How to Use the Cancer-Rates.Info/NJ Web-Based Incidence and Mortality Mapping and Inquiry Tool to Obtain Statewide and County Cancer Statistics for New Jersey

Cancer Incidence and Mortality Inquiry System Version 7.0 User Tutorial



Introduction to Cancer-Rates.Info/NJ

Cancer-Rates.Info is a Web-based cancer incidence and mortality inquiry system which provides statistical data in the form of maps, charts or tables. This "powerful online data visualization and exploration service, hosted by the Kentucky Cancer Registry (KCR), provides free public access to population-based cancer incidence and mortality data for central cancer registries", according to KCR. **Cancer-Rates.Info/NJ** is the official source for the most current online state cancer statistics for New Jersey. For information about all of the central cancer registries that offer cancer incidence and mortality data via the **Cancer-Rates.Info** service, as well as for more information about the service itself, you may wish to view the overview video or related information at http://www.cancer-rates.info or http://cancer-rates.info/about/.



Cancer-Rates.Info/NJ Updated User Interface

Cancer-Rates.Info/NJ, like many other Web sites, uses *frames* to make information easier to access or to simultaneously show the contents of multiple pages on a single page. Web *frames* are often used to create a table of contents which remains on the screen while users go to different pages on the Web site. When a single Web page is divided up into sections that can each display separate Web pages, each section is called a *frame*. The *window* that hosts the group of *frames* is called a *frames page*. Our cancer rates mapping Web site continues to maintain three *frames* within its updated *frames page* (Figure 1a).



Figure 1a – Cancer-Rates.Info/NJ Frames Page

Only the *data table frame*, at the bottom of the *frames page*, is equipped with a *scroll bar* to allow one to move vertically or *scroll* through tables, using a computer mouse, to view hidden data rows (**Figure 1b**). Alternatively, one may use the directional arrow keys on a computer keyboard to do this, once a table has been selected by clicking on it. Since all the stationary content is visible in both the *data query frame* and the *map results frame* at the top of the *frames page*, neither of these *frames* requires a *scroll bar* for navigation. However, it should be noted that the *map results frame* does display pop-up information about each individual county, which actively changes, as one places the mouse pointer over a particular county and then moves the pointer to hover over another county. This particular topic is discussed further on page 13.

Figure 1b - Cancer-Rates.Info/NJ Data Table Frame Scrolling



Data Bar Graph Population Information Citation

19893

21974

4391

3337

10265

8196

4264

14526

632.0

759.3

558.5

618.1

557.4

595.9

577.0

586.5

532.7

526.5

524.1

516.4

511.1

504.4

503.2

498.9

[525.1, 540.3]

[519.2, 533.8]

[508.5, 540.0]

[498.6, 534.6]

1501.1.521

3147898

2893885

786285

539896

1841481

1375467

739016

2476569

Monmouth

Cumberland Warren

Ocean

Mercer

Sussex

Morris

Running Data Queries from the Data Query Frame

The *data query frame* is the part of the *frames page* that allows a user to enter selection criteria for data searches. The two other *frames*, the *map results frame* and the *data table frame*, will both change in response to the selections that are made in the *data query frame*. As shown in **Figure 2**, the *data query frame* contains eight individual drop down menus, which include *Data Source*, *Geography, Cancer Site, Year Start, Year End, Sex, Race/Ethnicity*, and *Standard*.

Figure 2 – Data Query Frame Drop Down Menu Options



<u>Notes</u>:

- Although the Geography setting cannot be changed, a selection for State Data is available at the bottom of each County Data table.
- "2000 U.S. Standard Million Population" is the recommended default setting for Standard.
- The New Jersey State Cancer Registry (NJSCR) generally presents cancer data separately for Male and Female populations. This measure is instituted to help avoid problems and confusion that, for example, can arise when breast cancer incidence rates are accidentally queried for men and women together and then those results are erroneously compared to our published female (only) breast cancer incidence rates.

The basic steps for submitting a query using the interface in the *data query frame* are as follows. First, select the **Data Source**. If one is looking for *incidence data*, which covers the number of newly diagnosed cases among New Jersey residents in a given time period, there are two possible options from which to select: (1) **Invasive Cancer Incidence** or (2) **All Cancer Incidence**. The conventional way of presenting cancer incidence data is as "invasive only" (the first of these two options), which does not include *in situ* diagnoses. **All Cancer Incidence** includes non-invasive cancer cases that are referred to as *in situ* diagnoses, which may be of interest to some. Alternatively, one may select the **Cancer Mortality** option to obtain data about the number of cancer-related deaths among New Jersey residents over a given amount of time.

