

# Minnesota Vital Statistics Interactive Queries

## I.Q.

<https://www2.health.state.mn.us/portal/>

# History

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## CDC Assessment Initiative

- Goal: To improve population health assessment in Minnesota
- Reviewed data assessment needs of local public health agencies
- Determined the Center for Health Statistics needed to improve methods of data dissemination
- One method of improvement: interactive web queries

# Software Selection

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- ★ Department-wide involvement including Information Systems and Technology Management (IS&TM), Center for Health Statistics (CHS) and NEDSS
- ★ Surveyed data users on functional needs – system needed to be flexible, and user-friendly, have the ability to generate charts and tables and do cell suppression
- ★ Interviewed several vendors: Seagate, Cognos, MicroStrategies, nQuire, SAS

# SAS Selected

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## ★ Public Sector Group

- Power and flexibility
- CDC

## ★ Tools Used

- SAS Modules:
  - Base SAS
  - GRAPH
  - Share
  - Enterprise Integration Technologies
  - APPDEV Studio
- Java J2EE

# Development Phase

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- ★ SAS, IS&TM and CHS worked together to design, test and implement the portal and its interfaces.
- ★ Used MACRO principles throughout development.
- ★ Created a Server-side Java Web Portal

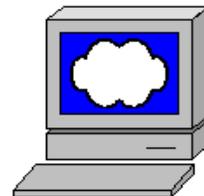
# I.Q. System Architecture

## MN Vital Statistics Interactive Queries - I.Q. System Architecture

### Web Clients



HTTPS  
Secure Socket  
Layer

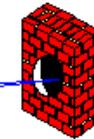


### Web Server / Servlet Container

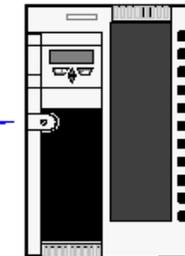
Sun Solaris Box  
Unix OS  
Oracle 9ias  
Apache

### Firewall

Ports Open for  
two way  
communication  
SAS Connect  
(Application  
Server)  
SAS Share (Data  
Server)

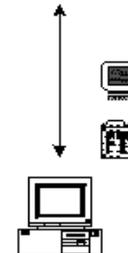


TCP/IP



### SAS Server

Unix OS  
Sun Solaris  
SAS 8.2  
Oracle9  
SAS Data Mart



### MN Health Workstation

Load Source Data (FTP)  
Execute SAS ETL Processes to  
create Application Data Mart  
(Telnet)

# Health Statistics Portal

MDH Health Statistics Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://www2.health.state.mn.us/portal/frontPage.jsp> Go Links

**MINNESOTA MDH DEPARTMENT OF HEALTH** Login E-Mail **MINNESOTA DEPARTMENT OF HEALTH HEALTH STATISTICS PORTAL** May 20, 2004

Gateway to interactive vital statistics data

and to static reports

**MN Vital Statistics Interactive Queries - I.Q.**

The Minnesota Vital Statistics Interactive Queries (I.Q.) allows the user to customize on-line queries of birth, death and population data. It produces data tables, charts, maps at a county, regional and statewide level.

[Birth Queries](#)  [Birth Query Guide](#)

These data are population based and include all births occurring to Minnesota residents regardless of where the event occurred. Grouping variables include demographical characteristics of mother and birth outcomes.

[Death Queries](#)  [Death Query Guide](#)

These data are population based and include all deaths occurring to Minnesota residents regardless of where the event occurred. The 1990-1998 data are classified using ICD-9 and 1999-most recent using ICD-10. Grouping variables include cause of death, age, gender and race.

[Population Queries](#)  [Population Query Guide](#)

These data are from the U.S. Census Bureau, [www.census.gov](http://www.census.gov). 1991-1999, 2001 and later data are population estimates and 1990 and 2000 are census counts.

