University at Buffalo
The State University of New York
School of Public Health and Health Professions

Population Health Observatory

"Dedicated to improving health through population based research."

Establishing a Regional Approach to Maternal and Child Health Assessment Activities in Western New York

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January 31, 2005

In collaboration with:
Western New York Public Health Alliance

ACKNOWLEDGMENTS

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Overview of the Contract, the Activities, and the Deliverables

1 Contract Deliverable Tracking

Table 1-1 Deliverable Status

#	Description	Status
1	Assess what MCH data are collected by each county - Collect data from the counties - Publish results - Include copies of the survey and results with the contract submission	- Survey in the field: Nov 17, 2004 - Completed Response: Jan 5, 2005 - Draft of Results: Jan 13, 2005
2	Acquire consensus of the WNY Public Health Alliance on the data to be used	Data sources approved on Dec 22, 2004 by the WNY Public Health Alliance
3	Develop methods for reporting data in a standard and consistent manner	Report template approved on Dec 22, 2004 by the WNY Public Health Alliance
4	Set up methodology for data transfer - Allison from Erie County to coordinate/develop contact list of Health Dept reps from each county.	The Counties do not store data, with the possible exception of electronic birth certificates. The PHO will request access to record-level HIN data from the State, with supporting agreements from the Counties - Letters distributed for signature on Jan 25 - Don has also started working with HIN
5	Acquire necessary data files from each County	Pending HIN access.
6	Create SAS Base map templates for each County. - Census Tract map created	A map template including information for all the counties has been created. - Low incidence rates, small (zip-level) populations and HIPAA restrictions may limit the usefulness of maps.
7	Develop geographic areas with adequate sample sizes and prevalence rates for each county.	We have developed a methodology to determine the appropriate geographic regions base minimum population level.
8	Acquire consensus for the manner of data presentation	At the Dec 22, 2004 WNY Health Alliance meeting, the County Health Commissioners agreed to a paper report and availability of a Web site (consider the HVRON as an example).
9	Review with counties, revising as per their concerns, making ongoing revisions as necessary	MCH Data Survey results to be reviewed with the WNY Public Health Alliance of Feb 10. Data source and metric have been approved.
10	Conduct a training session with 8 local health departments to strengthen skills related to community health data.	Training session presentation and handouts complete. Awaiting training session date.

2 Overview of Contract and Associated Activities

In February 2004, the New York State Department of Health contracted with the UB School of Public Health and Health Professions to develop a framework for a regional maternal and child health assessment of the eight counties in Western York. The goals, objectives and deliverables of the contract are outlined below.

Goals

1) To strengthen the skills and competencies of the public health work force in Western New York, and
2) To establish a regional approach to community maternal child health assessment activities in Western New York

Objectives

1) Develop a database of maternal child health indicators of interest to the eight counties in the western region, and
2) Identify and deliver one educational and training opportunity for the local and state public health work force in Western New York

Deliverables

1) Assess what MCH data are currently being collected by each of the 8 counties in WNY through the WNY Public Health Alliance
2) Acquire consensus of the WNY Public Health Alliance on the data to be used
3) Develop methods for reporting data in a standard and consistent manner
4) Set up methodology for data transfer
5) Acquire necessary data files from each county
6) Create SAS Base map templates for each county
7) Develop geographic areas with adequate sample size and prevalence rates for each county
8) Acquire consensus of the WNY Public Health Alliance for the manner of data presentation
9) Review with counties prior to finalization of the project, revising as per their concerns, making ongoing revisions as necessary
10) Conduct a training session with 8 local health departments to strengthen skills related to community health data.

The Population Health Observatory (PHO)

The UB Population Health Observatory was given responsibility for this contract. The Population Health Observatory is a unit within the UB School of Public Health and Health Professions. The Population Health Observatory is dedicated to improving health in Western New York and in the State of New York through population-based public health and epidemiologic research and health informatics.

Summary of Activities and Results

To assess the MCH data currently collected by the WNY counties (deliverable #1), the UB Population Health Observatory developed an internet-based survey to be completed by the directors (or their designates) of the eight County Health Departments. Fourteen datasets related to maternal and child health metrics were addressed in the survey. The Health Directors were asked about the use of these datasets in administration, program evaluation, program management, research, and in development of Community Health Assessments and Municipal Public Health Services (MPHS) Plans. A detailed description of the survey and the results is included in the MCH Data Assessment section of this package.

The County Health Departments do not collect or store maternal child health data for their own purposes. Data collected are submitted directly to repositories controlled by the New York State Health Department. When needed, the Counties access data through the Health Information Network (HIN).

The Population Health Observatory developed a template for a WNY Regional Maternal Child Health Assessment (deliverable #3). This template includes over 70 metrics to describe the socio-economic status, health and welfare of mothers and infants in Western New York. Formats for displaying the metrics support five-year comparisons across the eight Western New York Counties. On December 22, 2004, the members of the Western New York Health Alliance approved these metrics and presentation formats as the method for standard and consistent reporting of maternal child health metrics (deliverable #2). The table of contents (a listing of included MCH metrics), and several sample pages from the report are provided in the Reporting Template section of this package. The Health Directors agreed that paper copies of the Assessment should be given to them upon completion. Electronic copies will be available on the internet (deliverable #9).

The Population Health Observatory will rely on data available from the HIN for completion of the WNY Regional Maternal Child Health Assessment. HIN access has been identified as the methodology for data transfer (deliverable #4). Once this access has been granted, the HIN will also serve as the method for acquiring the necessary data files (deliverable #5). The Population Health Observatory has requested HIN access from each county in Western New York. A copy of this request is provided in the Data Request section of this package. The request includes a listing of the data sources required, and the metrics supported by each source.

A template for thematic mapping of the maternal child health metrics was developed (deliverable #6). An example is provided in the SAS Map Template section of this package.

Privacy statutes in the Health Insurance Portability and Accountability Act (HIPAA) require that any reporting of health information be done in a manner that does not disclose the identity of the individuals involved. In the Western New York Counties, the number of infants and mothers covered by many of the metrics is very small, and reporting could compromise their privacy. For this reason, it will be necessary to develop aggregated geographic areas such that the combined sample size and prevalence rates (deliverable #7) adequately mask the effected individuals. The minimum sample size is ultimately a function of the prevalence rate in each geographic area.

We have developed estimates for the minimum number of live births required to gather at least 5 outcomes with given probabilities and outcome rates. This portion of the project will be completed when the Population Health Observatory has access to the HIN data.

The Population Health Observatory submission for this contract will be reviewed by the Health Directors of the eight counties at the WNY Health Alliance meeting on February 10, 2005 (deliverable 8).

A training session for representatives from each of the eight local health departments is being planned. This session is expected to last about three hours, and cover topics regarding the reporting and interpretation of Public Health statistics.

Assessment of Maternal Child Health Datasets Used by the Eight County Health Departments In Western New York

3 Survey to Assess MCH Data Usage by the WNY Health Departments

One part of the Western New York Regional Maternal Child Health (MCH) Assessment contract, the UB Population Health Observatory was tasked to assess which MCH data sets were collected by the eight County Health Departments, and what those data were used for. To achieve that end, each County Health Director (or designate) completed the following survey. The responses were collected in November/December of 2004. The summary of survey responses, shown in the following section, was developed in early January 2005.

This survey was developed by the UB Population Health Observatory, and distributed to the Health Directors via SurveyMonkey.com, an internet-based survey collection system.

(Slide 1) About the UB Population Health Observatory
The UB Population Health Observatory is dedicated to improving health in Western New York and in the State of New York through population-based public health and epidemiologic research and health informatics.

(Slide 2) About this survey
This survey is the first step toward a regional approach for assessing Maternal and Child Health (MCH). Your responses will help determine what MCH data are accessible to, and used by, each county in the WNY Public Health Alliance. The available data will be a key component in determining what MCH metrics can be tracked and reported. Your participation is greatly appreciated!

(Slide 3) What happens after the surveys are complete?
After receiving input from all eight counties on what data is available, UB will develop a template on maternal and child health status in the region. UB will then schedule a meeting for the WNY Health Alliance to gain consensus on the content and format for the final assessment. In its final form, the assessment should aid in the development, management and evaluation of maternal and child health programs.

(Slide 4) Preliminary Information about the responder

1. What is your name?
2. What is your title?
3. What is your phone number?
4. What is your email address?
5. What County are you associated with?
    a. Allegany
    b. Cattaraugus
    c. Chautauqua
    d. Erie
    e. Genesee
    f. Niagara
    g. Orleans
    h. Wyoming

(Slide 5)
The following pages contain a series of questions about SOME of the maternal child health data that is available. With these questions, we're trying to determine

1. What data sources are used by the County Health Departments, and
2. What the data are used for.

Following is a list of the data sets that are included in the survey. There are 6 questions about each one. At the end of the survey, there is an opportunity for you to suggest other data sets that should be considered.

1. Pregnancy Risk Assessment Monitoring System
2. Behavioral Risk Factor Surveillance System (BRFSS)
3. Medicaid Eligibility data
4. Birth Vital Statistics data (Birth Records)
5. Death Vital Statistics
6. Congenital Malformations Registry (CMR)
7. Child Blood Lead Surveillance (CBLS)
8. Statewide Planning and Research Cooperative System (SPARCS)
9. Early Intervention Program (EIP)
10. NY State School Immunization Survey
11. Newborn Screening Program
12. Women, Infants and Children (WIC) utilization
13. Statewide Perinatal Data System (SPDS)
14. WNY Perinatal Data System

(Slides 6 through 19) Questions about the data sets

These questions were used for each of the datasets shown on slide 5

Table 3-1 Detail of MCH Dataset Survey Questions

#	Question	Possible Responses
1	Are you familiar with_____ data?	• Yes/ No
2	Does your county have access to _____ data?	• Yes/ No/ Don't Know
3	What are the _____ data used for? (Select all that apply)	• Not used • Policy Making • Program Evaluation • Program management/administration • Community Health Assessment • Compliance with MPHS Plans • Research
4	If you are NOT using these data, would you like to? If so, for what purpose? (Select all that apply)	• Would Not Use • Policy Making • Program Evaluation • Program management/administration • Community Health Assessment • Compliance with MPHS Plans • Research
5	If you are using these data, do you have access to Personally Identifiable Information? (name, address, social security number of the responder)	• Yes/ No/ Don't know/ Not Using
6	Select the smallest level of aggregation possible with the data available to you	• Don't know • Individual • Census Tract/Blockgroup • Zipcode • County • State • Other
7	Do you have authorization to share _____ data (for research purposes) with the UB Population Health Observatory	• Yes/ No /Don't know

(Slide 20) Any comments for us?

Please enter any final comments regarding the survey or possible data sets that should be considered, but were not included in the survey.

4 Assessment of WNY Health Department MCH Data Usage

Overview

In February 2004, the NY State Department of Health contracted with the UB Population Health Observatory (PHO) to develop a template for a Western New York Regional Maternal Child Health (MCH) Assessment. A preliminary step in that development was assessment of which MCH data sets were collected by the eight Western New York (WNY) County Health Departments, and what those data were used for. To this end, the PHO developed an internet-based survey, which was completed by each County Health Director or designate. The survey was completed during November/December 2004.

Summary of Results

The Health Directors were asked about 14 data sets related to Maternal/Child Health. Among other things, the Directors were asked what each data set was used for. The table below shows the number of positive responses for each usage question.