Of the remaining drop down menus, **Geography** remains permanently set at **County** and **Standard** should remain set to **2000 U.S. Standard Million Population** as a default for nearly all users. Then select starting and ending points in the **Year Start** and **Year End** drop down menus, starting from 1990. It should be noted that there is generally a two to three year lag in the availability of the most recent, complete incidence and mortality data, to allow for comprehensive case follow-up and quality control by cancer registrars in the NJSCR. If only a single year of data is desired, enter the same year in both of these selection areas. Finally, if data for a specific **Sex** and / or **Race/Ethnicity** is desired, modify the options accordingly; both of these selection criteria are set to **All** as a default setting. As a note of caution for **Race/Ethnicity**, persons of *Hispanic* ethnicity may be of any race or combination of races. Once the criteria have been set / changed, the **Redraw** button, just below, starts to flash or change colors (**Figure 3**). Click the **Redraw** button and notice that the map in the *map results frame* and the table in the *data table frame* are automatically updated in response to your request criteria.

/	Specify your crite		
	Data Source Invasive	~	
	Geography	County	~
	Cancer Site Cold	on & Rectum	~
	Year Start 2013 V	Year End 2013	~
	Sex Male 🗸 🗸 🗸	Race/Ethnicity White	~
	Standard 2000 U.S. Stand	~	
			1
	Redr		

Figure 3 – Submission of A Completed Data Query

It is now also possible to Add Comparison View, before clicking Redraw, to obtain a view of two maps/datasets with differing criteria side-by-side. This is an especially useful feature for making rate comparisons by sex (gender), race/ethnicity, year of diagnosis, or cancer site. To enable this feature, one should click on the large, pale plus (+) sign that appears to the right of the data query frame (Figure 4). The resulting side-by-side dual map and data query frame layout is displayed below as well. To turn off the comparison feature, click on the circled icon shown on the lower image. Please be advised that this icon may only become fully visible once the mouse pointer is left to hover over the indicated corner of the *frame*.

cer Registry Specify your criteria History Data Source Invasive Cancer Incidence Geography County **Click to open** Cancer Site All Sites Year Start 2009 Vear End 2013 Sex All Race/Ethnicity All Standard 2000 U.S. Standard Million Population Click to close Last accessed Aug 11, 2016. @ 2016 New Jersey State Cancer Registr New Jersey State Cancer Registry Specify your criteria 🔢 History Specify your criteria Data Source Invasive Cancer Incidence Data Source Invasive Cancer Incidence Geography County Geography County All rates per 100,000 Cancer Site Breast (Female) Cancer Site Breast (Female) Based on February 2016 New Jersey State Cancer Registry Data File. Last accessed Aug 16, 2016. © 2016 New Jersey State Cancer Registry. Year Start 1990 Year End 1990 Year Start 2012 Year End 2012 Sex Female 🗸 🗸 🗸 Sex Female Race/Ethnicity All Bace/Ethnicity All Standard 2000 U.S. Standard Million Population Standard 2000 U.S. Standard Million Population Age-Adjusted Invasive Cancer Incidence Rates in New Jersev Age-Adjusted Invasive Cancer Incidence Rates in New Jersey Breast, Female, 1990 Breast, Female, 2012 By County By County Age-Adjusted to the 2000 U.S. Standard Million Population Age-Adjusted to the 2000 U.S. Standard Million Population New Jersey Rate: 144.3 / per 100,000 New Jersey Rate: 130.7 / per 100,000 102.3 - 132.7 97.0 - 123.6 134.2 - 144.0 125.2 - 132.6 144.1 - 150.9 157.7 - 172.8 1328-1390 140.2 - 147.1 Age-adjusted Rate Age-adjusted Rat

Figure 4 – Adding A Comparison to A Data Query

Page 7 of 14

During a single session on **Cancer-Rates.Info/NJ**, a "criteria history" of all of one's queries is available for reference. Once the browser is closed, the history is removed and becomes unavailable. By clicking the **History** icon in the *data query frame*, a listing appears with all of the queries that have been submitted during the current session (**Figure 5**). This feature allows one to submit several queries, quickly review the results, and then go back to review prior results more closely or export electronic copies of related tables, graphs or maps for each query for use in other publications. Exporting will be covered on the following page.

