping Track of Analyses: 414MRQKR
Output Produced: Sat Apr 14 10:55:52 2001, by Texas VitalNet
Population Data Source (Pre-1990): TDH State Health Data (1/95)
Population Data Source (1990+): TAMU TX State Data Center (8/98)

```

Header: Documents the analysis. The table analyzes 2000 population for Galveston and Harris counties.

Data Section: Contains the results, organized into columns and rows. In this example, there is one column for each sex and one row for each of four age groups. Verify there were 471,562 women age 40-59, 1,759,927 males, and a total of 3,555,425 residents. Each result, such as 471,562, is called a "cell".

Tabular Chart: Represents the results in a simple graphical format. In this example, each 'X' (big X) symbol represents 38,856 population. The tabular charts are optional. The tabular chart clearly shows that the greatest population is in the 20-39 age group, for both sexes.

Footnote: Documents less important aspects of the analysis, such as when the table was produced. Assigns a unique ID to the table for future reference.

2-2: Table #1 to Interpret

Here is a sample table (footnotes omitted) for you to practice on. Try interpreting the table by filling in the spaces below. Then, check your answers with those on the next page.

Population Tabulated by Race-Ethnicity and Sex Years: 2000 Place of Residence: Galveston, Harris			
Race	Male	Female	Total
White	814,096	846,813	1,660,909
Black	288,063	333,237	621,300
Hispanic	552,787	512,603	1,065,390
Other	104,981	102,845	207,826
Total	1,759,927	1,795,498	3,555,425

Horizontal Bar Graphs (X = 56,454 Population, x = 28,227):

Race	Male	Female
White	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
Black	XXXXXX	XXXXXX
Hispanic	XXXXXXXXXX	XXXXXXXXXX
Other	XX	XX

Header Outcome (main statistic): _____
 Years analyzed: _____
 Geographic areas analyzed: _____
 Age groups analyzed: _____

Data Section Rows variable: _____
 Columns variable: _____
 How many females, total: _____
 How many Hispanic males: _____

Tabular Chart Population count symbolized by big 'X': _____

2-3: Table #1, Interpreted

Here is the same table, and a suggested interpretation. If you had a problem, try reading through the answers again or ask a local data analyst for help.

```

Population
Tabulated by Race-Ethnicity and Sex
Years: 2000
Place of Residence: Galveston, Harris

Race           Male           Female          Total
-----
White          814,096        846,813        1,660,909
Black          288,063        333,237         621,300
Hispanic       552,787        512,603        1,065,390
Other          104,981        102,845         207,826
-----
Total          1,759,927     1,795,498     3,555,425

Horizontal Bar Graphs (X = 56,454 Population, x = 28,227):

Race           Male           Female
-----
White          XXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXX
Black          XXXXX          XXXXX
Hispanic       XXXXXXXXXXXXX  XXXXXXXXXXXXX
Other          XX             XX
-----
    
```

Header	Outcome (main statistic):	Population
	Years analyzed:	2000
	Geographic areas analyzed:	Galveston, Harris Counties
	Age groups analyzed:	All ages
Data Section	Rows variable:	Row for each race
	Columns variable:	Column for each sex
	How many females, total:	1,795,498
	How many Hispanic males:	552,787
Tabular Chart	Population count symbolized by big 'X':	56,454

2-4: Table #2 to Interpret

Here is another table. Fill in the spaces below. Then, check your answers on the next page.

Median Population Age (Years)
 Tabulated by Area Set and Sex
 Years: 2000
 Place of Residence: Harris, Hidalgo, Kerr

Area Set	Male		Female		Total	
	Median	Population	Median	Population	Median	Population
Kerr	40.9	20,139	45.8	22,393	43.4	42,532
Harris	31.0	1,644,682	32.4	1,675,755	31.7	3,320,437
Hidalgo	25.3	268,839	27.3	277,812	26.3	546,651
Total	30.2	1,933,660	31.8	1,975,960	31.0	3,909,620

Horizontal Bar Graphs (X = 3.1 Years, x = 1.5):

Area Set	Male Median	Female Median	Total Median
Kerr	XXXXXXXXXXXXXx	XXXXXXXXXXXXXXX	XXXXXXXXXXXXXXX
Harris	XXXXXXXXXX	XXXXXXXXXXx	XXXXXXXXXXx
Hidalgo	XXXXXXXXXx	XXXXXXXXXX	XXXXXXXXXx
Total	XXXXXXXXXX	XXXXXXXXXXx	XXXXXXXXXX

Header Outcome (main statistic): _____
 Years analyzed: _____
 Geographic areas analyzed: _____

Data Section Rows used in this example: _____
 Columns used in this example: _____
 Harris County median population: _____
 Total population for areas analyzed: _____
 Female median population for Kerr County: _____

Tabular Chart Median population symbolized by big 'X': _____

2-5: Table #2, Interpreted

Here is the second table again, and our interpretation of the results.

```

Median Population Age (Years)
Tabulated by Area Set and Sex
Years: 2000
Place of Residence: Harris, Hidalgo, Kerr

Area Set          Male          Female          Total
Median, Population Median, Population Median, Population
-----
Kerr              40.9  20,139      45.8  22,393      43.4  42,532
Harris           31.0 1,644,682  32.4 1,675,755  31.7 3,320,437
Hidalgo          25.3  268,839    27.3  277,812    26.3  546,651
-----
Total            30.2 1,933,660  31.8 1,975,960  31.0 3,909,620

Horizontal Bar Graphs (X = 3.1 Years, x = 1.5):