Table 4-1 Summary of MCH Survey Responses

Dataset	Use for Adminis-tration	Use for Commty Health Assess-ment	Use for Program Evaluation	Use for MPHS Planning	Use for Policy	Used for Research	Other Use	Not Used	TOTAL POSITIVE REPONSES
Behavioral Risk Factor Surveillance System (BRFSS)	5	8	6	5	1	1	0	0	**26**
Birth Vital Statistics Data	4	7	4	6	3	1	3	0	**28**
Child Blood Lead Surveillance (CBLS)	6	6	8	5	2	1	1	0	**29**
Congenital Malformations Registry (CMR)	0	2	0	1	0	0	0	3	**6**
Death Vital Statistics	2	7	3	4	1	1	1	1	**20**
Early Intervention Program (EIP)	6	6	6	4	4	0	1	0	**27**
Medicaid Eligibility Data	4	3	2	2	3	0	1	1	**16**
Newborn Screening	2	2	1	1	2	0	0	2	**10**
NY State School Immunization Survey	4	5	4	5	2	2	0	0	**22**
Pregnancy Risk Assessment Monitoring System	1	1	1	1	0	1	0	3	**8**
Statewide Perinatal Data System (SPDS)	1	2	1	2	3	1	0	2	**12**
Statewide Planning and Research Cooperative System (SPARCS)	3	6	3	3	1	1	1	1	**19**
WNY Perinatal Data System (WNYPDS)	1	1	0	1	0	0	1	2	**6**
Women, Infants and Children (WIC) Utilization	4	3	4	2	2	0	0	2	**17**
TOTAL POSITIVE REPONSES	**43**	**59**	**43**	**42**	**24**	**9**	**9**	**17**	**246**

The County Health Departments focused on five data sets to satisfy their Administration, Community Health Assessment, Program Evaluation and Municipal Public Health Services (MPHS) Planning needs:

- Behavioral Risk Factor Surveillance System
- Birth Vital Statistics
- Child Blood Lead Surveillance
- Early Intervention Program data got the broadest use, also providing information useful for evaluating Policy
- NY State School Immunization Survey

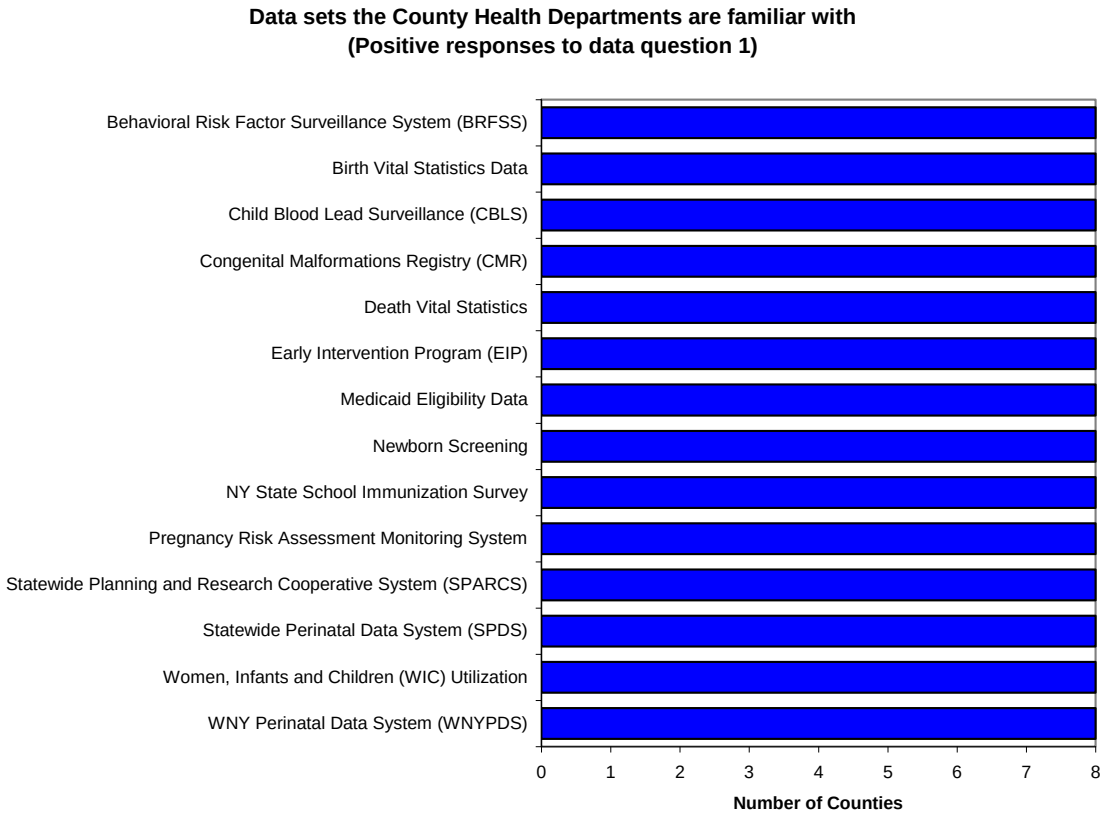
With a total of 59 positive responses, the Community Health Assessment was the most data-intensive of the activities surveyed. The Administration and Program Evaluation tasks each had a total of 43 positive responses. In addition to the five data sets listed above, at least four of the eight Counties used Death Vital Statistics and SPARCS data for completing the Community Health Assessment. Death Vital Statistics data were also used for MPHS Planning.

Detailed Results

The following section provides more detailed analysis of the survey results. In the survey, responders were asked the same series of usage questions about each of the 14 data sets. The usage questions were intended to assess what the Counties used each of the data sets for. The following graphs show the number of positive responses to each usage question for all of the data sets.

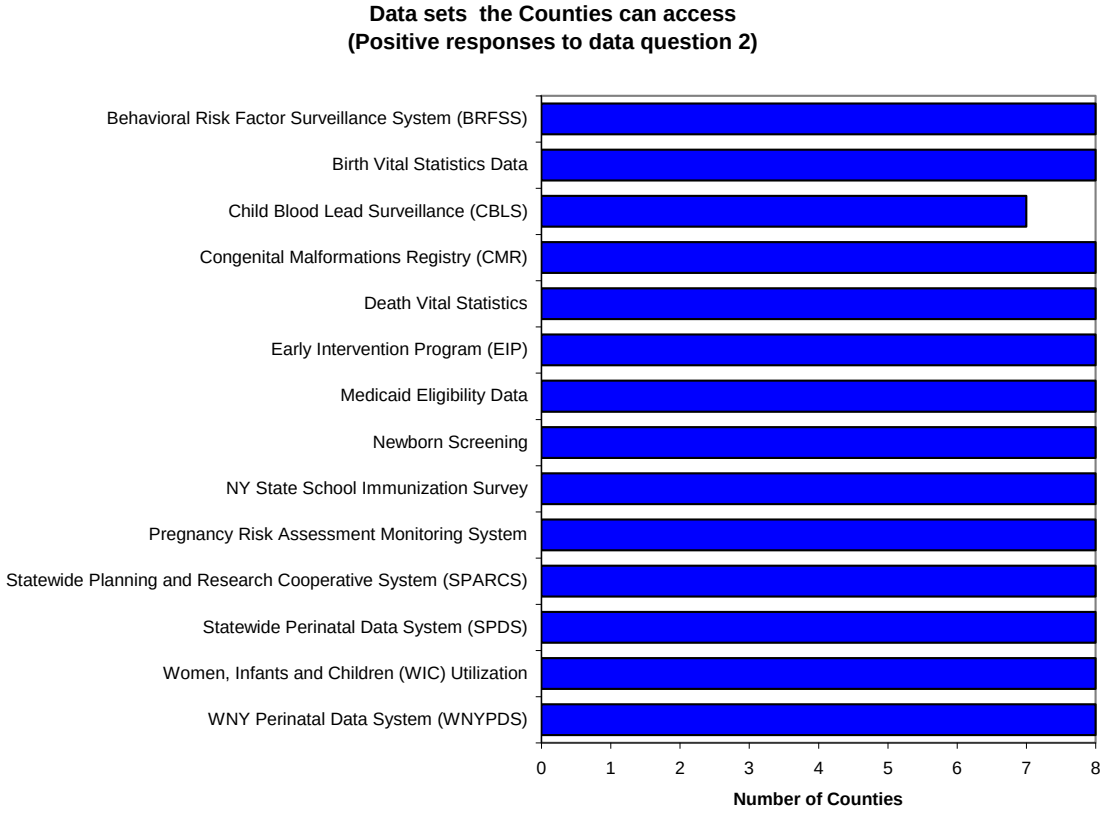
Data Question 1: Are you familiar with the dataset?

The County Health Departments are actively involved in the data collection for several of the data sets in the survey. Data collected by the Counties are generally amassed and stored by the State Health Department. All eight Health Departments are familiar with the datasets discussed in the survey.



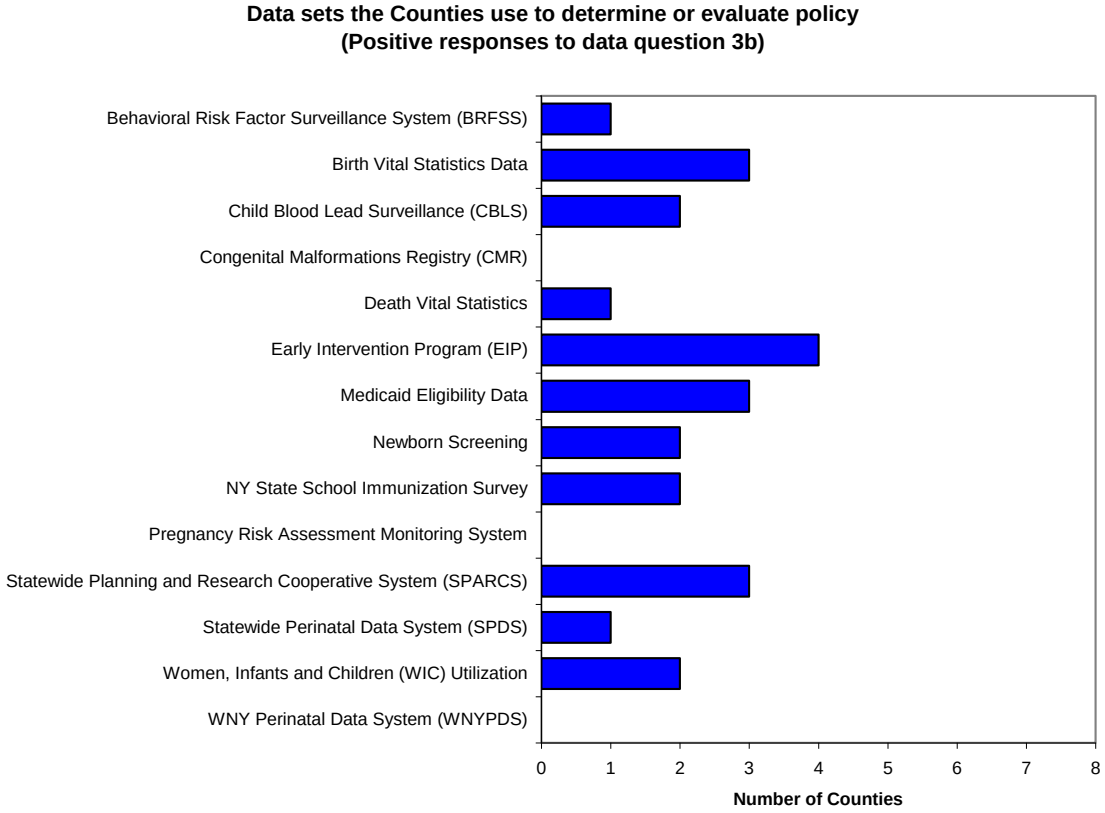
Data Question 2: Do you have access to the dataset?

While the County Health Departments are actively engaged in the collection of some of the data, they do not retain copies of the data sets for their own use. Because the data is warehoused by the State, the County Health Departments access most of the information they need through the New York State Health Department's Health Information Network (HIN). The Health Departments had access to all 14 datasets in the survey.



Data Question 3b: Do you use the data set to evaluate policy?

County Health Department policies focus on health program management, disease tracking, containment and measurement, and various forms of public health assessment and improvement. The impact and importance of each policy, and the associated evaluation effort, is directly related to the size of the impacted population, which varies significantly across the Western New York Counties. The use of data for policy evaluation likely varies accordingly.

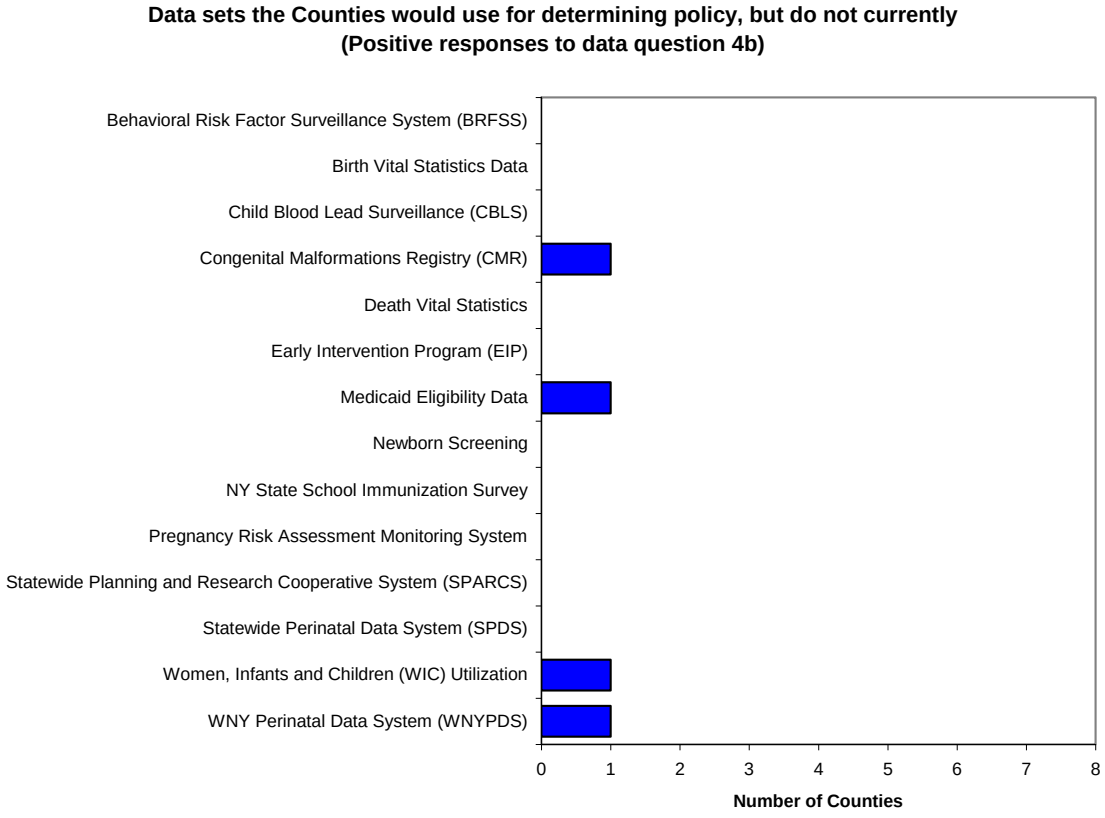


The surveyed datasets were not broadly used for policy evaluation:

- Four of eight Counties use Early Intervention Program (EIP) data for policy evaluation.
- Three of eight use Birth Vital Statistics, Medicaid or SPARCS data.