Figure 5 – Retrieving Recent Data Queries from The History

	er Registry		🖽 Menu		
	Specify your criteria	History			
	Data Source Invasive Cano		-		
	Geography Cour	nty 🗸 🗸			
	Cancer Site All Si	tes 🗸			
	Year Start 2009 🗸 🗸	Year End 2013			
	Sex All 🗸	Race/Ethnicity All			
	Stendard 2000 U.S. Standard N	Allion Population			
	Last accessed Aug 11, 2016. © 2016 New Je	rsey State Cancer Regatry.			
>riteria	a History Click a ma Invasive Cancer Incidence Lung and Bronchus, 2009 - 2013	np to draw a previously view	ed dataset.	Remove	
Y	By County				
	By County			Remove	
The second secon	By County Invasive Cancer Incidence Breast (Female), Female, 1990 - 2 By County	009		Remove	
	By County Invasive Cancer Incidence Breast (Female), Female, 1990 - 2 By County	009 Clear Entire History		Remove	

Exporting Query Results from the Data Table Frame

Each query produces maps and data tables which may be printed or inserted into other electronic publications. Clicking the **Export** link at the bottom of the *data table frame* (as indicated by the arrow on the right in **Figure 6**), causes another window to open with three options. The first option, "Tabular Data (.csv)", will download a spreadsheet file that can be opened in *Microsoft Excel* and saved as an *Excel* file (.xls). The second option, "Heat Map bitmap (.png)", will open up a new browser window with a copy of the downloadable map produced by one's query. To save this map, right-click the image and select **Save Image As...** or **Save Picture As...**. This will save the image into *.png* format. It should also be noted that there is an option to download a larger image by clicking the **Large** (circled) link, beneath the map icon for this option; clicking the icon itself or the **Normal** (circled) link produces a smaller version of the same map. Selection of the third option, "Tabular Data + Heat Map bitmap (.zip)", will download a *.zip* file containing both the table and map from the other options. The *WinZip* application (<u>http://www.winzip.com</u>) may need to be installed in order to open this type of file. If any related image downloads fail to execute, use of a different Web browser can often resolve the problem.

Region Q	Population at Risk	Cases	Crude Rate	Age-adjusted Rate	95% Confidence Interval
Cape May	483325	4321	894.0	565.4	[547.7, 583.5]
Gloucester	1444938	8670	600.0	547.6	[535.9, 559.5]
Burlington	2248444	14253	633.9	539.1	[530.2, 548.2]
Salem	328973	2202	669.4	539.0	[516.1, 562.7]
Camden	2565788	15108	588.8	534.3	[525.7, 543.1]
Monmouth	3147898	19893	632.0	532.7	[525.1, 540.3]
Ocean	2893885	21974	759.3	526.5	[519.2, 533.8]
Cumberland	786285	4391	558.5	524.1	[508.5, 540.0]
Warren	539896	3337	618.1	516.4	[498.6, 534.6]
Mercer	1841481	10265	557.4	511.1	[501.1, 521.3]
Atlantio	1375467	8196	595.9	504.4	[493.3, 515.6]
Sussex	739016	4264	577.0	503.2	[487.6, 519.3]
Morris	2476569	14526	586.5	498.9	[490.6, 507.2]
Hunterdon	636026	3664	576.1	484.7	[468.4, 501.4]
Somerset	1632518	8782	537.9	482.2	[472.0, 492.6]
Middlesex	4089138	20688	505.9	475.9	[469.3, 482.5]
Bergen	4569028	26539	580.9	474.0	[468.2, 479.8]
Union	2705677	13688	605.9	470.6	[462.6, 478.6]
Essex	3934299	18492	470.0	462.3	[455.6, 469.1]

Figure 6 – Exporting Query Result Output

State Data Bar Graph Population Information Citation Export



Other Exportable Data from the Data Table Frame

In addition to the items that are available from the **Export** link, there are other options listed along the bottom of *data table frame* that also provide exportable tabular and graphical data (**Figure 7**). These four window options include: **State Data**, **Bar Graph**, **Population Information**, and **Citation**. When any of these four options are selected, a pop-up window will appear to display the requested data. Moving the mouse pointer to hover over the upper-right section of the pop-up window and clicking on the farthest right button that appears will close these windows. For the last three of these options, a minimize / maximize button also appears, just to the left of the close button, which will modify the pop-up window's size, when clicked.