Area Set          Male          Female          Total
Median           Median           Median
-----
Kerr              XXXXXXXXXXXXXx XXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXX
Harris           XXXXXXXXXXXXX  XXXXXXXXXXXXXx  XXXXXXXXXXXXXx
Hidalgo          XXXXXXXXXx    XXXXXXXXX      XXXXXXXXXx
-----
Total            XXXXXXXXXXXXX  XXXXXXXXXXXXXx  XXXXXXXXXXXXX
  
```

Header Outcome (main statistic): **Median population**
 Years analyzed: **2000**
 Geographic areas analyzed: **Harris, Hidalgo, Kerr**

Data Section Rows used in this example: **Row for each area**
 Columns used in this example: **Column for each sex**
 Harris County median population: **31.7**
 Total population for areas analyzed: **3,909,620**
 Female median population for Kerr County: **45.8**

Tabular Chart Median population symbolized by big 'X': **3.1 years**

Chapter 3: Using VitalPro Interface

What's in this chapter - Finally, you will get to use the program! This is probably what you have been waiting for! You will learn to navigate the interface, select parameters, and produce a few tables like those you learned about in the previous chapter.

Some advice about learning - As you use the program, we encourage you to explore and try things. Don't be shy. You cannot cause any damage by using the program. The program does a lot, and there are a lot of options, because analyzing data has lots of options. But running the program is pretty simple, once you know the basic way it works.

Open default browser - Your PC has a "default browser" set up. That's the browser that normally displays HTML files (web pages) for you. Before you start VitalPro, open the default browser. Eventually, when you make output from VitalPro, the output will display in the browser. Each browser is a little different, but any browser will work fine, including Chrome, Firefox, Internet Explorer, and Opera.

Access the program - A tutorial runs through this chapter. All procedures you are expected to do as part of the tutorial are highlighted in a different type style, as shown below. At this point, do the following:

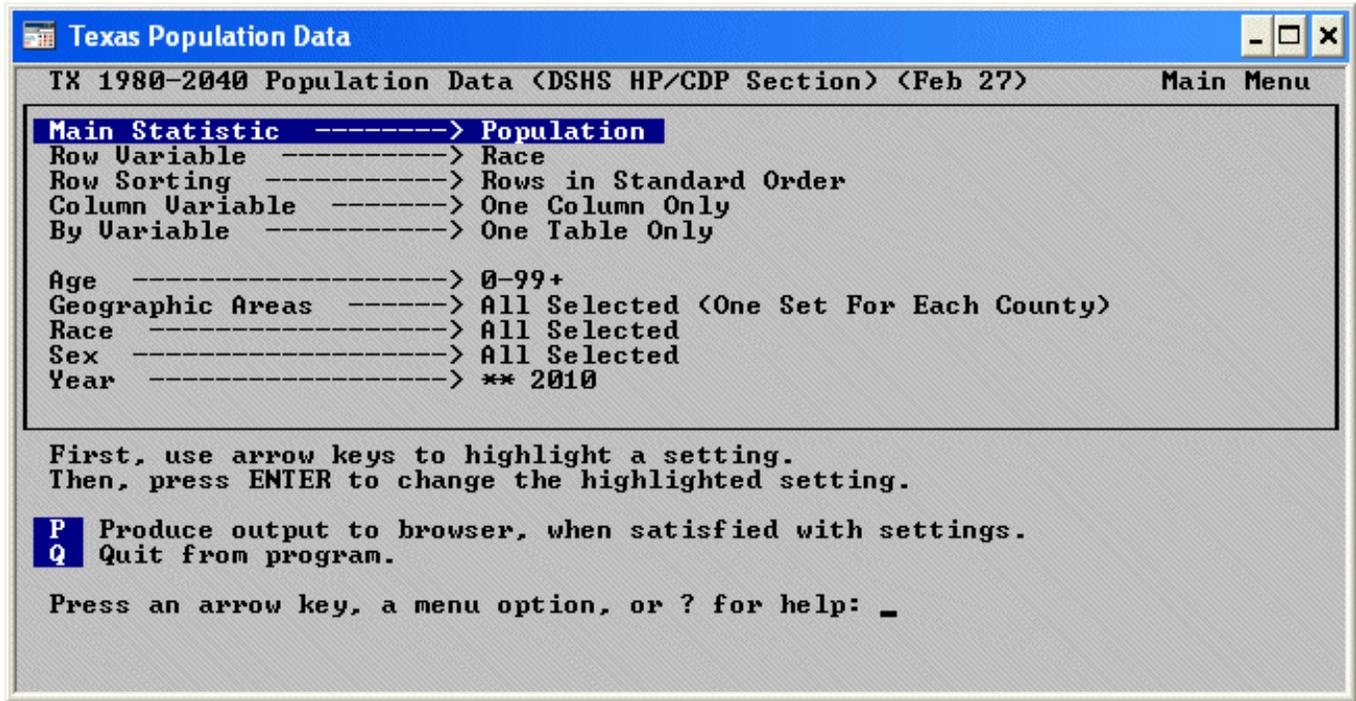
Start Texas VitalPro by clicking on the icon.

The icon may look like a doctor's bag, or may be a different desktop icon. If you do not have an icon, ask your network manager to set things up to start VitalPro from an icon. If you can't start the program or have some other issue, get assistance from another Texas VitalPro user. Or, contact us.

You will start at the Main Menu (shown on next page).

3-1: Start at Main Menu

- You will constantly return to the Main Menu.



After VitalPro starts, you are presented with the Main Menu, as shown above.

The Main Menu is the "command center" - You move to submenus to modify parameters, but return to the Main Menu to make a table. The Main Menu lists all parameters currently selected. The Main Menu provides an overview.

Highlighting a parameter - One of the parameters is always highlighted. In the example above, "Main Statistic" is highlighted. You move the highlight by pressing an arrow key. The parameter list scrolls as needed. Note that you do not use a mouse to run the program. Do the following:

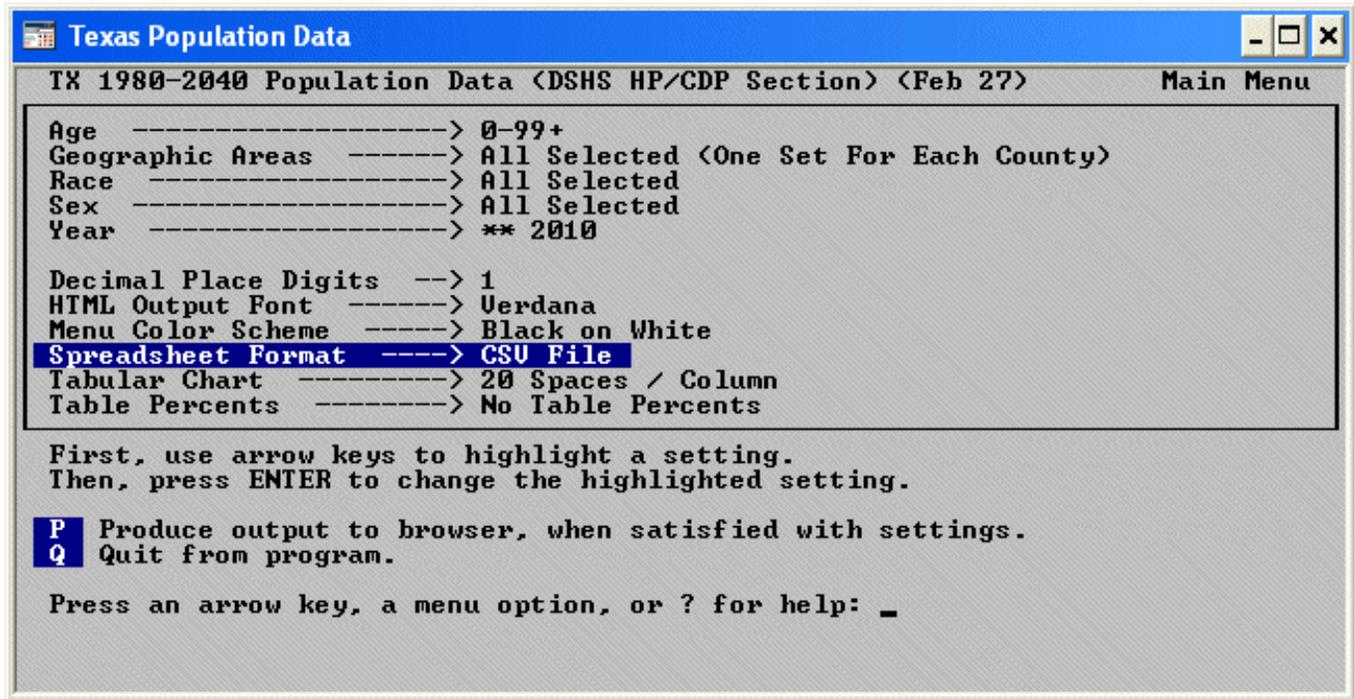
Press down arrow key to move the highlight down.
Keep pressing down arrow to scroll down.

The menu tells you what to do - Every VitalPro menu has text at the bottom with guidance on what to do next. For example, the Main Menu text indicates you can press an arrow key (move highlight), the ENTER key (change highlighted setting), P (produce output), Q (quit), or '?' (help).

Changing window appearance - The font size for the command window running VitalPro may be changed from the command window toolbar, to suit your screen. The size "8 x 12", as shown, is a reasonable size. Also, the command window may be toggled to full screen (and back) by pressing ALT-ENTER (hold down ALT key and press ENTER key).

3-2: Use a Simple Submenu