Data Question 4b: If you are not doing so currently, would you use the data set for determining policy?

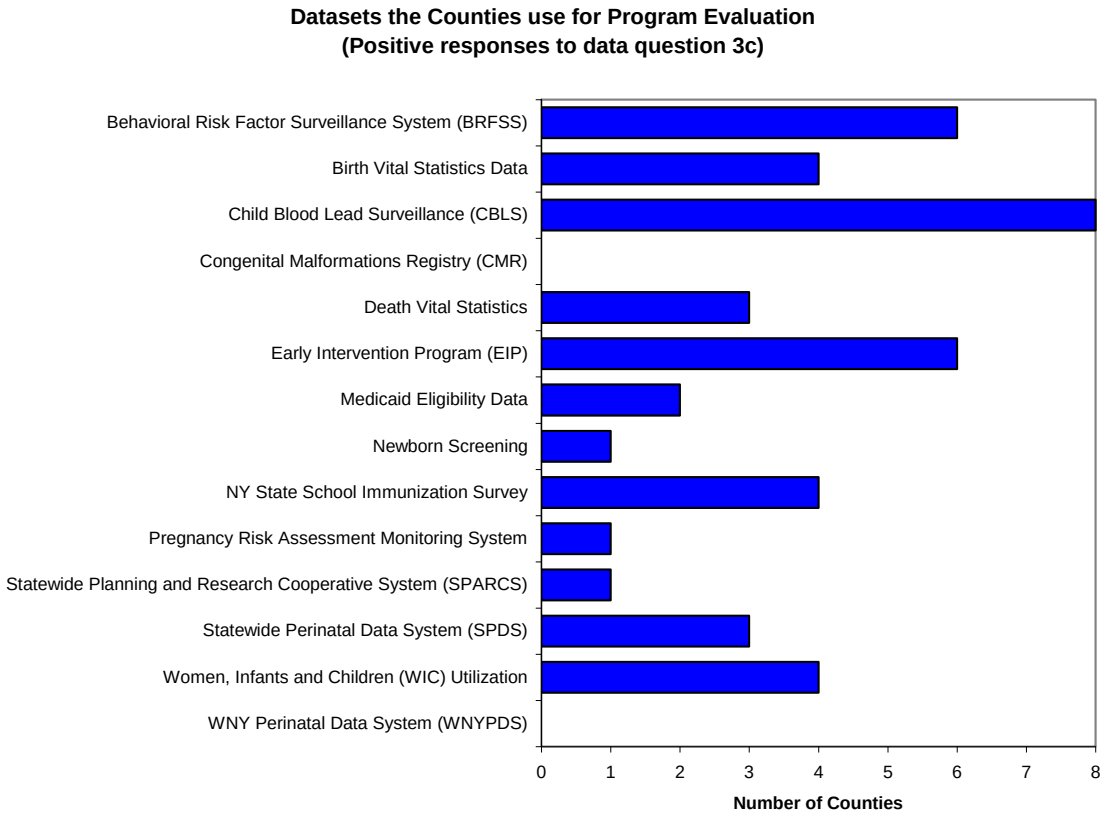
The desire to utilize other data sets to support policy-making efforts was negligible.



Data Question 3c: Do you use the data set for program evaluation?

County Health Departments currently manage a variety of public health programs. Evaluation of the programs is an ongoing process. Programs supported by Federal and State funds have very specific reporting and evaluation requirements. Examples of such programs and services include:

- Community Health Centers
- Teen Wellness programs, school health services, and programs for the medically indigent/homeless
- Lead poisoning abatement
- Vaccine appropriation and rationing
- Insect/ rodent control

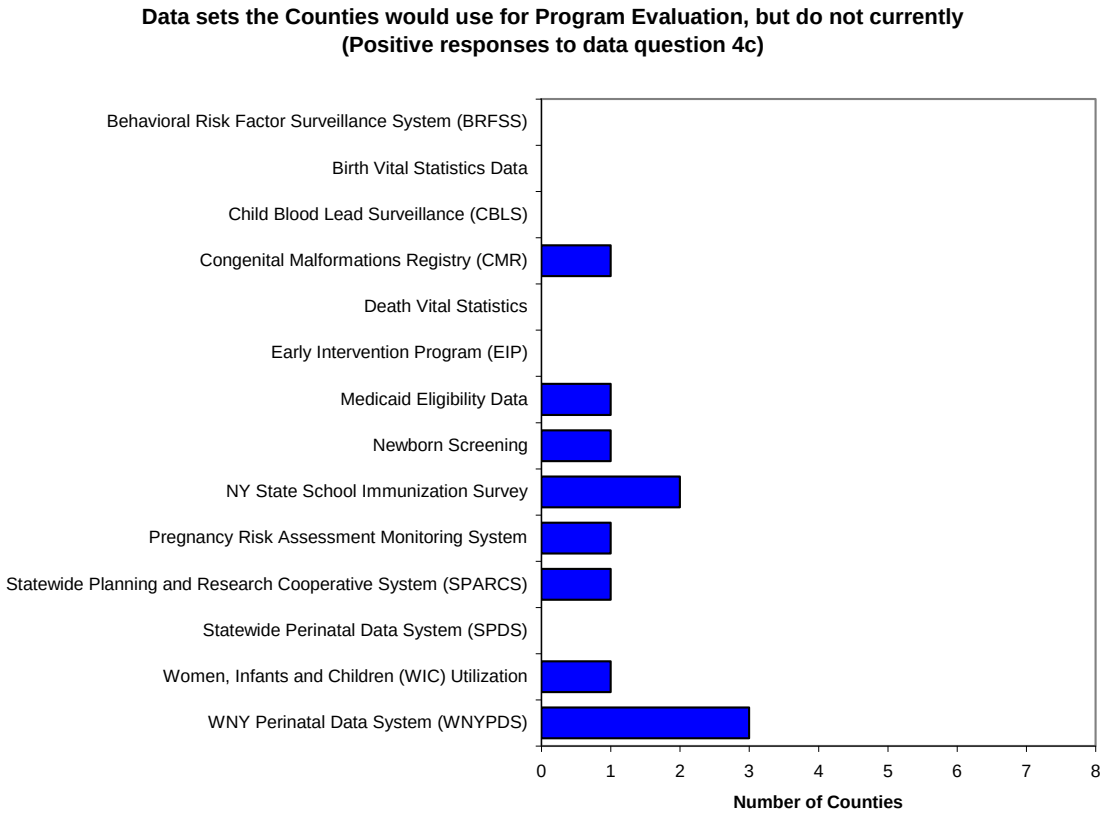


All the counties use Child Blood Lead Surveillance data for program tracking and evaluation. Six of the eight counties used Early Intervention Program and Behavioral Risk Factor Surveillance System data for this purposes.

- Four of eight counties used data from Birth Vital Statistics, the NY State School Immunization Survey and WIC.
- Three of eight counties used Death Vital Statistics and the State Perinatal Data system.

Data Question 4c: If you are not doing so currently, would you use the data set for program evaluation?

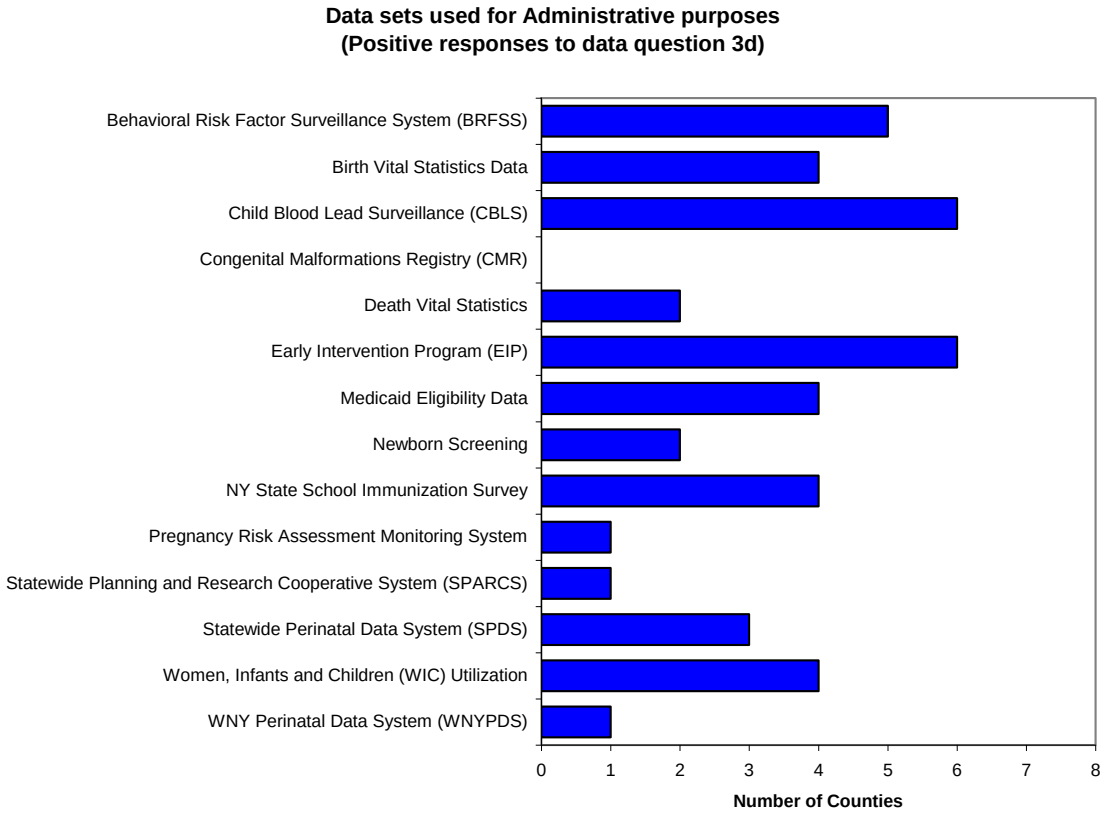
Current utilization of Behavioral Risk Factor Surveillance, Birth Vital Statistics, Child Blood Lead Level, Early Intervention Program, NYS School Immunization Survey, and WIC data are were fairly high (at least four of eight counties used these data for program evaluation).



From question 3c, no Counties are using the WNY Perinatal Data System for program evaluation. Here, three Counties indicate that this data would be helpful for evaluating programs. In addition to the four Counties already using it, two Counties see value in adding the NYS School Immunization Survey data to their program evaluation efforts.

Data Question 3d: Do you use the data set for Administrative purposes?

County Health Departments play important roles in the administration and tracking of several State and Federal government programs, including roles Child Blood Lead Surveillance, Early Intervention, WIC and immunization programs.

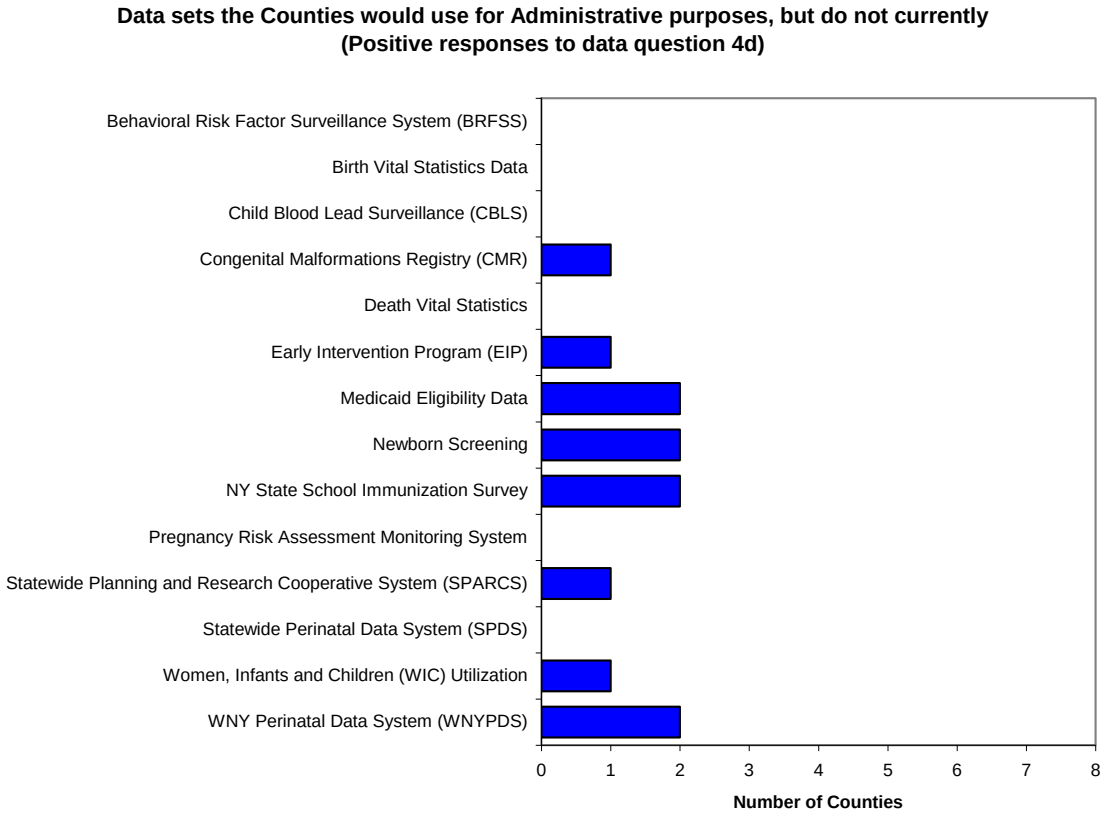


Data set utilization for administration purposes was inconsistent

- Seven of the data sets were used by at least four of eight counties for administrative purposes

Data Question 4d: If you are not doing so currently, would you use the data set for Administrative purposes?