**MN Center for Health Statistics Publications**

- Minnesota County Health Tables
- Minnesota Health Statistics Annual Summary
- Minnesota County Health Profiles (1996, 1998, 2000)
- Reports to the Legislature: Induced Abortions
- Population Health Assessment Quarterly
- Minnesota Adult and Youth Tobacco Reports
- Guide to Mental Health Data

MCHS Publications

MDH HOME | ABOUT US | LIBRARY | NORTH STAR

MAIN CATEGORIES: Health Data & Statistics | Diseases & Conditions | Terrorism & Natural Disasters | Facilities & Professions | Health Care & Coverage | Minnesota's Public Health System | People & Environment | Policy, Economics & Legislation

Comments and Questions | Phone Number, Address and Directions | Disclaimers

Done Internet



# Health Statistics Portal

MDH Health Statistics Portal - Microsoft Internet Explorer

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**MINNESOTA MDH DEPARTMENT OF HEALTH** **MINNESOTA DEPARTMENT OF HEALTH HEALTH STATISTICS PORTAL** May 20, 2004

Login E-Mail

Allows access to data and administration through a login system

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Done Internet

## Report Administration

- SAS Format Tools
- SAS Chart Theme Editor
- Summary Report Editor
- Xplore Controller
- Xplore Report Builder

Utility tools that manage SAS formats, colors themes, dataset access control and report viewer

## Portal Administration

- File Download Management
- Tree Object Management
- Default Content Layout

Manages portal content and layout

## Account Administration

- Create Accounts
- Create Mass Accounts
- Delete Accounts
- Disable Accounts
- Enable Accounts
- Lock IP Address
- Modify Accounts
- Reset Password
- Unlock Accounts

Manages user accounts

## Activity Logs

- Administration Change Report
- Illegal Access Report
- IP Ban Report
- Security Report

Provides security and logging reports

## Security Administration

- Security Graph

Manages portal groups and security constraints

# Minnesota Vital Statistics Interactive Queries

## What data are available?

Public: Death and population data by state and county and birth data by state from 1990-2002.

Login System: Birth data by county from 1990-2002.



## How do you query?

It is an easy four step process of choosing county, year, variable and table presentation producing tables, maps and graphs.

**Number of Deaths by Ethnicity and Gender**  
All Ages, All Causes of Death, ANOKA Counties, All Genders, All Ethnicity, All Races, Years 2002

	Gender		Total
	Male	Female	
	Number of Deaths	Number of Deaths	Number of Deaths
Ethnicity			
Non-Hispanic	697	740	1,437
Hispanic	2	5	7
Total	699	745	1,444

Data Source: MDH Center for Health Statistics

# Four Steps for Querying Birth Data

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Step 1: Select Time Span and County

Step 2: Select Display Variables (e.g. age of mother, birth weight, year etc.)

Step 3: Select Data Presentation (i.e. counts, rates or percents)

Step 4: Select Characteristics of Mother, Pregnancy or Birth (Optional)

# Birth Statistics

 [Birth Query Guide](#)

## Births

### Step 1. Select Geographical Region and Time Span

#### State

State of Minnesota

#### Years (You must select at least one)

All  
2002  
2001  
2000  
1999

[Help Select more than one year](#)

### Step 2. Select Display Variables (You must select at least one down variable)

[Help Step 2](#)

#### Down/Columns

none

none

#### Across/Rows

none  
Age of Mother  
Birth Interval  
Birth Weight  
Birthplace of Mother  
Ethnicity of Mother  
Marital Status  
Maternal Education  
Method of Delivery  
Previous Live Births  
Plurality  
Prematurity

### Step 3. Select Type of Analysis (You must select a

[Help Step 3](#)

#### Analysis

Count (Frequency)

ST

*At this point your query is considered complete. If you want to narrow your query population (e.g. low birth weight babies only or births to women ages 17-19) go to Step 4. If you are finished with your selections, click [SUBMIT](#) at the bottom of the page.*

*your query population (e.g. low birth weight babies only or births to women ages 17-19) go to Step 4. If you are finished with your selections, click [SUBMIT](#) at the bottom of the page.*

**Step 4. Select Mother, Pregnancy and Birth sub-variables (Optional)**

[Help Step 4](#)