- Access a submenu by highlighting an item and pressing ENTER.



Selecting parameter to change - To change a parameter, highlight the parameter (using the arrow keys) and press ENTER.

Quick changes - Some parameters have a very simple submenu. Try this:

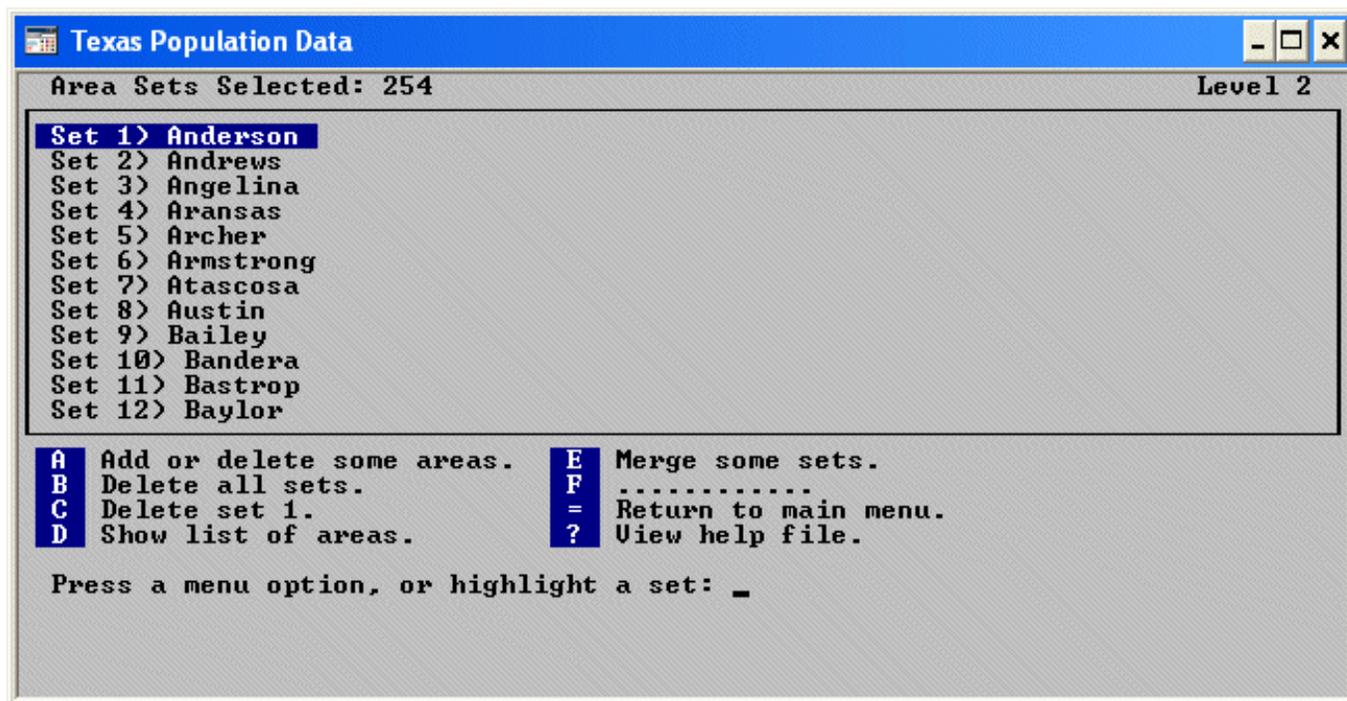
Highlight "Spreadsheet Format" by using arrow keys.
Press ENTER to access the submenu. Select TSV format.
Press ESCAPE (or '=') to return to the Main Menu.

More complex changes - For more complex parameters, a more complicated submenu will appear and help you change the parameter. For example, to change the geographic selection, you would highlight the parameter "Geographic Areas", and press ENTER. Do the following:

Use arrows keys to highlight "Geographic Areas".
Then, press ENTER to access the Area Sets submenu.

3-3: Use Geographic Submenu

- Each submenu guides you step-by-step in selecting parameters.



Submenu with scrolling window - This is a typical VitalPro submenu. It has a scrolling window with a list of items (area sets). One or more of the items may be highlighted by using the arrow keys.

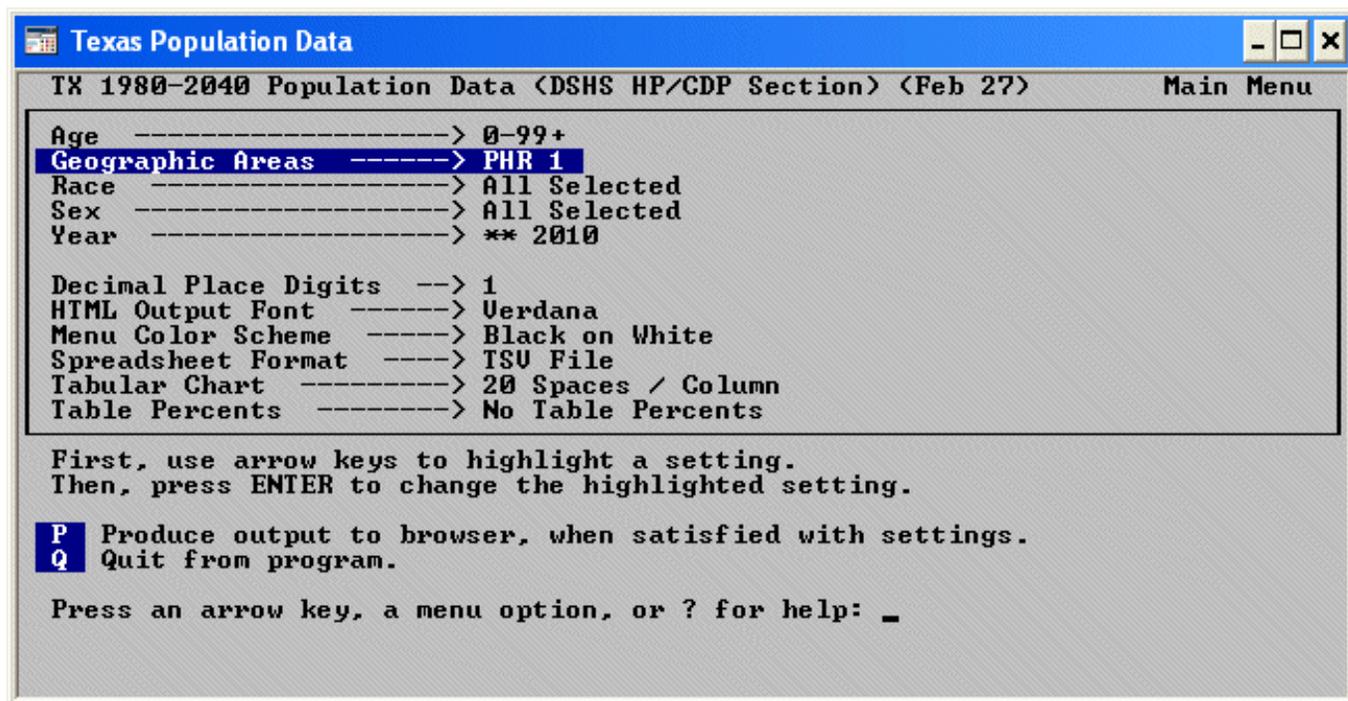
Letters are action items - This submenu has a list of actions, such as " B Delete all sets". Pressing the letter (such as 'B') carries out the action.

Adding an area - Carry out the following steps to add an area:

1. Press 'B' to delete all areas sets. Confirm if asked.
2. Then, press 'A' to add some areas.
3. Highlight "Public Health Region 1 (PHR 1)", and press ENTER to add.
4. Then, press ESCAPE (or '=') to return to area set menu.
5. Note that an item is added to the scrolling window.
6. Finally, press ESCAPE (or '=') to return to the Main Menu.

3-4: Back at Main Menu

- Access a submenu by highlighting an item and pressing ENTER.



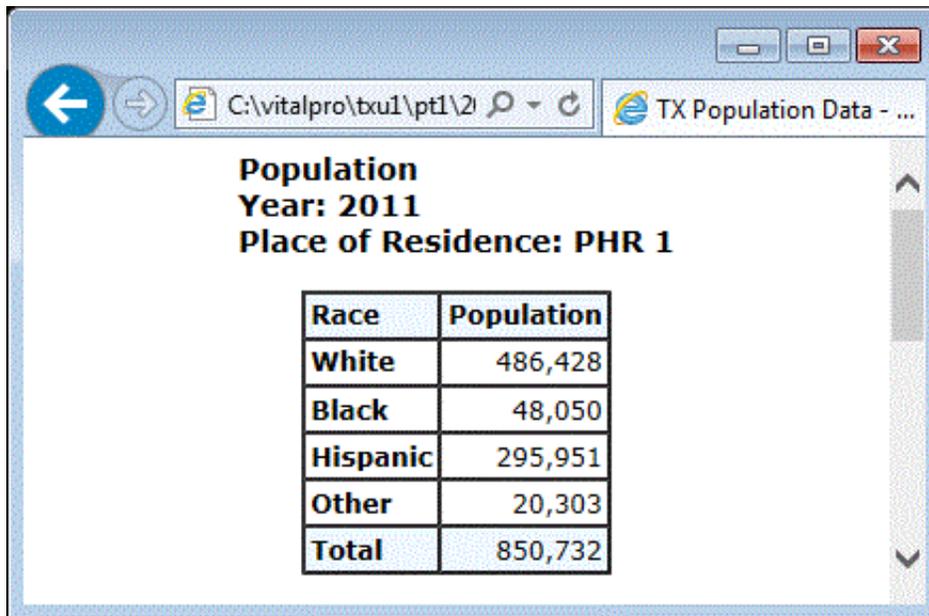
Make sure you're back - You should now be back at the Main Menu. Note that "Geographic Areas" has been modified (it is now set to Public Health Region 1). If you are not back at the Main Menu, get assistance from a co-worker familiar with using Texas VitalPro. Or (in almost all cases), simply press the ESCAPE key a few times.

3-5: Produce a Table

· Press 'P' at the Main Menu to make a table.

Check that you are at the Main Menu - You should now be back at the Main Menu. You have used the submenus to select a few parameters, and are now ready to produce your first table!

Press the letter 'P' to produce a table similar to the following (bottom of table not shown):



The screenshot shows a web browser window titled "TX Population Data - ...". The address bar contains the path "C:\vitalpro\txu1\pt1\2\". The main content area displays the following information:

Population
Year: 2011
Place of Residence: PHR 1

Race	Population
White	486,428
Black	48,050
Hispanic	295,951
Other	20,303
Total	850,732

Time required - The amount of time required depends on which parameters are selected and what kind of computer you are using, but is typically a few seconds.

Examining the table - The output will automatically appear in your default desktop browser (which you previously had open). The bottom of the output (not shown above) contains links to spreadsheet, text, and dBASE III output. There may be links to bar, pie, or line chart output.

1. View (and print) the output in your browser.
2. Click on some of the links at the bottom of the output.
3. If desired, delete the browser window (CTL-W).
4. Click on the VitalPro Main Menu to return to the program.

3-6: Switch to Designing a Map

- **At any time, you may switch to designing a map.**

Main Menu before Switching to Maps

You have used the submenus to select parameters. And you have made a table. You should be getting the hang of the program by now.

VitalPro also makes PNG and PDF maps. You can customize the maps in a wide variety of ways to meet your needs: Add area labels; switch between boundary types (eg, regional boundaries); set the number of colors to use; select a color palette; set the range type to "equal width" or "equal count"; select time trend maps (map for each year range).