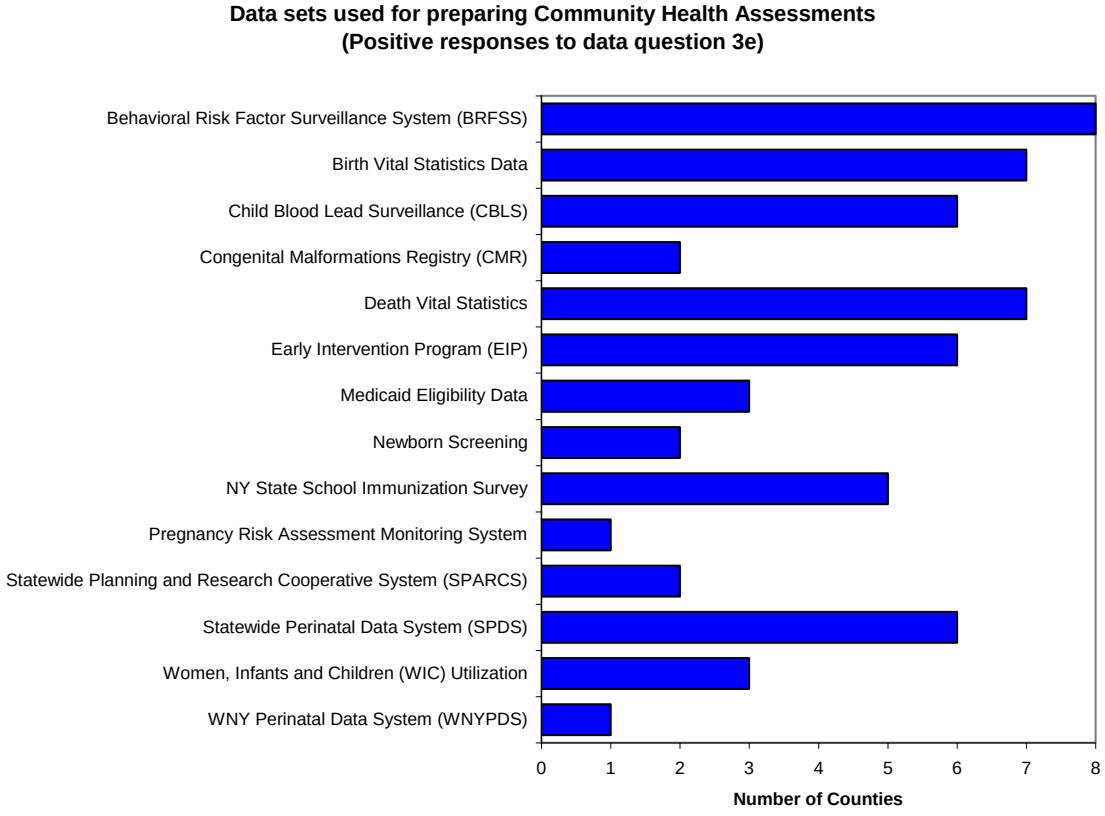
While data set utilization for administration purposes was inconsistent, there was not much interest in adding other data sets to the administrative process



Three of eight Counties thought increased use of Medicaid Eligibility, Newborn Screening, NY State School Immunization and WNY Perinatal Data System data could enhance the administration of important public health programs.

Data Question 3e: Do you use the data set for preparing Community Health Assessments?

The aim of the Community Health Assessment is to describe the health of the community by presenting information on health status, community health needs, resources, and epidemiologic and other studies of current local health problems. It is the focus for all local public health planning, forming the basis of improving the health status of the community through a strategic plan. The most recent Community Health Assessments were due in November 2004.

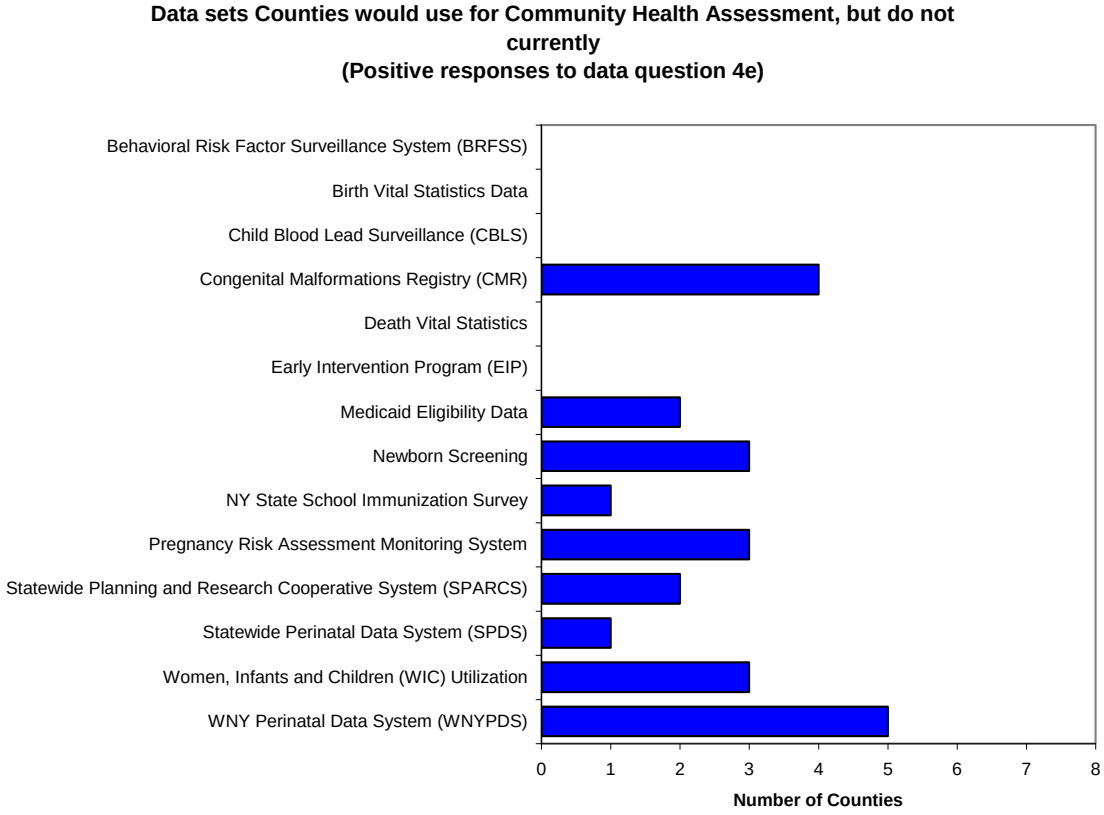


The Community Health Assessment is a data-intensive project. Six of the data sets in the survey were used by a majority of the Counties for this purpose

- All Counties used the Behavioral Risk Factor Surveillance System data
- At least six of eight Counties used Birth Vital Statistics, Death Vital Statistics, Child Blood Lead Surveillance, Early Intervention Program, and the State Perinatal Data system

Data Question 4e: If you are not doing so currently, would you use the data set for preparing Community Health Assessments?

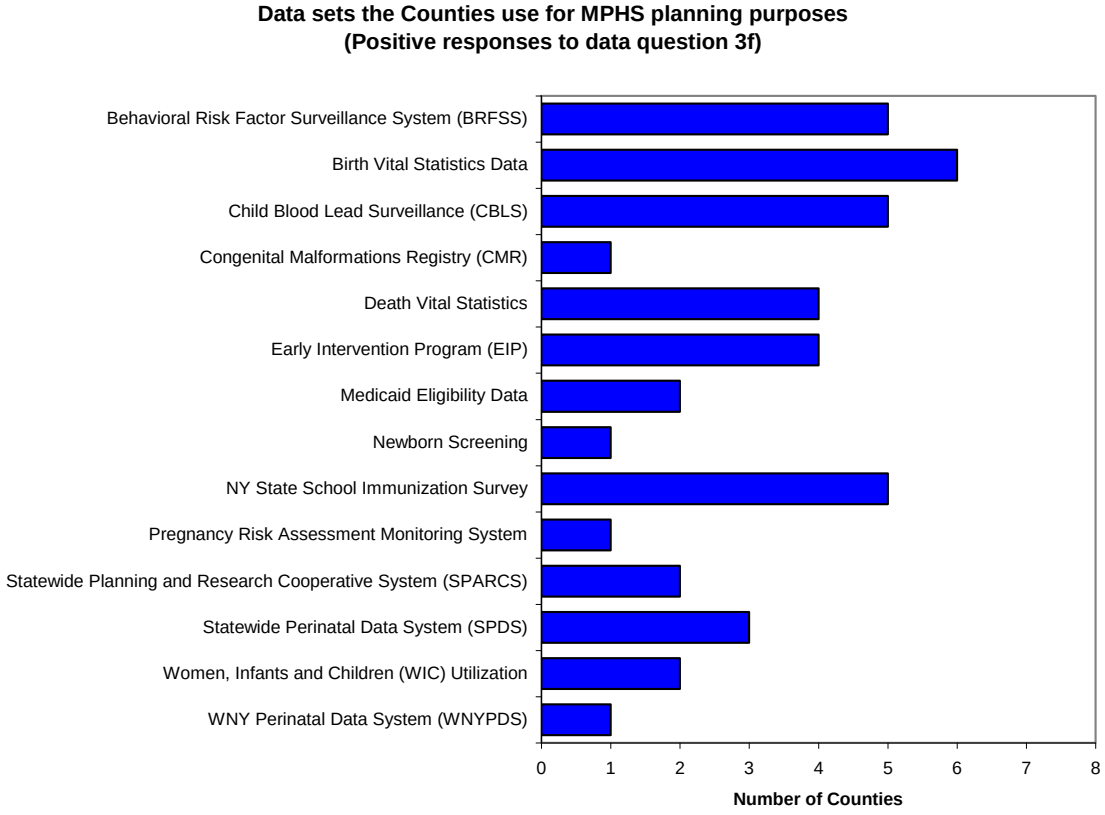
At least four Counties expressed interest in using Congenital Malformations Registry and WNY Perinatal Data Systems data for preparation of the Community Health Assessments. These are the strongest opportunities for improvement identified by the survey.



Why aren't the Counties using the CMR and WNYPDS data now?

Data Question 3f: Do you use the data set for preparing Municipal Public Health Services (MPHS) Plans?

Public Health Law establishes standards of performance for basic public health services relating to family health, disease control, health education and guidance, community health assessment, and environmental health. Counties must submit Municipal Public Health Services Plans to detail their compliance. Such plans are subject to State approval.



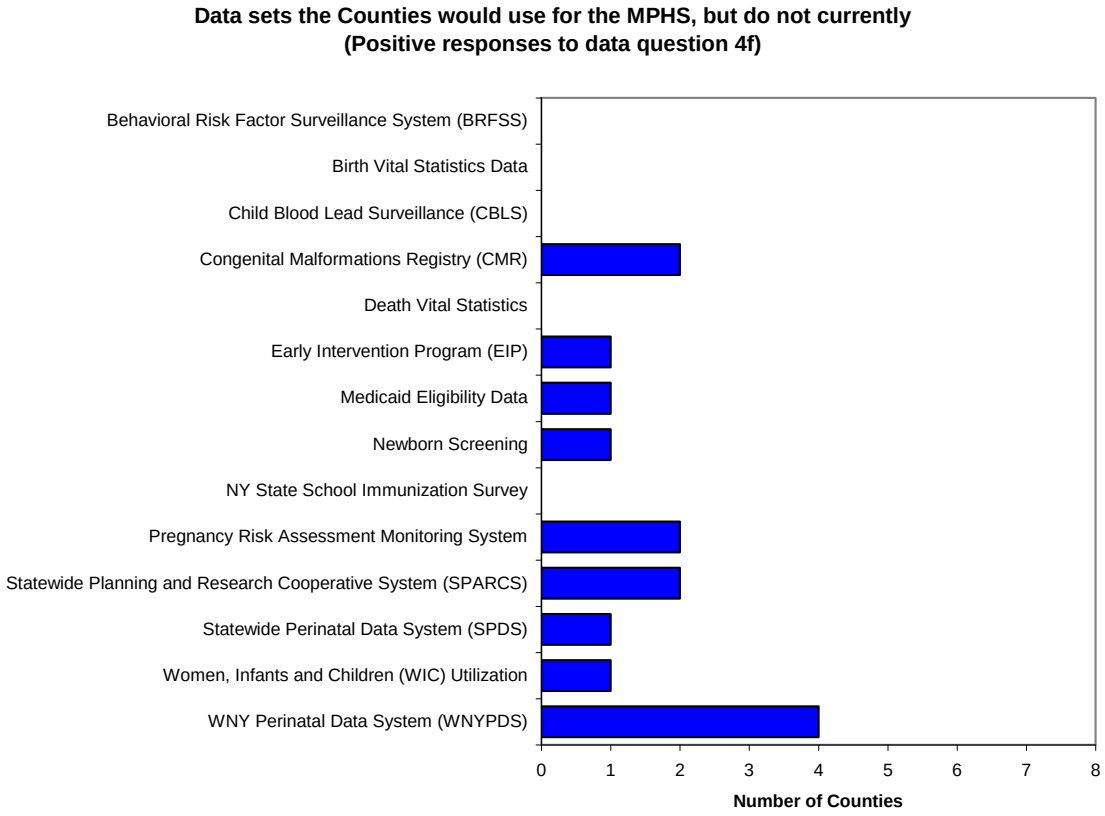
Municipal Public Health Services Planning is another data-intensive project. Most Counties found four data sets particularly useful for this purpose:

- Behavioral Risk Factor Surveillance System
- Birth Vital Statistics
- Child Blood Lead Surveillance
- NY State School Immunization Survey

Death Vital Statistics and Early Intervention data were also helpful.