**Age(Single Year)**

<b>Min</b>	<b>Max</b>		<b>Age Groups</b>
All	All	OR	All
10	10		Under 15
11	11		15-19
12	12		20-24
13	13		25-29

**Race of Mother**

All  
White

**Maternal Education**

All  
Less than 4 years of High School

**Ethnicity of Mother**

All

**Birth Interval**

All

**Prenatal Care Initiated by Trimester**

All  
No Prenatal Care

**Previous Live Births**

All

**Birth Weight**

All  
Low Birth Weight (under 2500 grams)

**Method of Delivery**

All

**Prematurity**

All

**Plurality**

All

**Birthplace of Mother**

All

**Marital Status**

All

# Four Steps for Querying Death Data

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Step 1: Select Time Span and County

Step 2: Select Display Variables (age, gender, race, ethnicity, year, county, cause of death)

Step 3: Select Data Presentation (i.e. counts, rates, age adjusted rate, or YPLL)

Step 4: Select Characteristics of Death  
(Optional)

# Death Statistics

 [Death Query Guide](#)

## Death

### Step 1. Select Geographical Region and Time Span

State/County (You must select at least one)

State of Minnesota  
AITKIN  
ANOKA  
BECKER  
BELTRAMI

[Help Select more than one county](#)

Years (You must select at least one)

All  
2002  
2001  
2000  
1999

[Help Select more than one year](#)

### Step 2. Select Display Variables (You must select at least one down variable)

[Help Step 2](#)

Down/Columns

none

none

Across/Rows

none

none  
Age Group  
Cause of Death  
County  
Gender  
Ethnicity  
Race  
Year

### Step 3. Select Type of Analysis (You must select at least one)

[Help Step 3](#)

- [Counts only:](#)
- [Crude death rates and counts:](#)
- [Age-adjusted rates, crude rates and counts:](#)

For age-adjusted rates, select standard population:

2000  
1970

- [Years of Potential Life Lost \(YPLL\) 0-75 years and counts:](#)

of the page.

**Step 4. Select Characteristics of Death (Optional)**

[Help Step 4](#)