Since tables and maps are so fundamentally different (eg, maps don't have rows, tables don't have colors), VitalPro displays a different menu system when designing a map.

1. At the main menu, highlight "Output Type" (first option).
2. Press ENTER, and on submenu select "Map" as output type.
3. Back on the main menu, press "P" to produce a typical map.

3-7: Continue with Analyses

- **VitalPro lets you quickly carry out a wide variety of analyses.**

Explore the menus - Once you get the hang of it, using VitalPro is pretty easy. If you have gotten this far, you understand the basic program operation. Don't be afraid to experiment and try out different options. Once you have made a table (or map), look it over. If it meets your needs, you're done. If the output is not quite right, look over the parameters on the Main Menu, highlight the parameter you want to change, and press ENTER. A submenu will lead you through the modification process. After setting all parameters as desired, return to the Main Menu and produce another table (or map) by pressing 'P'. Try it:

1. At the Main Menu, modify a parameter or two.
2. Then press 'P' to produce and view another output table.
3. Try some of the [sample analyses](#) shown later.

On-line help - Although VitalPro has been designed to be as self-explanatory as possible, it also includes extensive on-line help. To access on-line help from any menu, press '?'. A help screen will appear, with information related to the current menu. After viewing the help screen, a scrolling list of help topics may be viewed, for your selection. Try it:

At the Main Menu, press '?' and explore the help system.

Quitting VitalPro - The '=' or ESCAPE key always returns to the previous menu. Later, when you are done, you may press the 'Q' key from the Main Menu to quit VitalPro.

Hints for avoiding misinterpretation:

- Double-check table header and footer to verify it was the analysis you intended.
- Use confidence intervals to help decide if differences are statistically significant.
- Use fewer rows and columns for simpler presentation.
- Use more rows and columns if more comparisons and detail needed.
- Acknowledge the possibility of census miscounts.
- Acknowledge difficulty estimating population in years between censuses.
- Use confidence intervals to help decide if differences are statistically significant.
- If uncertainties remain, contact local data experts for advice.

3-8: More Practice Analyses

For additional practice, and to gain more understanding of how Texas VitalPro can speed and simplify data analysis, carry out the following sample analyses. If a variable is not listed (eg, Sex), then all values are selected (eg, Male and Female). Do the following:

For each analysis, select the parameters as shown below. Then, press 'P' from the Main Menu to produce output.

1. 1995 population by age, one table for each county:

Statistic - Population	Area sets - All	
Second format - Delimited	Row for each - Age group	Races - All
Table for each - Area set	Ages - 20-year groups	Years - 1995

2. Counties ranked by median age of population:

Statistic - Median population age	Area sets - All counties	Years - 1995
Column for each - One only	Row for each - Area set	Races - All
Table for each - One only	Ages - All ages	

3. Time trend for median age of female population:

Statistic - Median population age	Area sets - All counties	Years - All
Column for each - One only	Row for each - Year	Races - All
Table for each - One only	Ages - All ages	Sex - Female

4. Race / sex breakdown of population for one area

Statistic - Population	Area sets - Travis	Years - 2000
Column for each - Sex	Row for each - Race	Races - All
Table for each - One only	Ages - All ages	Sex - Both

Chapter 4: Outlines of Submenus