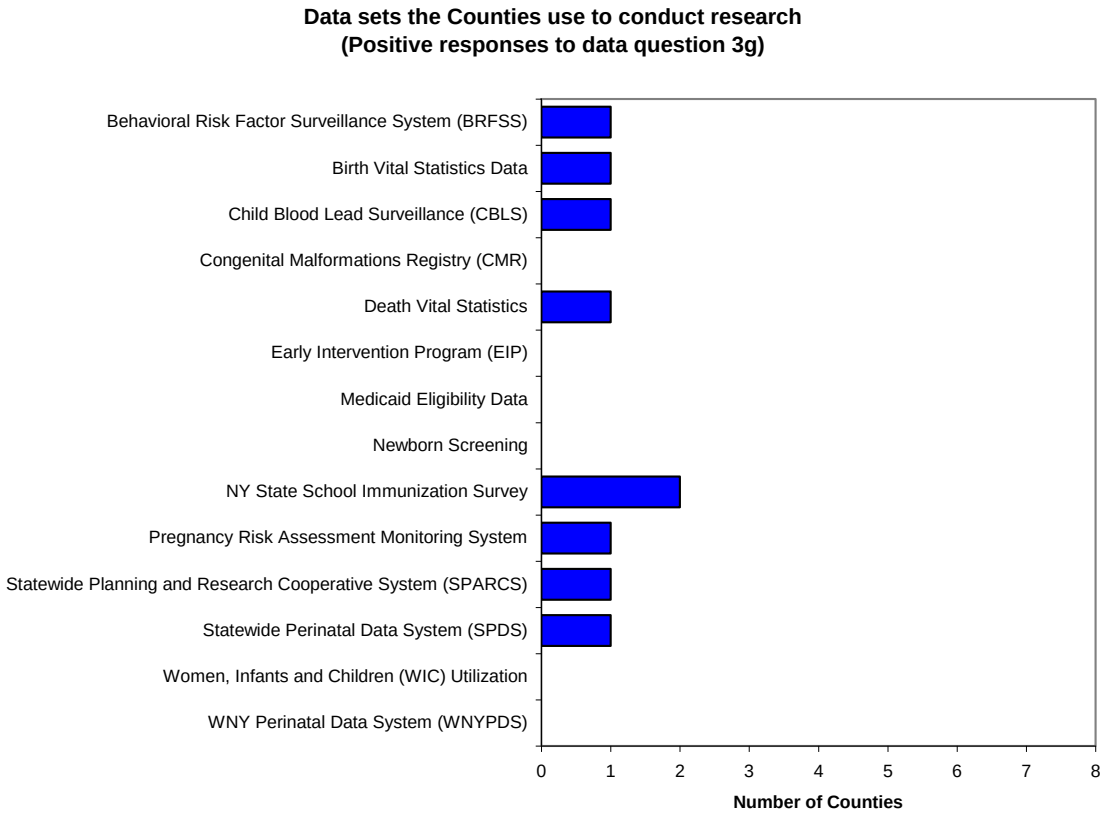
Data Question 4f: If you are not doing so currently, would you use the data set for preparing Municipal Public Health Services (MPHS) Plans?

Development of MPHS plans is an ideal use for the WNY Perinatal Data System, as noted by four of the eight counties. Three of eight Counties noted that Congenital Malformations, PRAMS and SPARCS data may also be helpful in developing these plans



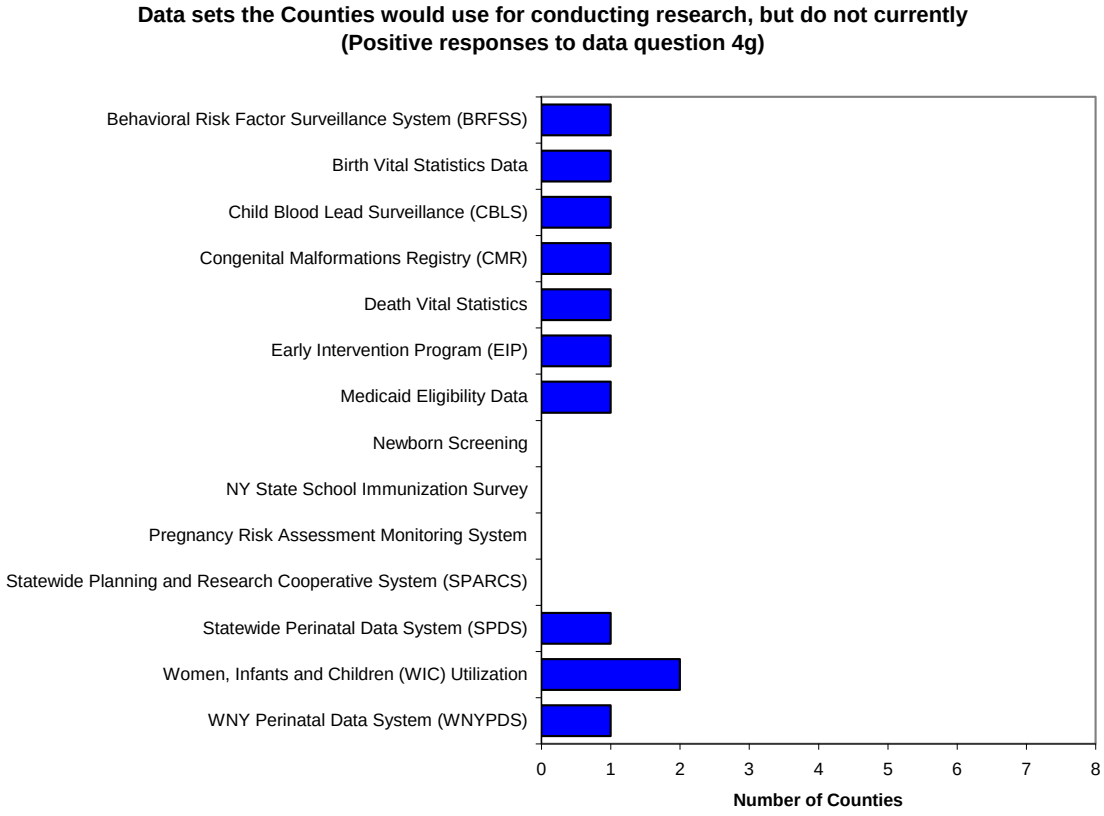
Data Question 3g: Do you use the data set to conduct research?

None of the data sets in the survey were used for research purposes by the County Health Departments. Anecdotally, the Health Departments are not staffed to support a research function.



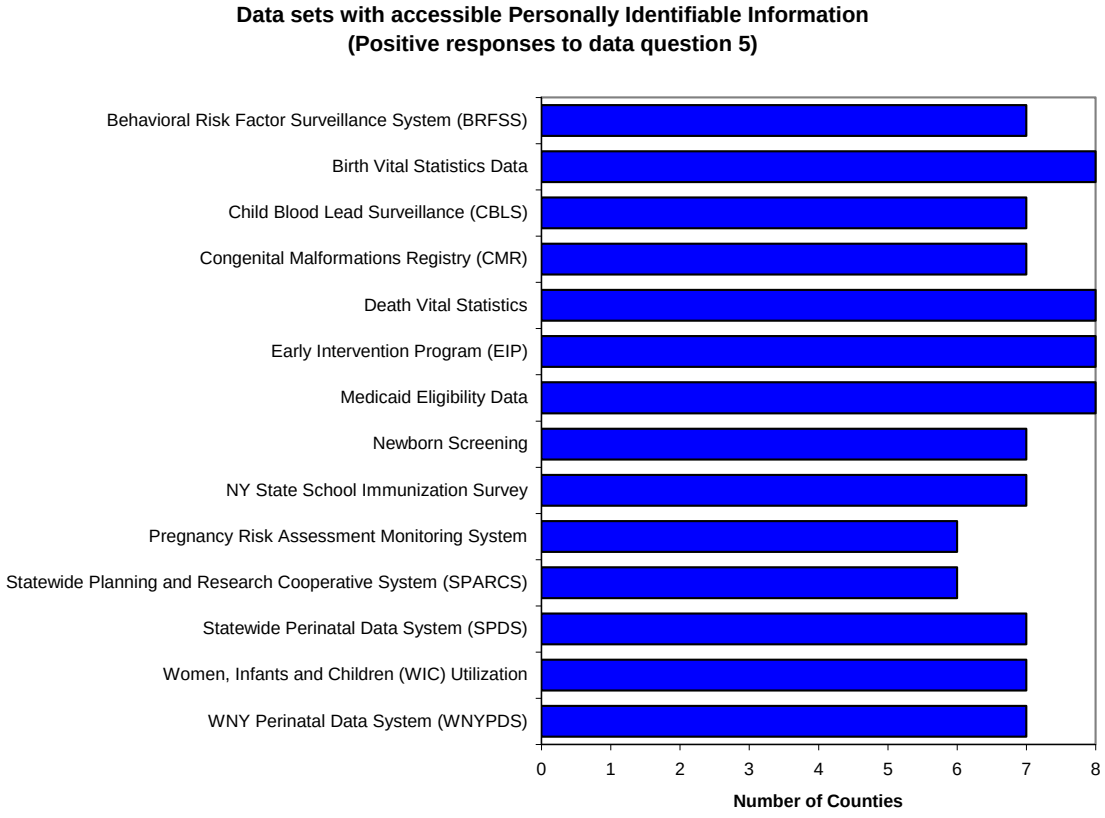
Data Question 4g: Do you use the data set to conduct research?

In question 3g, none of the data sets in the survey were used for research purposes by the County Health Departments. Question 4g suggests that interest in using any of these data sets to conduct research is negligible.



Data Question 5: Do you use the data sets contain Personally Identifiable Information?

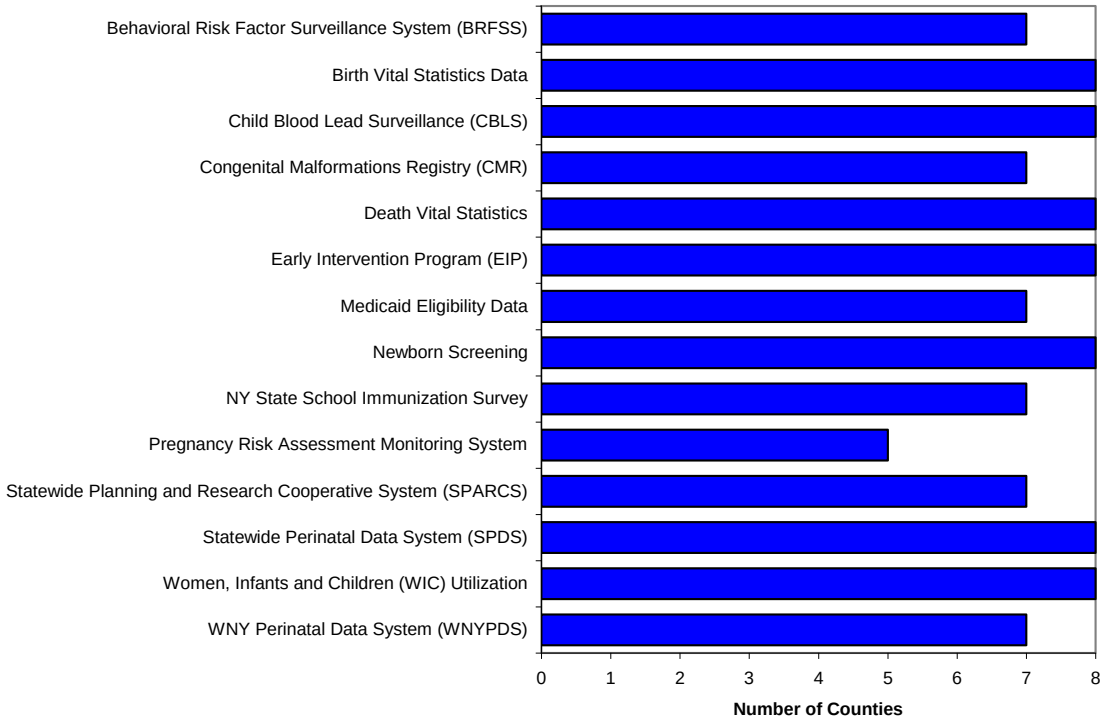
At least five Counties believe all of the surveyed data sets contain Personally Identifiable Information.