The **State Data** link displays a table with individual year and period data for the selected cancer, broken down by *Population at Risk, Total Cases, Crude Rate, Age-Adjusted Rate, 95% Confidence Interval – Lower*, and 95% *Confidence Interval – Upper*. This table can be exported as a spreadsheet file to *Microsoft Excel* by using the **Export as .csv** icon just above the upper right corner of the table. Between the title header for the pop-up window and the table, there are four more options available for **State Data** in the white strip (**Figure 8**). The default selection is **Rates by Year, [queried cancer site]**. The other options include **Age-Specific Rates, [queried cancer site]**, **Trend Graph, [queried cancer site]**, and **5 Year Profile, All Sites**.

The **Bar Graph** link displays a bar graph that reflects the site(s) and timeframe of the current query. The four different colors are used to organize counties into four quartile groups. The left side of the graph has the quartile with the highest rates and decreases progressively to the lowest rates in the quartile on the right side. The black line, which intersects all of the bars, marks the associated statewide rate for the selected cancer. As with the maps using the **Export** link, the pop-up window containing the bar graph offers an option to **Download this graph**, which follows the same download technique and again provides a *.png* file that can be placed into other publications.

The **Population Information** link displays a table with the total population of each of New Jersey's 21 counties for each year during the period of time specified in the current query; statewide population is also provided at the bottom of the table for each of these years. These are the same populations that are used to calculate any queried cancer incidence or mortality rates.

The **Citation** link provides bibliographic references / citations for the displayed maps, graphs and tables in *MLA*, *APA*, and *Chicago-compliant* formats. There are also additional options at the bottom of the pop-up window to allow for export to either of two supported reference management software applications: **Export to EndNote** and **Export to BibTeX**. The formatted citations that are listed may also be copied and pasted directly into the documents or presentations, where these materials are used, to properly reference the NJSCR as the data source.

Note: Crude Rates vs. Age-Adjusted Rates

Crude rates are influenced by the underlying age distribution of a state's population. Even if two counties have the same age-adjusted rates, the one with the relatively older population will tend to have higher crude rates because incidence or mortality rates for most cancers increase with increasing age. The age distribution of a population (the number of people in particular age categories) can change over time and vary among different geographic areas. Age-adjusting the rates ensures that variation in incidence or mortality between different time periods or different geographic areas is not due to differences in the age distribution of the populations being compared.

(U.S. Centers for Disease Control and Prevention, National Program of Cancer Registries)

Other Exportable Data from the Data Table Frame (Cont.)

Region Q	Population at Risk	Cases	Crude Rate	Age-adjusted Rate	95% Confidence Interv
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Camden	2565788	15108	588.8	534.3	[525.7, 543.1]
Monmouth	3147898	19893	632.0	532.7	[525.1, 540.3]
Ocean	2893885	21974	759.3	526.5	[519.2, 533.8]
Cumberland	786285	4391	558.5	524.1	[508.5, 540.0]
Warren	539896	3337	618.1	516.4	[498.6, 534.6]
Mercer	1841481	10265	557.4	511.1	[501.1, 521.3]
Atlantio	1375467	8196	595.9	504.4	[493.3, 515.6]
Sussex	739016	4264	577.0	503.2	[487.6, 519.3]
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Bergen	4569028	26539	580.9	474.0	[468.2, 479.8]
Union	2705677	13688	505.9	470.6	[462.6, 478.6]
Essex	34299	18492	470.0	462.3	[455.6, 469.1]

Figure 7 – Data Table Frame General Options

Figure 8 – Data Table Frame "State Data" Options

Statewide

Invasive Cancer Incidence Rates in New Jersey All Sites, 2009 - 2013

Rates by Year, All Sites Age-Specific Rates, All Sites Trend Graph, All Sites 5 Year Profile, All Sites								
								Export as .csv
	F	Year	2009	2010	2011	2012	2013	2009-2013
	Po	pulation at Risk	8755602	8803580	8842614	8876000	8911502	44189298
	Total Cases		49444	48779	49684	49272	49980	247159
		Crude Rate	564.7	554.1	561.9	555.1	560.9	559.3
	Age-Adjusted Rate		509.1	494.0	496.9	484.4	483.3	493.2
	95% Confidence Interval	Lower	504.5	489.6	492.4	480.1	479.0	491.3
	95% Confidence Interval Upper		513.6	498.5	501.3	488.8	487.7	495.2
	Note: All rates are per 100,000. Rates are age-adjusted to the 2000 U.S. Standard Million Population Data accessed September 20, 2016. Based on February 2016 New Jersey State Cancer Registry Data File.							
Rate	s by Year, All Sites	Age-Speci	fic Rates, I	All Sites	frend Graph	, All Sites	5 Year Pro	file, All Sites