What other menus and options are available? - If you have done the examples in the previous chapter, you should have a good understanding of how to use VitalPro menus to select parameters. However, you have just scratched the surface of the capabilities and power of VitalPro. For your reference, the following pages list all of the Texas VitalPro menus. The purpose of the list of menus is to help you become aware of what is available so that you can take fullest advantage of the software. Do this:

Viewing the outlines on the next pages, explore VitalPro menus.

First, design table layout:

- [Statistic Menu](#)
- [Row Variable Menu](#)
- [Row Sorting Menu](#)
- [Column Variable Menu](#)
- [Multi-Tables Menu](#)

Next, modify data variables:

- [Age Groups Menu](#)
- [Area Sets Menu](#)
- [Race Groups Menu](#)
- [Sex Menu](#)
- [Year Ranges Menu](#)
- [Other Settings from Main Menu](#)

When ready, carry out an action:

- Produce Table and Charts
- Produce Map
- Exit VitalPro

4-1: Table Layout Submenus

- Using Texas VitalPro, explore menus for designing table layout.

Statistic Menu sets type of result:

- Population
- Median Population Age
- Percent in Age Grouping

Row Menu selects "Row Variable":

- Age
- Area of Residence
- Race
- Sex
- Year

Column Menu has same options.
Multi-Table Menu has same options.

Row Sorting Menu options:

- Rows unsorted
- Rows sorted by total data, high to low
- Rows sorted by total data, low to high

4-2: Data Variable Submenus

- Using Texas VitalPro, explore menus for modifying variables.

Race Menu / Sex Menu:

- Select categories as sets
- Delete one / all sets
- Merge sets into new set
- Split previously merged set

Year Ranges Menu:

- Use standard grouping, eg 2-year
- Extend upper / lower end of range
- Split range into individual years
- Delete a year range

Age Groups Menu:

- Use standard grouping, such as 10-year
- Extend upper / lower end of group
- Split group into separate groups
- Delete an age group

Area Sets Menu:

- Add some areas (submenu)
- Delete one / all area sets
- Merge area sets into new set
- Split area set into sub-areas
- Show and print list of areas

Other Main Menu Settings:

- HTML Output Font
- Spreadsheet Format
- Tabular Chart
- Unique ID

- Decimal Place Digits
- Table Percents
- Trend Confidence Level

- Bar, line, & pie chart settings
- Map settings

- Output directory
- Output file prefix

Chapter 5: Table Variables

What's in this chapter - This chapter explains what we call "table variables". Table variables are the basic variables that determine the layout of an output table. VitalPro allows great flexibility in designing your table. Critically, VitalPro prevents incompatibilities from occurring.

Table variables are: Main Statistic, Row Variable, Row Sorting, Column Variable, and Multi-Tables.

5-1: Main Statistic [Outcome]

- The Main Statistic is the basic type of number in a table (or map).

What is a Main Statistic? - Every table has a Main Statistic. The Main Statistic (or outcome) is the basic type of data generated in an output table.

Available Statistics -

- Population
- Median population age
- Percent population in age group

Each statistic is defined in the glossary, and on-line help files give calculation methods.

5-2: Rows and Columns, Row Sorting

• **Table rows and columns may be set however you want.**

Rows and columns - Rows are horizontal lines in a data table. Columns go up and down.

Every table has a row variable and a column variable. Rows and columns may be set to any of the following:

- Only one row / column (not set to a variable)
- One row / column per selected age group
- One row / column per selected area set
- One row / column per selected sex
- One row / column per selected race set
- One row / column per selected year set

Sorted rows - Any table may be sorted as follows:

- Rows sorted from high to low, by total data
- Rows sorted from low to high, by total data

Unsorted rows - Examples of rows in standard order (unsorted rows) include:

- Area sets in alphabetical order, such as Bexar before El Paso.

5-3: By Variable (Multi-Tables)

- You may automatically produce a series of tables.