Data Question 7: Could this data be shared with the UB population Health Observatory?

Most of the Counties believed these data sets can be shared with the UB Population Health Observatory to support research and reporting projects related to the WNY Health Alliance, development of regional health assessments, and other research needs pertinent to public health in Western New York.

Data sets the Counties can share with the UB Population Health Observatory (Positive responses to data question 7)



5 Regional MCH Reporting Template

A Template for
Maternal and Child Health Status Indicators
In Western New York, 1997-2001

Presented to:
Western New York Public Health Alliance

Prepared by:
The UB Population Health Observatory

December 17, 2004

Table of Contents
Maternal and Child Health Status Indicators in Western New York

Table 5-1 Listing the MCH Metrics in the Regional Reporting Template

Socio-Demographic Overview of Counties

Statistical description of the Western New York Population (2001)

	Alleg	Catt	Chat	Erie	Gene	Niag	Orle	Wyo	WNY Aggre-gate	Upstate New York
Total Population	50,300	83,400	138,720	946,630	59,970	218,640	43,940	43,070	1.58MM	11 MM
Median Income										
Unemployment Rate	5.6	6.7	5.3	5.1	5.2	6.7	5.9	5.3	5.5	4.0
Median Housing Value										
Overall Racial Mix										
% Black										
% Hispanic										
% White										
% Other										
% Female (15-44)	21.8%	20.4%	20.5%	20.6%	20.2%	20.8%	21.9%	18.6%	20.6%	20.8%
Pregnancies	3,353	6,371	10,296	83,851	4,639	18,172	3,357	2,688	132,727	911,469
Live Births	2,738	5,113	7,831	56,421	3,575	12,862	2,627	2,189	93,356	683,486
Live Birth Rate per 100 Women										
Black										
Hispanic										
White										
Other										
Total										

Statistical Description of Live Births in WNY (1997-2001 Aggregates) (Fecundity)

Racial Mix of Mothers										
%Black										
%Hispanic										
%White										
Education Mix of Mothers										
< High School										
= High School										
> High School										
% Married										
% Medicaid										
% of Mothers Less than 20 years old										

Summary of Natality and Child Health Indicators

This table provides comparative summaries of statistics detailed in the body of the report.

	Alleg	Catt	Chat	Erie	Gene	Niag	Orle	Wyo	WNY Aggre-gate	Upstate New York
Num Previous Children										
Pregnancy Weight Gain										
Prev Preg Experience										
Inf Mortality (97-01)	5.8	8.6	6.8	8.0	6.7	6.8	5.3	7.8	7.6	6.1
Preterm Birth										
Low Birthweight (97-01)	6.7	6.7	7.0	8.0	5.4	7.4	7.1	5.7	7.6	7.1
Very Low Birthweight										
Extremely Low Birth Weight										
Prenatal Care in 1st tri-meseter (97-01 weighted avg)	80.0	75.9	72.5	75.2	69.5	76.1	76.1	79.1	75.2	78.8
Kotlchuch Index Score Range										
Complications during Pregnancy										
Cesarean Secton										
Maternal Mortality										
Abnormal Condition of Newborn										
Presence of Birth Defect										
NICU Care										
Developmental Delay/ Disability										
Child Maltreatment										

Number of Live Births

Total number of live births for the indicated years (1997-2001) to Western New York residents.

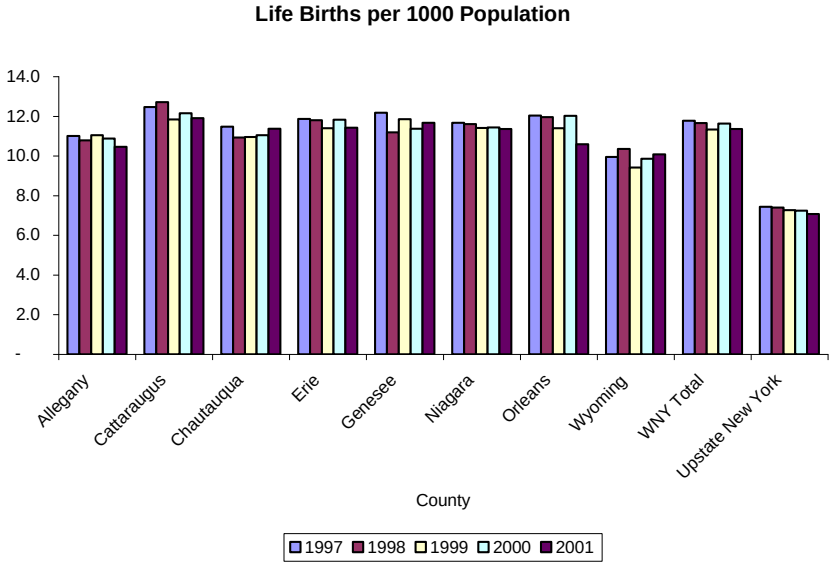
Live Births Total	1997	1998	1999	2000	2001	Total
Allegany	560	548	561	543	526	2,738
Cattaraugus	1,046	1,064	990	1,020	993	5,113
Chautauqua	1,624	1,542	1,543	1,544	1,578	7,831
Erie	11,635	11,566	11,171	11,237	10,812	56,421
Genesee	755	696	738	686	700	3,575
Niagara	2,641	2,632	2,592	2,514	2,483	12,862
Orleans	550	551	530	531	465	2,627
Wyoming	443	462	422	428	434	2,189
WNY Total	19,254	19,061	18,547	18,503	17,991	93,356
Upstate New York	138,074	137,865	135,968	137,467	134,112	683,486

http://www.health.state.ny.us/nysdoh/cfch/main.htm

Live Births per 1000 Population	1997	1998	1999	2000	2001	Total
Allegany	11.0	10.8	11.0	10.9	10.5	10.8
Cattaraugus	12.5	12.7	11.8	12.1	11.9	12.2
Chautauqua	11.5	10.9	11.0	11.0	11.4	11.2
Erie	11.9	11.8	11.4	11.8	11.4	11.7
Genesee	12.2	11.2	11.8	11.4	11.7	11.7
Niagara	11.7	11.6	11.4	11.4	11.4	11.5
Orleans	12.0	12.0	11.4	12.0	10.6	11.6
Wyoming	10.0	10.4	9.4	9.9	10.1	9.9
WNY Total	11.8	11.7	11.3	11.6	11.4	11.5
Upstate New York	7.4	7.4	7.3	7.2	7.1	7.3

http://www.health.state.ny.us/nysdoh/cfch/main.htm

Results: The number of deliveries in Western New York declined from 19,000 to 18,000 per year between 1997 and 2001. The rate of decline in the number of births, and births per 1000 population were similar for all counties in Western New York. Upstate New in total also declined, but at a slower rate.



Infant Mortality Category Comparison

Infant Mortality Categories 1997-2001 Cumulative	Postneonatal Mortality		Neonatal Mortality		Infant Mortality	
	#	rate	#	rate	#	rate
Allegany	7	2.6	9	3.3	16	5.8
Cattaraugus	16	3.1	28	5.5	44	8.6
Chautauqua	15	1.9	38	4.9	53	6.8
Erie	129	2.3	323	5.7	452	8.0
Genesee	6	1.7	18	5.0	24	6.7
Niagara	26	2.0	61	4.7	87	6.8
Orleans	7	2.7	7	2.7	14	5.3
Wyoming	7	3.2	10	4.6	17	7.8
WNY Total	213	2.3	494	5.3	707	7.6
New York State	1,240	1.8	2,932	4.3	4,172	6.1

Infant Mortality = Postneonatal + Neonatal

Death and Mortality Rates per 1,000 live births

Infant Mortality by Socio Economic Category

Use Florida report as a model

Possibly not "by county" if the populations are too small… possibly use totals in WNY.

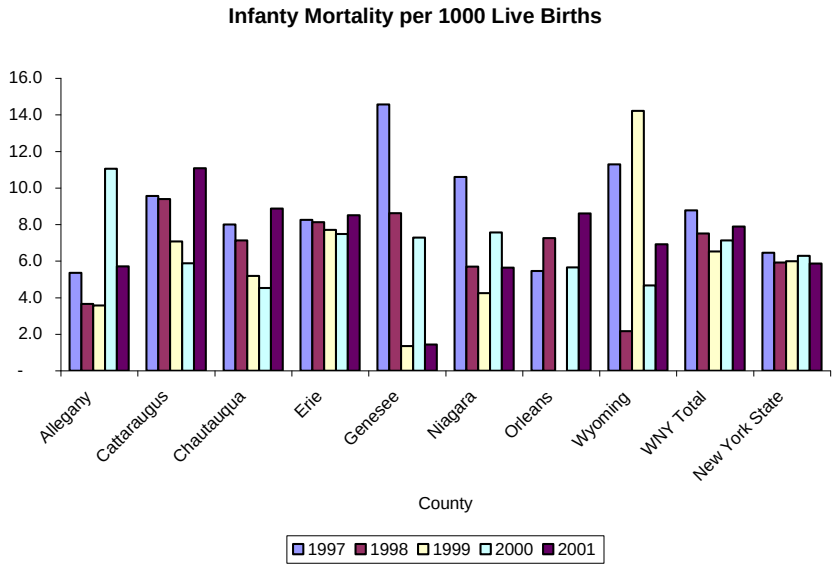
Infant Mortality per 100 Live Births (1997-2001)

Race	Education	Allegany	Cattaraugus	Chautauqua	Erie	Genesee	Niagara	Orleans	Wyoming	WNY Total
Black	<HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	=HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	>HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Hispanic	<HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	=HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	>HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
White	<HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	=HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	>HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Other	<HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	=HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
	>HS	5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Race Totals		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Black		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Hispanic		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
White		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Other		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Education Total		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
<HS		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
=HS		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
>HS		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Total		5.84	8.61	6.77	8.01	6.71	6.76	5.33	7.77	7.57
Infant Mortality (#)		16	44	53	452	24	87	14	17	707

Infant Mortality (by year by County)

Infants reported deceased with the first year of life.

$$\frac{\text{Number of infant deaths x 100}}{\text{Number of live births}}$$



The infant mortality rate is related to several factors, including maternal health, socioeconomic conditions, quality of medical care, and public health conditions.

Infant Mortality Total	1997	1998	1999	2000	2001	Total
Allegany	3	2	2	6	3	16
Cattaraugus	10	10	7	6	11	44
Chautauqua	13	11	8	7	14	53
Erie	96	94	86	84	92	452
Genesee	11	6	1	5	1	24
Niagara	28	15	11	19	14	87
Orleans	3	4	0	3	4	14
Wyoming	5	1	6	2	3	17
WNY Total	169	143	121	132	142	707
Upstate New York	891	816	814	864	787	4,172

http://www.health.state.ny.us/nysdoh/cfch/main.htm

Infant Mortality per 1000 Live Births	1997	1998	1999	2000	2001	Total
Allegany	5.4	3.6	3.6	11.0	5.7	5.8
Cattaraugus	9.6	9.4	7.1	5.9	11.1	8.6
Chautauqua	8.0	7.1	5.2	4.5	8.9	6.8
Erie	8.3	8.1	7.7	7.5	8.5	8.0
Genesee	14.6	8.6	1.4	7.3	1.4	6.7
Niagara	10.6	5.7	4.2	7.6	5.6	6.8
Orleans	5.5	7.3	-	5.6	8.6	5.3
Wyoming	11.3	2.2	14.2	4.7	6.9	7.8
WNY Total	8.8	7.5	6.5	7.1	7.9	7.6
New York State	6.5	5.9	6.0	6.3	5.9	6.1

Results: Overall infant mortality in Western New York decreased from 1997 to 2001. The 1997 spike in Genesee County, and the 1999 spike in Wyoming County are likely attributed to the small population sizes, rather than meaningful trends.

Neonatal Mortality (by year by County)

Deaths to infants less than 28 days of age as indicated by the presence of a death certificate.

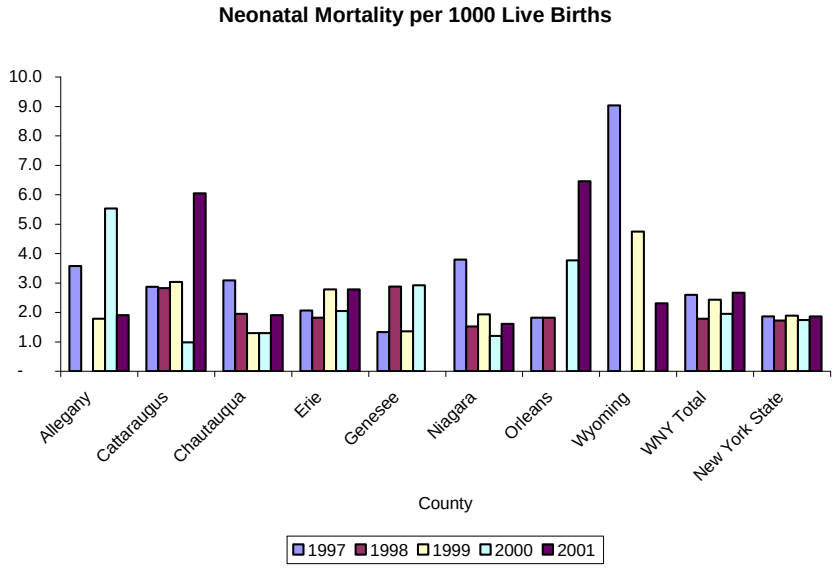
$$\frac{\text{Number of infant deaths less than 28 days of age x 1000}}{\text{Number of live births}}$$

Neonatal mortality is a reflection of problems in the newborn, such as prematurity, low birth weight, and the presence of congenital anomalies.