**Select Gender**

All  
Male

**Age(Single Year)**

**Min**

All  
Less than 1  
1  
2  
3

**Max**

All  
Less than 1  
1  
2  
3

OR

**Age Groups**

All  
0-4  
5-14  
15-24  
25-34

**Race**

All  
White

**Ethnicity**

All

**Cause of Death**

**ICD Codes**

All Causes  
AIDS/HIV  
Alzheimers Disease  
Atherosclerosis  
Cancer

submit

reset

All Ages, All Causes

charts

maps

CSV

PDF

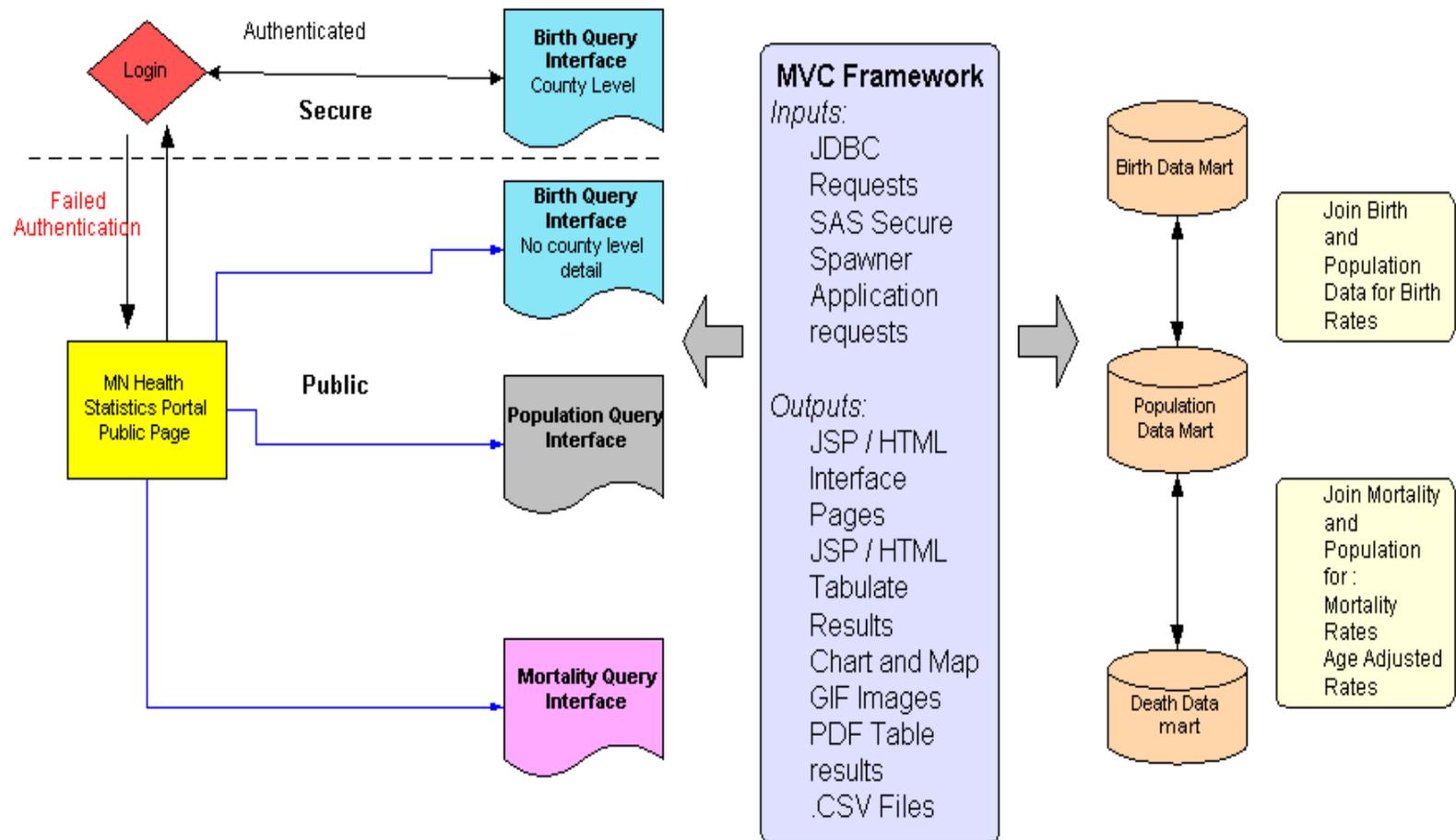
	Year								
	2000			2001			2002		
	Number of Deaths	* Crude Death Rate	*Age Adjusted Mortality Rate	Number of Deaths	* Crude Death Rate	*Age Adjusted Mortality Rate	Number of Deaths	* Crude Death Rate	*Age Adjusted Mortality Rate
<b>Race</b>									
<b>White</b>	36,207	803.4	750.9	35,993	790.2	730.9	36,876	805.8	737.4
<b>African American/African</b>	712	365.1	982.6	747	368.6	988.6	757	361.7	926.2
<b>American Indian</b>	362	577.6	1220.3	376	593.6	1226.9	358	561.4	1156.5
<b>Asian/Asian Pacific Islander</b>	300	193.3	573.4	339	207.5	562.6	299	175.2	474.6

**Missing** →

Data Source: MDH Center for Health Statistics  
*Crude Death Rate is per 100,000 Population*  
 \* Rates based on 20 or less deaths are not produced  
 211 deaths had missing values for one or more of the Column or Row variables and were not included in the total.  
[Click here for a detailed breakdown of missing values](#)

# I.Q. Application Architecture

MN Vital Statistics Interactive Queries - I.Q.  
Application Flow



# Next Steps

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- ★ Version 1 – After first year, review portal make improvements
- ★ Add similar interface - e.g. infant deaths or teen pregnancy
- ★ Expand to other datasets within MDH - e.g. injury, Minnesota Student Survey
- ★ Coordinate efforts with NEDSS

# Minnesota Vital Statistics Interactive Queries

## I.Q.

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