Data Table Frame User Tips

There are a few additional application features of which users of **Cancer-Rates.Info/NJ** should be aware, in regard to the *data table frame*:

- Clicking on any of the six headings on the table in the *data table frame*, will reorder the data listing. For reference, the six headings are: *Region* (County), *Population at Risk, Cases, Crude Rate, Age-adjusted rate*, and 95% *Confidence Interval*. Clicks on the *Region* column heading will toggle between an A-Z listing and a Z-A listing of data by county. Clicks on any of the other five column headings will reorganize the county listing based on a lowest-to-highest or highest-to-lowest ranking order of the data in the selected column. For example, one click on the *Cases* column heading will sort the county listing so that the county with the largest number of cases appears first and the county with the lowest number of cases appears last. Another click on the *Cases* column heading will change the display of the listing to show the county with the smallest number of cases first and the county with the largest number of cases last.
- Also in the *data table frame*, placing and letting the mouse pointer hover over a row in the table, will cause a check box to appear to the left of the county name in the *Region* column. This will also cause the outline of the corresponding area on the map in the *map results frame* to be highlighted. By selecting any combination of two or more counties with checked boxes, one can define a "Region" and view associated rates for the entire defined "Region" in a table by clicking the blinking **Calculate selected regions** button that appears to the left.
- Clicking a county name in the *Region* column of the *data table frame* table will generate a popup table for the specified county covering the time period outlined in the current query. Three options exist here, as well as an option to Export as .csv. The other options are Rates by Year, [site name], Trend Graph, [site name], and 5 Year Profile, All Sites. It should be noted that the Trend Graph, [site name] option offers one the added ability to compare two counties with each other in the graph, by using the + Compare a region sub-option.

legion Q	Population at Risk		Crude Rate	Age-adjusted Rate	95% Confidence Interva
Cape May	483325	4321	894.0	565.4	[547.7, 583.5]
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Essex	3934299	18492	470.0	462.3	[455.6, 469.1]

Map Results Frame User Tips

There are also a few additional application features of which users of **Cancer-Rates.Info/NJ** should be aware, in regard to the *map results frame*:

- If the mouse pointer is left to hover over a particular county in the displayed map in the *map* results frame, a pop-up text box automatically opens and displays the following information (as shown below): County name, Population at risk, Cases, Crude rate, Age-adjusted rate, and 95% confidence interval (for the cancer specified in the current query).
- If a particular county in the displayed map in the *map results frame* is clicked instead, a pop-up table with similar county and state data relevant to the current query will be generated and displayed. This table is the same one that is created by clicking a county name in the *Region* column of the current table displayed in the *data table frame*, with all aforementioned options.
- Clicking on the link that is embedded in the first line of the map title in the *map results frame* opens the same pop-up box and tabular information as the **State Data** link at the bottom of the *data table frame*, which was discussed on page 10 of this user tutorial document. For invasive cancer incidence, the link would consist of the words "Invasive Cancer Incidence Rates in New Jersey" (as an example).



Obtaining Help With Using Cancer-Rates.Info/NJ

Additional, online help documentation is available for **Cancer-Rates.Info/NJ** users by clicking on the **Menu** icon, in the upper right corner of the screen (**Figure 9**).

Figure 9 – "Men	u" Icon Location
cer Registry	🛛 Menu
Specify your criteria 🗄 History	\mathbf{X}
Data Source Invasive Cancer Incidence	·
Geography County	×
Cancer Site All Sites	
Year Start 2009 Vear End 2013	×
Sex All 💛 Race/Ethnicity All	<u> </u>
Standard 2000 U.S. Standard Million Population	*
Redraw	

Acquiring Further Related Assistance

For further assistance with resolving navigational problems and technical issues involving this Web application, as well as to obtain help with related questions or help with locating additional New Jersey cancer data, please feel free to contact the New Jersey Department of Health's Cancer Epidemiology Services online at <u>http://www.nj.gov/health/ces/contact.shtml</u> or via telephone at (609) 633-0500.