Neonatal Mortality Total	1997	1998	1999	2000	2001	Total
Allegany	1	2	1	3	2	9
Cattaraugus	7	7	4	5	5	28
Chautauqua	8	8	6	5	11	38
Erie	72	73	55	61	62	323
Genesee	10	4	0	3	1	18
Niagara	18	11	6	16	10	61
Orleans	2	3	0	1	1	7
Wyoming	1	1	4	2	2	10
WNY Total	119	109	76	96	94	494
Upstate New York	634	579	557	625	537	2,932

http://www.health.state.ny.us/nysdoh/cfch/main.htm

Neonatal Mortality per 1000 Live Births	1997	1998	1999	2000	2001	Total
Allegany	1.8	3.6	1.8	5.5	3.8	3.3
Cattaraugus	6.7	6.6	4.0	4.9	5.0	5.5
Chautauqua	4.9	5.2	3.9	3.2	7.0	4.9
Erie	6.2	6.3	4.9	5.4	5.7	5.7
Genesee	13.2	5.7	-	4.4	1.4	5.0
Niagara	6.8	4.2	2.3	6.4	4.0	4.7
Orleans	3.6	5.4	-	1.9	2.2	2.7
Wyoming	2.3	2.2	9.5	4.7	4.6	4.6
WNY Total	6.2	5.7	4.1	5.2	5.2	5.3
New York State	4.6	4.2	4.1	4.5	4.0	4.3



Results: Between 1997 and 2001, the neonatal mortality rates declined slightly. The trend in Western New York was similar to that all Upstate New York.

Postneonatal Mortality (by year by County)

Deaths to infants age 28 days through 364 days, as indicated by the presence of death certificate

$$\frac{\text{Number of infant deaths age 28 days through 364 days x 1000}}{\text{Number of live births}}$$

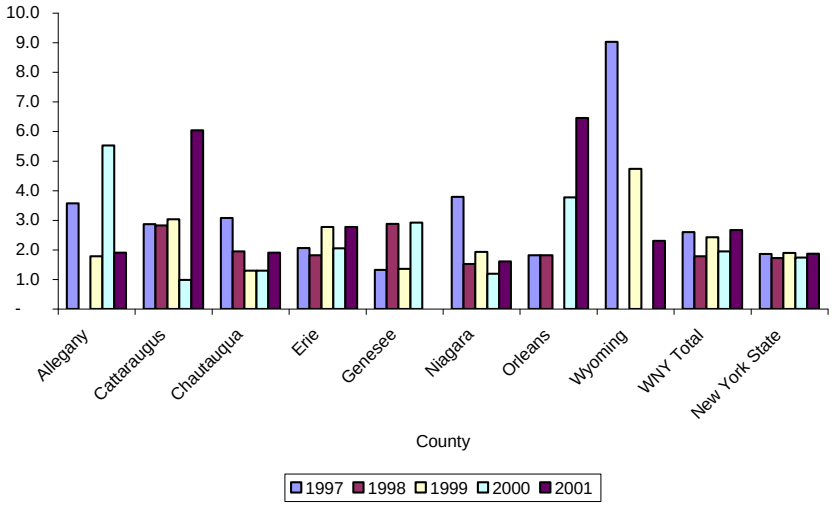
Postneonatal mortality is a reflection of conditions in the newborn such as the effects of birth problems, newly acquired diseases, Sudden Infant Death Syndrome (SIDS), accidental deaths, infectious diseases, abuse/neglect, and birth defects.

Postneonatal Mortality Total	1997	1998	1999	2000	2001	Total
Allegany	2	0	1	3	1	7
Cattaraugus	3	3	3	1	6	16
Chautauqua	5	3	2	2	3	15
Erie	24	21	31	23	30	129
Genesee	1	2	1	2	0	6
Niagara	10	4	5	3	4	26
Orleans	1	1	0	2	3	7
Wyoming	4	0	2	0	1	7
WNY Total	50	34	45	36	48	213
Upstate New York	257	237	257	239	250	1,240

http://www.health.state.ny.us/nysdoh/cfch/main.htm

Postneonatal Mortality per 1000 Live Births	1997	1998	1999	2000	2001	Total
Allegany	3.6	-	1.8	5.5	1.9	2.6
Cattaraugus	2.9	2.8	3.0	1.0	6.0	3.1
Chautauqua	3.1	1.9	1.3	1.3	1.9	1.9
Erie	2.1	1.8	2.8	2.0	2.8	2.3
Genesee	1.3	2.9	1.4	2.9	-	1.7
Niagara	3.8	1.5	1.9	1.2	1.6	2.0
Orleans	1.8	1.8	-	3.8	6.5	2.7
Wyoming	9.0	-	4.7	-	2.3	3.2
WNY Total	2.6	1.8	2.4	1.9	2.7	2.3
New York State	1.9	1.7	1.9	1.7	1.9	1.8

Postneonatal Mortality per 1000 Live Births



Results: The aggregate Western New York postneonatal mortality rates remained fairly steady between 1997 and 2001. Volatility in the rates is attributed to the small population size.

Low Birth Weight (by year by County)

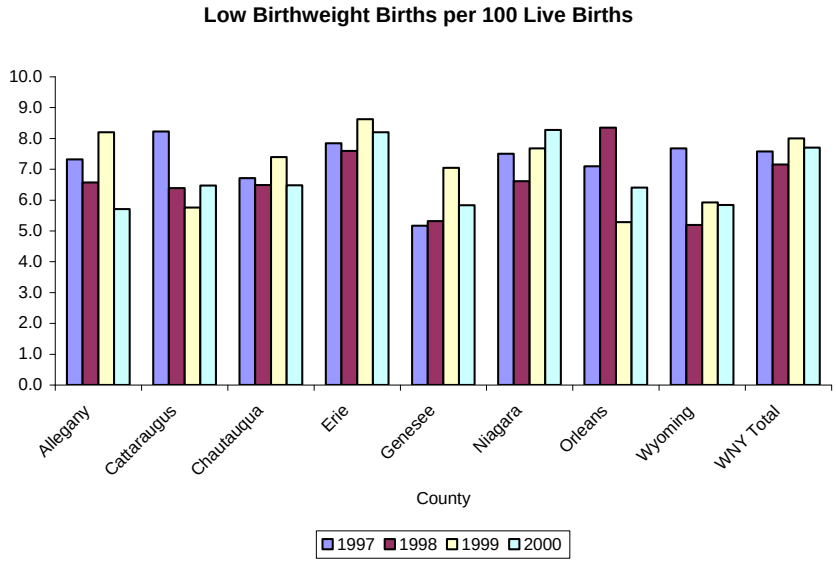
Less than 2,500 grams at birth (includes Very Low and Extremely Low Birth Weight)

Low Birth Weight Births Total	1997	1998	1999	2000	Total
Allegany	41.0	36.0	46.0	31.0	154.0
Cattaraugus	86.0	68.0	57.0	66.0	277.0
Chautauqua	109.0	100.0	114.0	100.0	423.0
Erie	912.0	878.0	963.0	921.0	3,674.0
Genesee	39.0	37.0	52.0	40.0	168.0
Niagara	198.0	174.0	199.0	208.0	779.0
Orleans	39.0	46.0	28.0	34.0	147.0
Wyoming	34.0	24.0	25.0	25.0	108.0
WNY Total	1,458.0	1,363.0	1,484.0	1,425.0	5,730.0
New York State	20,145.0	20,212.0	20,005.0	20,020.0	80,382.0

NY State Health Department Vital Statistics Website

Table 11: Low Birthweight (<2500 grams) Live Births by Resident County and Mother's Age

Low Birth Weight Births Per 100 Live Births	1997	1998	1999	2000	Total
Allegany	7.3	6.6	8.2	5.7	7.0
Cattaraugus	8.2	6.4	5.8	6.5	6.7
Chautauqua	6.7	6.5	7.4	6.5	6.8
Erie	7.8	7.6	8.6	8.2	8.1
Genesee	5.2	5.3	7.0	5.8	5.8
Niagara	7.5	6.6	7.7	8.3	7.5
Orleans	7.1	8.3	5.3	6.4	6.8
Wyoming	7.7	5.2	5.9	5.8	6.2
WNY Total	7.6	7.2	8.0	7.7	7.6
New York State	7.8	7.8	7.8	7.7	7.8

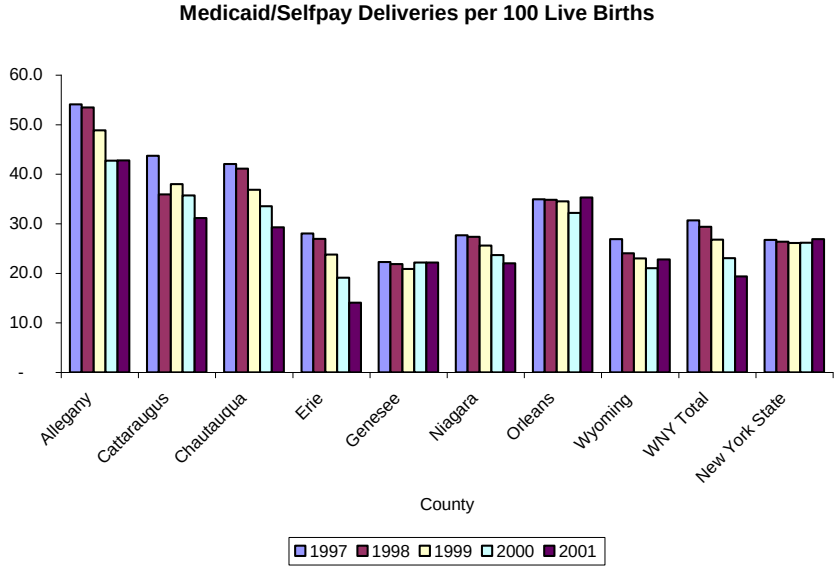


Medicaid Status by Socio Economic Category

Medicaid/Self Pay Deliveries Total	1997	1998	1999	2000	2001	Total
Allegany	303	293	274	232	225	1,327
Cattaraugus	457	382	376	364	309	1,888
Chautauqua	683	634	569	518	462	2,866
Erie	3,259	3,115	2,654	2,145	1,520	12,693
Genesee	168	152	154	152	155	781
Niagara	730	720	663	595	546	3,254
Orleans	192	192	183	171	164	902
Wyoming	119	111	97	90	99	516
WNY Total	5,911	5,599	4,970	4,267	3,480	24,227
Upstate New York	36,931	36,324	35,527	35,987	36,034	180,803

http://www.health.state.ny.us/nysdoh/cfch/main.htm

Medicaid/Self Pay Deliveries per 100 Live Births	1997	1998	1999	2000	2001	Total
Allegany	54.1	53.5	48.8	42.7	42.8	48.5
Cattaraugus	43.7	35.9	38.0	35.7	31.1	36.9
Chautauqua	42.1	41.1	36.9	33.5	29.3	36.6
Erie	28.0	26.9	23.8	19.1	14.1	22.5
Genesee	22.3	21.8	20.9	22.2	22.1	21.8
Niagara	27.6	27.4	25.6	23.7	22.0	25.3
Orleans	34.9	34.8	34.5	32.2	35.3	34.3
Wyoming	26.9	24.0	23.0	21.0	22.8	23.6
WNY Total	30.7	29.4	26.8	23.1	19.3	26.0
New York State	26.7	26.3	26.1	26.2	26.9	26.5



6 Requests for Access to NY State Health Information Network (HIN) Datasets

DRAFT

January__, 2005

Dear Mr. _____

The Western New York Public Health Alliance Inc. is working with the SUNY Buffalo, School of Public Health and Health Professions (SPHHP) in the development of a Regional Maternal and Child Health Assessment. The eight counties of Western New York have agreed to a set of MCH metrics that would apply to all of the participating counties (see attached). SPHHP has the ability to objectively assess and analyze data across multiple counties; a task that we are unable to do as individual counties.

This effort involves the acquisition and analysis of maternal and child health data at the case level for the eight counties of WNY. The Alliance thoroughly supports this initiative. SPHHP is prepared to continue this initiative once permission to access the data has been received.

Therefore, we request that the New York State Department of Health give written permission to SPHHP, Dr. Randy Carter, Associate Chair of the Department of Biostatistics, to access this data for the eight counties of Western New York, so that this initiative may continue.

We anticipate that this MCH effort will set the stage for incremental development of a Regional Community Health Assessment that will benefit the entire WNY region.

We appreciate your assistance.