```
Population
Tabulated by Race-Ethnicity and Sex
Years: 1990
Place of Residence: Anderson

Race          Male    Female   Total
-----
White         17,023  15,656  32,679
Black         7,714   3,387   11,101
Hispanic      2,910   1,037   3,947
Other         174     123     297
-----
Total         27,821  20,203  48,024

*** Tables omitted to save space ***

Population
Tabulated by Race-Ethnicity and Sex
Years: 1990
Place of Residence: Zavala

Race          Male    Female   Total
-----
White          446     511     957
Black          277      8       285
Hispanic       5,392   5,482  10,874
Other           26      20       46
-----
Total          6,141   6,021  12,162
```

Purpose of multi-tables - Suppose you want to make a separate table for each county. It would be tedious to select the first county, make a table, select the second county, make a table, etc. Multi-tables automates the production of such a series of tables into one operation. The multi-table setting may be one of the following:

- Only one table (the default)
- One table per selected age group
- One table per selected area set
- One table per selected race set
- One table per selected year set

Chapter 6: Data Variables

What's in this chapter - This chapter lists and explains data variables you may modify using the Texas VitalPro interface. VitalPro allows great flexibility in selecting and modifying data variables. You may select variables into ranges and "sets" just about any way needed.

Here are the data variables covered in this chapter:

- Age groups
- Race
- Sex
- Years

- Geographic selection (area sets)

6-1: Geo Selection [Area Sets]

• **Every table has a geographic specification.**

Geographical Areas - Texas VitalPro analyzes data to the county level. Texas has 254 counties, organized into regions (a group of several counties), as follows:

- 11 Public Health Regions (PHR's) (Effective 3/1/93)
- 24 Councils of Government (COG's)

You may select any combination of areas - VitalPro makes it easy to compare results between different groupings ("sets") of geographic areas (Counties and County groupings), or limit analysis to specific geographic areas. One or more geographic areas may be combined into an area set, and compared with other sets.

Selection is quick and easy - All geographic operations are grouped together on one submenu, to allow quick and easy selection of any combination of areas desired. [A previous interface snapshot](#) shows the main geographic menu.

6-2: Range and Categorical Variables

Race Groups

You may select any combination of race groups to analyze. Races may be combined into "sets" as needed. A separate submenu allows easy selection. Keep in mind that differences in health status between races may be due to socio-economic differences.

Each count is classified as White, Black, Hispanic, or Other, as assigned by the Texas State Data Center.

Age Groups

VitalPro lets you combine and analyze age groups in just about any way needed. You may select any contiguous combination of age groups to analyze, such as 22-34. Or, you may select a set of ranges, such as birth-19, 20-39, 40-64, 65-99+.

The program will let you know which age groups are available for use. Standard age groupings, such as 5-year, 10-year, and 20-year age groups are easily selected. Age groups may be combined in just about any way desired.

Up to age 21, 1-year ages are used (for example, 3 or 11-17). For 22 and over, an age group may use any combination of 5-year groups (for example, 40-44 or 30-49). The highest group is currently 75-99+ (75 and over).

Sex

You may select Male, Female, or both sexes combined.

Years

You may select any continuous range of one or more years to analyze, such as 1980-1983. In addition, you may select a set of year ranges for comparing, such as 1990-1991, 1992-1993, 1994-1995. The program will let you know which years are available for use. Standard groupings, such as 1-year, 2-year, and 3-year groups are easily selected. Year groups may be combined in just about any way desired.

Chapter 7: Other Parameters

What's in this chapter - This chapter explains various other key parameters, that are not table variables and are not data variables.

Here are the other parameters covered in this chapter:

- Decimal Place Digits
- Trend Confidence Level

- Bar Chart Settings
- Line Chart Settings
- Pie Chart Settings
- Map Settings

7-1: Decimal Places

VitalPro allows specification of the number of decimal places in your results. For example, the number 64.29 has two decimal places. The number 64 has zero decimal places.

7-2: Trend Analysis

· VitalPro automatically carries out trend analyses.

Purpose of trend analysis - When analyzing data with a year for each row, you usually want to know: Is there a trend up or down? Is the rate increasing or decreasing?

Least-squares line shows the trend - VitalPro automatically carries out a "least-squares" analysis for a time series. This finds the best straight line to describe the data for each data column. The line is defined by the value for the first year ("y-intercept"), and the amount of change per year ("slope").

Confidence intervals show if significant trend - VitalPro calculates a confidence interval for the slope. If the confidence interval doesn't include 0, there is a significant trend.

```

Population
Tabulated by Year and Sex
Place of Residence: Texas

Year                Male                Female                Total
-----
1995-1997           28,369,279          28,922,310           57,291,589
1998-2000           29,726,292          30,373,548           60,099,840
2001-2003           31,240,811          31,934,698           63,175,509
-----
Total                89,336,382          91,230,556           180,566,938

Horizontal Bar Graphs (X = 2,128,980 Population, x = 1,064,490):

Year                Male                Female
-----
1995-1997           XXXXXXXXXXXXXXXXx  XXXXXXXXXXXXXXXXx
1998-2000           XXXXXXXXXXXXXXXXx  XXXXXXXXXXXXXXXXx
2001-2003           XXXXXXXXXXXXXXXXx  XXXXXXXXXXXXXXXXx
-----

Detailed Least-Squares Analysis, to Detect Linear Trend:

Column    1995-1997 Y-intercept          Slope          95% CI (1 df, t=12.706)
-----
Male      28,343,028          +1,435,766          +858049 to +2013483 **
Female    28,903,991          +1,506,194          +1103047 to +1909341 **
Total     57,247,019          +2,941,960          +1961096 to +3922824 **
-----

Y-intercept and slope may be used to draw least-squares line.
If confidence interval (CI) does not include 0, trend is significant [**].

```

Significant Upward Trends for Population

7-3: CSV and DBF Output

• Results may be saved to a spreadsheet, DBF, or text file.

Saving to a second format - The output in your desktop browser always includes (at the bottom of the output) links to spreadsheet (csv, tsv, or dif), text (txt), and dBASE III (dbf) output. To view or download one of the second formats, simply click on one of the links.

CSV file (comma-separated-value) (for spreadsheets) - CSV output has a comma between each output item, and each text item is surrounded by "double quotes", as shown below. CSV format is ideal for importing into spreadsheet software. TSV (tab-separated-value) format is similar, but uses tabs instead of commas between items.

Browser differences - Internet Explorer automatically displays CSV output in Excel (if installed). Other browsers may be configured to automatically display CSV output in a spreadsheet program.

```
"Population"
"Tabulated by Race-Ethnicity and Sex"
"Years: 1990"
"Place of Residence: PHR 1"

"Race", "Male", "Female", "Total"
"-----"
"White", 250520, 269745, 520265
"Black", 17348, 18589, 35937
"Hispanic", 85674, 82065, 167739
"Other", 5259, 4938, 10197
"-----"
"Total", 358801, 375337, 734138