Sincerely yours,

Anthony Billittier, IV, MD
Co-Chair

Christopher Szwagiel, MS, MPH, Dr.PH
Co-Chair

DRAFT

Anthony Billittier, IV, MD
Commissioner
Erie County Health Department
95 Franklin Street
Buffalo NY 14202

December 28, 2004

Dear Mr. _____

The _____ County Health Department is working with the SUNY Buffalo, School of Public Health and Health Professions (SPHHP) in the development of a Regional Maternal and Child Health Assessment. The eight counties of Western New York have agreed to a set of MCH metrics that would apply to all of the participating counties (see attached). SPHHP has the ability to objectively assess and analyze data across multiple counties; a task that we are unable to do as individual counties.

This effort involves the acquisition and analysis of maternal and child health data at the case level for the eight counties of WNY. We thoroughly support this initiative. SPHHP is prepared to continue this initiative once permission to access the data has been received.

Therefore, I request that the New York State Department of Health give written permission to SPHHP, Dr. Randy Carter, Associate Chair of the Department of Biostatistics, to access this data for Erie County so that this initiative may continue.

If you have any questions please feel free to call me at 716-858-6976.

We appreciate your assistance.

Sincerely yours,

7 Data Sets Required for the WNY Maternal Child Health Assessment

Following is a list of metrics to be included in the WNY Maternal Child Health Assessment, and the source data set believed to contain those metrics.

Table 7-1 Data Sets Required for the WNY MCH Assessment

Data Set	Metrics in the WYN Maternal Child Health Assessment
Birth Vital Statistics	• Infant mortality rates • Infant birth weight categories • Gestational age categories • Infant ventilation rates • Rates of major medical conditions • Presence abnormal conditions in newborns • Rates of complication in labor or delivery • Rates of complication during pregnancy • APGAR Score categories • Rates of cesarean section • Categories of previous pregnancy experience • Interpregnancy interval • Adequacy of prenatal care • Infant sex • Socio-demographic stratification ➢ Mother's race/ethnicity ➢ Mother's education ➢ Mother's age range ➢ Mother's income range • Mother's marital status • Maternal mortality
Childhood Blood Lead Surveillance	• Child blood-lead level categorization
Congenital Malformations Registry (CMR)	• Birth defect rates
Department of Education	• Rate of Pre kindergarten educational disability • Rate of Kindergarten educational disability • Child maltreatment rates
Early Intervention Program (EIP)	• Presence of developmental delay or disability
Medicaid Eligibility	• Medicaid eligibility stratification
State Perinatal Data System (SPDS)	• Neonatal Intensive Care Usage • Pregnancy weight gain categorization

Discussion of Minimum Population Requirements and Thematic Mapping

8 Developing Geographic Areas with Adequate Sample Size

Two problematic issues surround reporting Maternal Child Health measures in Western New York.

1) Low Incidence Rates: The outcome rates for many of the conditions tracked in the template are very low
   a) Between 1997 and 2001, infant mortality in Western New York occurred at an average rate of 7.6 per 1000 live births (0.76%).
   b) Low birth weight infants occurred at an average rate of 78 per 1000 live births (7.8%).
      i) These rates were driven higher by Erie County. Rates in other (smaller) counties were about 10% below the overall average.
2) Small Populations: The populations (and expected number of newborns) in six of the eight WNY Counties were be low.

Combined, these factors tend to increase the volatility of the calculated rates. Because the population of outcomes tends to be small, unrestrained reporting could compromise the privacy of associated families. Anticipating this dilemma, "development of geographic areas with adequate sample size and incidence (prevalence) rates for each county" is the seventh contract deliverable.

Table 8-1describes the zip codes in Western New York in terms of the estimated number of newborns per year. 50% of the zip codes are expected to have less than 41 newborns per 1000 population per year. In three counties, the median is less than 30 live births per 1000 per year.

Table 8-1 Zipcode Live Birth Summary Statistics

				Zipcode Live Birth Summary Estimates			
County	Number of ZipCodes*	Population (2001)	Live Births (2001)	Average	Median	Maximum	Minimum
Allegany	28	50,300	526	24.1	18	119	1
Cattaraugus	33	83,400	993	41.2	25	236	5
Chautauqua	38	138,720	1,578	60.3	39	493	3
Erie	87	946,630	10,812	184.7	152	592	0
Genesee	17	59,970	700	54.5	29	265	15
Niagara	23	218,640	2,483	148.5	66	591	17
Orleans	10	43,940	465	71.6	33	169	13
Wyoming	19	43,070	434	29.6	20	94	1
WNY Total	**255**	**1,584,670**	**17,991**	**97.2**	**41**	**592**	**0**

* Only zip codes with population greater than 0.

The average number of live births (97.2 per 1000 per year) is driven up by Erie (184.7 per 1000 per year) and Niagara (148.5 per 1000 per year) Counties. The other smaller counties average about 45 births per 1000 per year, less than half of the overall average.

Table 8-2 shows the minimum number of live births required to have a given probability of observing at least 5 outcomes for given an outcome rate per 1000 live births. For example, at the infant mortality outcome rate of 7 per 1000, there is a 90% probability of observing five or more infant deaths in a geographic region if there are 1139 live births that region. .

Table 8-2 Minimum Number of Live Births for Aggregated Geographies

Determine the minimum number of live births for getting at least five (5) outcomes with a given probability and outcome rate (per 1000)

	Probability of at least five cases					
Outcome Rate per 1000	**0.75**	**0.80**	**0.85**	**0.90**	**0.95**	**0.99**
1	6,274	6,720	7,270	7,990	9,137	11,627
2	3,137	3,357	3,632	3,998	4,572	5,768
3	2,091	2,240	2,420	2,662	3,046	3,864
4	1,568	1,679	1,815	1,996	2,289	2,887
5	1,254	1,343	1,452	1,596	1,826	2,325
6	1,045	1,118	1,209	1,331	1,523	1,935
7	895	959	1,036	1,139	1,307	1,654
8	783	839	907	998	1,142	1,447
9	696	745	806	887	1,014	1,289
10	626	671	725	797	913	1,154
20	311	335	365	396	464	616
30	209	224	239	266	304	372
40	156	167	180	197	228	311
50	125	134	144	159	182	250
60	104	110	119	132	152	189
70	89	95	102	113	128	159
80	77	83	89	98	113	144
90	69	73	79	87	98	128
100	62	66	71	78	89	113
150	41	43	47	52	58	83
200	30	32	35	38	44	52
250	25	25	29	29	36	43
300	19	21	23	25	29	35
350	17	17	19	21	29	29
400	15	15	17	17	21	25
500	12	13	13	14	16	19
600	10	10	11	11	14	15
700	8	8	9	9	10	12
800	7	7	7	8	9	10
900	6	6	6	7	8	8

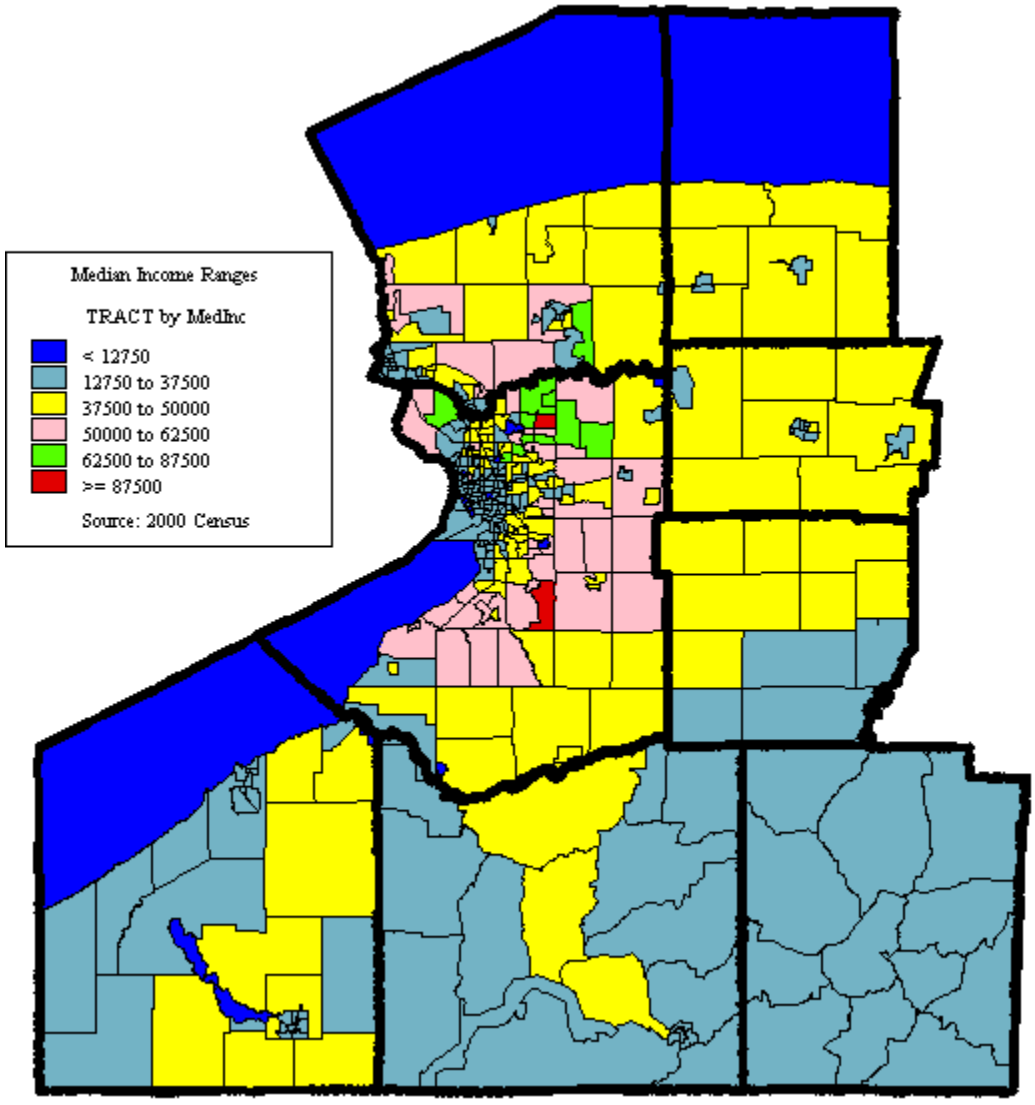
Table 8-2 supports development of regions "with adequate sample size and prevalence rates". More informative thematic maps are based the smallest possible geographic regions. Such regions can be defined specifically for condition being assessed. Additionally, this table suggests that, given the low population and outcome rates in most WNY zip codes, thematic mapping for many of the metrics in the Maternal Child Health Assessment is not practical at the zip code level. For some outcomes (e.g. infant mortality) mapping is not possible even at the county level.

The following SAS algorithm was used to generate the table showing the minimum number of live births for getting at least five (5) cases with a given probability and condition rate (per 1000).

```
/*****************************************
*   Estimate the sample size required     *
*   to achieve a given minimum number of  *
*   cases assuming a given probability of *
*   success for each case                 *
*****************************************/

data A;

Label
Cases       = 'Min Number of Cases'
Rate        = 'Expected Cases per 1000'
Sample      = 'Min population in the qeographic area'
TgtProb     = 'Targeted Probability'
Prob        = 'Actual Binomial Probability'
Error       = 'Error'
Toler       = 'Tolerance'
;

Cases=5;
Toler=0.0005;
i=0;

Do TgtProb=0.75, 0.80, 0.85, 0.90, 0.95, 0.99;
Do rate=1 to 10 by 1;
Startlow=Cases;                    /* Starting sample size estimates */
Starthigh=Cases+100000;

Do until ( abs(error) < Toler );
      i=i+1;
      if (i>1000) then leave;
      Sample=round((startlow+starthigh)/2,1);
      Prob=1-CDF('binomial',Cases-1,rate/1000,Sample);
      Error=TgtProb-Prob;

      if Error < 0 then
            starthigh=sample;
      else if Error > 0 then
            startlow=sample;
end;
output;
end;
end;

run; quit;
```

Median Income, by Census Tract, for the Counties in Western New York

Table 8-3 Sample Thematic Map



Training Session Overview

9 Training Session Overview

Deliverable #10 of the contract is a training session to "strengthen skills related to community health data." Following is a proposed agenda for that training session.

This agenda was originally planned with the expectation that several of the participants would have to drive for two or three hours to attend the training. To accommodate these travel requirements, the training session is limited to about three hours.

Table 9-1 Training Session Agenda

Item #	***Time***	***Topic***
1	11:00-12:00	Statistics. A review of means, medians, modes, proportions and other metrics common to public health practice
2	12:00-12:30	Proportions. Populations parameters, uncertainty, confidence intervals. (Lunch)
3	12:30-1:00	Comparing Populations. Attributable risk, relative risk, odds ratios
4	1:00-2:00	Public Health Summary Statistics. Prevalence rates, incidence rates etc. Related to the Community Health Assessment

This training session was presented to the Western New York Public Health Alliance, an alliance of Directors of health departments in Western New York, to solicit advice on how best to get the information to the target population of Western New York Health Department professionals. They asked to take the course materials back to their home counties and disseminate them to the appropriate members of their departments. Future presentations of the short course are planned at conferences or via video conference. The recently completed Erie County Community Health Assessment will provide supporting material for the training session.

The PowerPoint slides that constitute this short course are presented in the Appendix to this report.

10 Appendix: CHA Data and Statistical Resources Short Course