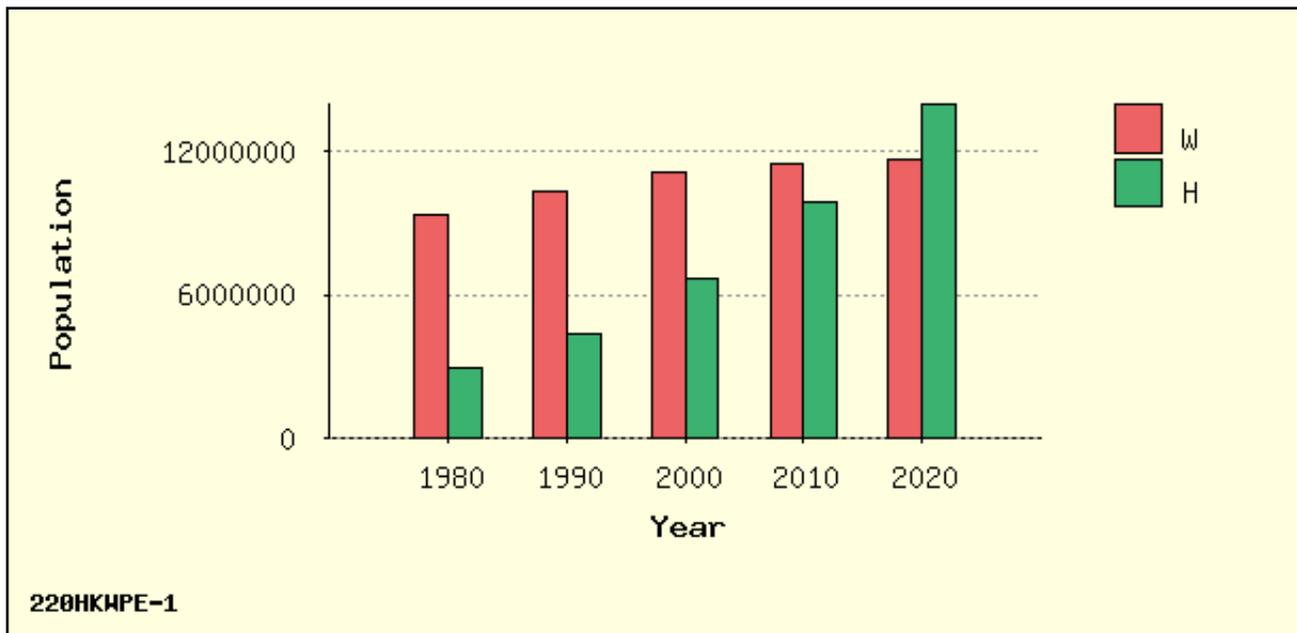
"Analysis Footnotes:"
"Unique ID, for Keeping Track of Analyses: 414YARTW"
"Output Produced: Sat Apr 14 10:41:02 2001, by Texas VitalNet"
"Population Data Source (Pre-1990): TDH State Health Data (1/95)"
"Population Data Source (1990+): TAMU TX State Data Center (8/98)"
```

Example of CSV Output

DBF file (useful for many other applications) - Results may also be saved to a dBASE III database file (dbf extension). Database files are excellent for importing into almost any data analysis, graphics, spreadsheet, mapping or other presentation software. Field names are automatically imported along with the data. Suppressed cells are represented by the number "-1".

DBF file limitations - 1) Header and footer information listing analysis parameters is not included in database files. To help out, you may want to make the name of the dBASE file the same as the table ID, such as "405MFAQB.DBF" so you can refer to the table later. 2) Only 128 columns may be saved to a dBASE III file. This rarely presents a problem, because unlimited rows are allowed.

7-4: Bar Charts



Bar charts compare amounts of different things.

Ways to customize Vitalnet bar charts:

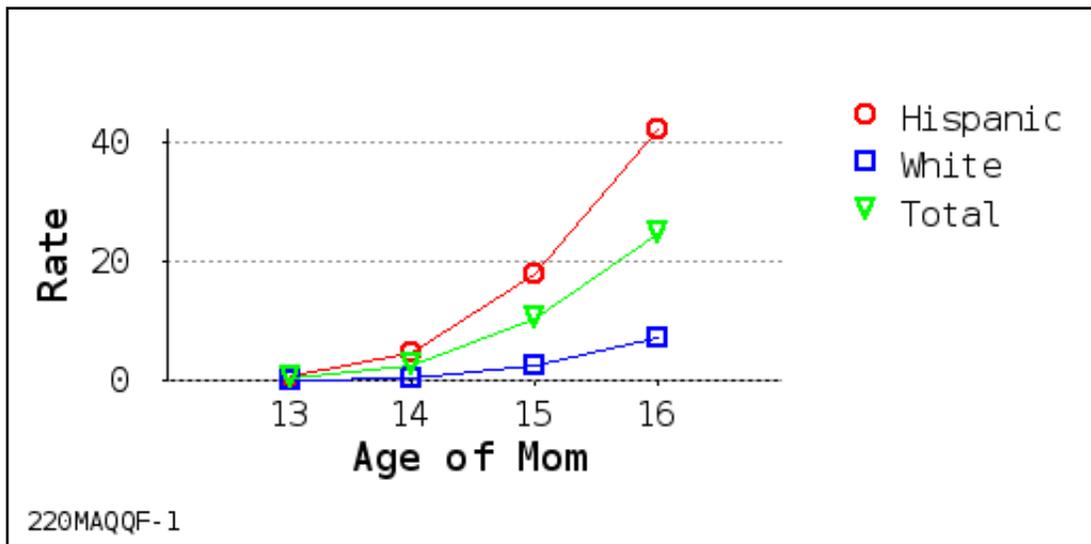
- **Background** - Background color for bar chart.
- **Bar Colors** - Color palette to use for bars.
- **Bar Height** - Height of tallest bar (cm).
- **Bar Width** - Width of each bar (cm).
- **First Color** - Color to use for first bar.
- **Grid Lines** - Dashed grid lines on bar chart.
- **Orientation** - Horizontal or vertical bar chart.
- **Text Size** - Font size for bar chart text (points).

Note: Black and white chart uses hatch and gray-scale patterns.

Bar charts are only made if the following conditions are met:

- 1 to 20 rows (groups of bars).
- 1 to 10 columns (bars per group).
- No suppressed results (for stacked bar chart).

7-5: Line Charts



Line charts show movement or change.

Ways to customize Vitalnet line charts:

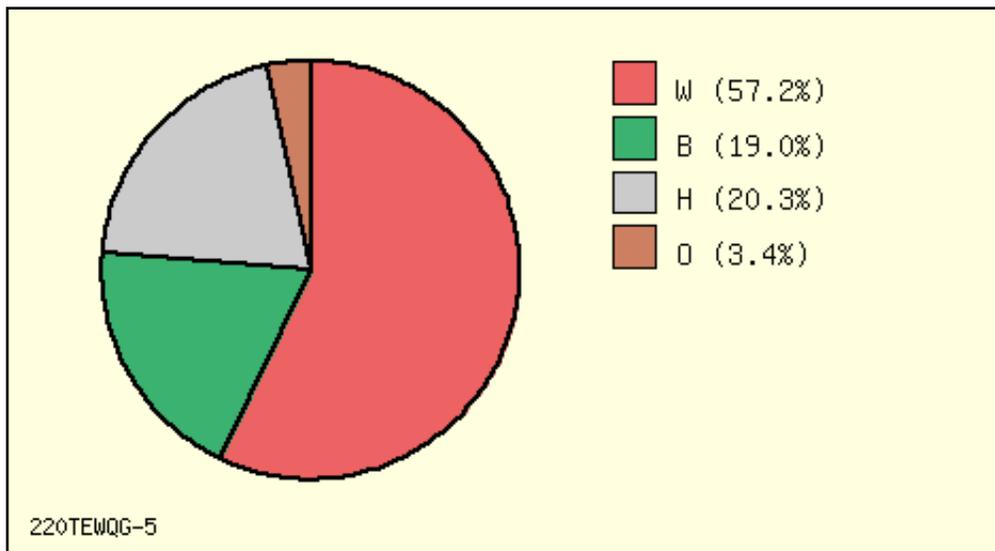
- **Background** - Background color for chart.
- **Grid Lines** - Grid lines on line chart.
- **Height** - Line chart height (cm).
- **Line Colors** - Colors to use for lines.
- **Line Width** - Width to use for lines.
- **Symbol Size** - Symbol radius (mm) (if symbols used).
- **Symbols** - Symbols at line chart data points.
- **Text Size** - Font size for line chart text (points).

Note: Black and white lines are rendered as dot and dash patterns.

Line charts are only made if the following conditions are met:

- Range rows (such as age or year).
- Ranges are continuous (not 2000, 2002).
- Rows not sorted. No suppressed results.
- No more than 10 lines (10 columns).

7-6: Pie Charts



Using pie charts:

- Shows parts of a whole.
- Can be difficult to prevent label overlap.
- Not good for giving detailed information.
- Not good for showing trends.
- Gives quick overall comparison of a few items.

Ways to customize Vitalnet pie charts:

- **Background** - Background color for chart.
- **Colors** - Colors to use for pie chart slices.
- **First Color** - Color to use for first slice.
- **First Slice** - Clock position for first slice.
- **Label Mode** - How to label pie chart slices.
- **Percents** - How to display pie chart percents.
- **Radius** - Radius of pie chart (cm).
- **Text Size** - Font size for chart text (points).

Pie charts are only made if the following conditions are met:

- Cumulative data (counts, some rates).
- One set of numbers (one row or column).
- 2 to 9 pie slices. No suppressed results.

7-7: Maps

VitalWeb Map

Maps display results geographically, in PNG and PDF formats.

Ways to customize Vitalnet maps:

- **Area Labels** - Area Labels on Map
- **Boundaries** - Boundaries to Display
- **Color Count** - Number of Map Colors (Ranges)
- **Color Palette** - Color Combination for Map
- **Range Type** - Equal Width or Equal Count Ranges
- **Time Trend** - Map for each Year Range (if Equal Ranges)

Time trend maps require: 1) **At least 2 year ranges**, and 2) **All year ranges same width** - Not 1995-1996, 1997-1998, 1999

Checklist of Key Tasks

This checklist gives an overview of the main capabilities of the software, and the tasks you would normally do to analyze the data.

Table layout:

- Select outcome (main statistic)
- Select row variable and sorting
- Select column variable
- Select multi-tables (table series)

Age groups:

- Select grouping (eg 5-year groups)
- Split a group (eg, 10-11 --> 10 + 11)
- Delete a group

*** For low end of a group:

- Decrease (eg, 11-13 --> 10-13)
- Increase (eg, 11-13 --> 12-13)

*** For high end of a group:

- Decrease (eg, 10-12 --> 10-11)
- Increase (eg, 10-12 --> 10-13)

Other tasks:

- Switch to designing a map
- Switch to designing a table
- Produce output from main menu
- View HTML output in browser
- View text output in browser
- View pie / bar / line charts
- View CSV / TSV in spreadsheet
- Change output directory
- Change output prefix
- Use help system

Race sets:

- Select some race sets
- Delete a race set
- Merge some sets
- Split a race set

Area sets:

- Select some area sets
- Delete an area set
- Merge some sets
- Split an area set

Chart & map settings:

- Modify bar chart settings
- Modify line chart settings
- Modify pie chart settings
- Modify map settings

Other settings:

- Change decimal places
- Turn on row percents
- Turn on column percents

Glossary

Area set - One or more areas combined.

ASCII file - A text file, with only alphabetical, numerical, and punctuation characters, like you would see in normal text. Vitalnet can produce output in ASCII format.

CDC - Centers for Disease Control and Prevention. US federal health agency.

Cell - A space for a single numerical result in a table, at a row-column intersection.

Cell suppression - An asterisk "*" is placed in cells with fewer deaths than a limit set by the user. Row / column totals with exactly one suppressed cell in the row / column are also suppressed. If more than one cell in the row / column is suppressed, the row / column total is displayed.

Columns - Vertical groupings of data in a Vitalnet table, such as a column for each race group.

CSV format - Comma-separated-value format. CSV files are readily imported into spreadsheet software. Each output item is separated by a comma from surrounding items, and each output text item is surrounded by "double quotes". A comma-separated-value file has "csv" extension. Similar to TSV format.

Data mining - Finding unexpected relationships in a data set. Similar to exploratory data analysis. Vitalnet is excellent at data mining. Of course, keep in mind that the more you look, the more unusual events you will find, just by chance.

Data warehouse - Software system, such as Vitalnet, making large complex databases readily available for querying and analysis.

dBASE III format - A widely used file format derived from the database software of the same name. Files in this format may be readily imported into almost any data analysis, graphing, mapping, or other presentation software. Has dbf extension. Suppressed cells are represented as the number "-1".

DIF format - Data interchange format. DIF files are readily imported into spreadsheet software. The DIF format is too complex to explain in this glossary. Has "dif" extension.

Denominator - The number on the bottom of a fraction. Population data are often referred to as "denominator data", as they are used as denominators to calculate population-based rates.

Export - Produce output that can be read into other computer programs. Vitalnet produces ASCII text (txt), comma-separated-value (csv), HTML (htm), and dBASE III (dbf) files for export.

Filter variable - A variable solely used to filter which records are included in the output. For example, for a single table with race rows and sex columns, age is a filter variable.

Footer - Last part of a Vitalnet table. Lists required but less important details of the analysis, such as the date and time produced, and data sources. The footer contains a unique ID to assist in keeping track of analyses.

Header - First part of a Vitalnet table. Lists key analysis parameters, such as years analyzed.

Import - Read information into a computer program. ASCII text, CSV, TSV, DIF, HTML, and dBASE III files from Vitalnet are easily imported into word processing, spreadsheet, data analysis, mapping, graphing, and other presentation software programs.

Least-squares - A standard method for fitting the best straight line to a set of points. Produces a Y-intercept and a slope defining the least-squares line.

Median population age - A measure of the overall age of a population. Half the population is younger than the median, half is older. Assuming a population of 100,000 people, 50,000 people would be older than the median age, 50,000 younger.

Multiple age groups - One age group for each table row (or column). Example: 0-19, 20-59, 60-99+.

NCHS - National Center for Health Statistics. US health statistics agency. Part of the CDC.

Percent total population in age group - A population statistic. Useful for assessing the relative age of the population. If the total population is 100,000, and 8,000 are under age 10, the percent of the total population under 10 is 8 percent.

Population - The number of people living in an area.

Rows - Horizontal lines in a Vitalnet table, such as a row for each race group.

Row sort settings - Vitalnet rows may be sorted in ascending or descending order.

Set - A combination of one or more things. For example, several areas may be combined into an area set.

Single age group - Only one age group (30-49, for example) is selected. A single age group is used for tables that do not have age columns or age rows.

Statistic (Main Statistic) - The basic type of numerical result displayed in a table, chart, or map. For example, population.

Table - A set of results produced by Vitalnet. A table has several parts:

1. Header - lists basic analysis settings
2. Data section - numerical results
3. Horizontal bar graphs - graphical representation of the data
4. Footer - lists other analysis settings

Tabular chart - A section of a Vitalnet table. Gives an scaleable graphical representation of the data. May be omitted from the output table.

TSV format - Tab-separated-value format. TSV files are readily imported into spreadsheet software. Each output item is separated by a tab from surrounding items, and each output text item is surrounded by "double quotes". A tsv-separated-value file has "tsv" extension. Similar to CSV format.

Unix - A popular set of computer operating systems. Vitalnet can run on Unix.

Windows - A widely used set of PC operating systems. Vitalnet runs under any version of Windows.

World Wide Web (WWW) - A widely used part of the internet that may be easily accessed with a web browser. Vitalnet runs on the WWW.