

**2003 INNOVATIONS AWARDS PROGRAM
Application Form**

1. Program Name
Electronic Vital Records and Screening System (EVRSS)
2. Administering Agency
South Dakota Department of Health (SDDOH) – Division of Health and Medical Services and Division of Administration
3. Contact Person (Name & Title)
Kathlene A. Mueller, Manager of the Office of Data, Statistics and Vital Records
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8. Please provide a two-sentence description of the program.
The Electronic Vital Records and Screening System is a comprehensive web-accessible data system developed to allow the electronic collection of birth, death, marriage and divorce records as well as newborn metabolic and hearing screening data. In addition to the collection of data, this system handles the business functions of the State Vital Records office and local registrars including issuance of certified copies, accounting, document tracking, modifications and preservation of records.
9. How long has this program been operational (month and year)?

South Dakota has implemented the EVRSS using a module approach.

- **The birth record system, in conjunction with the metabolic screening and portions of the hearing screening modules, was implemented on February 11, 2002. These modules have been operational for over a year.**
- **The electronic marriage record system was implemented at 64 local registrars using a staggered approach beginning October 15, 2002. All 64 county local registrars were using the system by January 1, 2003. This module has been fully operational for 3 months.**
- **The business function module was implemented at the state and local level beginning with the state on October 9, 2002 using the same staggered implementation as the marriage module. All counties were fully operational as of January 1, 2003. The state has been operational for 6 months.**
- **Upcoming modules to the system include electronic death registration, which will be implemented on January 1, 2004, and electronic divorce registration, which will be implemented on January 1, 2005.**

10. Why was the program created? (What problem[s] or issue[s] was it designed to address?)

The program was created to update the South Dakota Vital Records System (SDVRS), which was primarily a paper-based system. Specifically it addressed the following issues within the SDVRS.

- **Customer Service – Local registrars only had access to issue certified copies of vital records where the marriage license was issued and when the birth or death occurred in their county. This required customers to go to the county of the event rather than receiving service in their local area.**
- **Security – Certified copies of Vital Records were either issued on plain paper or a security paper with only limited security features opening the records to fraud.**
- **Archaic System - Former electronic birth certificate system was archaic and SDDOH was unable to change the code to make changes to the system as needed.**
- **Duplication of Effort - As a paper based system, these vital records required data entry of the record into a system for the purpose of issuing a certified copy or pulling statistics. In general, the creator of the record (i.e. funeral director, local registrar or Clerk of Courts) had already entered the data into a computer system or typed the record to create a paper record.**
- **Paper based issuance – As a result of the paper based system, indexes were used to look up the record and then the copy was pulled from microfilm and then certified. This process could often be time consuming.**

During the process of updating the SDVRS, SDDOH began to look at data systems which could effectively interact with the SDVRS and worked to determine if integrating those programs into the SDVRS would improve the business functions of that data system. SDDOH did this with the newborn metabolic and hearing programs. Creating one cohesive program achieved the following objectives:

- **100% of infants born in South Dakota had matching metabolic results. The unique number from the lab requisition was placed on the birth certificate as well as the metabolic results allowing the SDDOH to match the metabolic screening results with the birth certificate 100% of the time. It eliminated the issue of babies not receiving the required metabolic screens or the inability of the SDDOH to match a metabolic screen with a birth record as a result of:**
 - **name change of infant from time of blood draw to the filing of the birth certificate;**
 - **adoption of the child; or**
 - **change in maternal or paternal name due to marriage etc.**
- **The system allowed SDDOH to track for the first time the number of infants receiving hearing screening at the hospital.**

**11. Describe the specific activities and operations of the program in chronological order.
1998 – Evaluation of current business processes used to file Vital Records**

Initial discussions with groups such as the South Dakota Association of County Officials, South Dakota Funeral Director’s Association and the South Dakota State Medical Association regarding implementation of new electronic Vital Records System

July 2000 – Formation of an Electronic Vital Records System (EVRS) Steering Committee made up of experts in the vital records field such as hospitals, funeral directors, coroner and physicians as well as their associations. This group met to review the concepts of the EVRS.

September 2000 – Issued a Request for Proposal for an Electronic Vital Records System.

March 2001 – Awarded the contract to QS Technologies from South Carolina to begin system development.

July 2001 – Officially expanded the scope of the project to include screening and renamed the project Electronic Vital Record and Screening System (EVRSS).

September 2001 – Trained the hospitals to use the new EVRSS.

October 2001 – Began piloting the EVRSS at 3 hospitals.

December 2001 – June 2002 – Installed equipment at 64 local registrar offices.

January – March 2002 – Conducted training for the 64 local registrars on the electronic marriage and the business function modules of the EVRSS. This training included instruction on the issuance and filing of marriage licenses, the

issuance certified copies of birth and marriage records, using the accounting and document tracking systems.

February 2002 – Implemented the combined electronic birth registration and newborn metabolic screening modules and hospital portion of the newborn hearing screening module.

May 2002 – Piloted the electronic marriage registration module and business function module at 5 local registrar offices.

July – December 2002 – Continued training at the local registrar offices.

October 2002 – Implemented the electronic marriage registration and the business function module at the Central Vital Records office and implemented the local registrars using a staggered schedule.

January 2003 – Completed implementation of the electronic marriage registration and business function modules with all 64 local registrars using the EVRSS system.

January – March 2003 – EVRSS team begins to work on Electronic Death Registration.

January 2003 to present – Trained screeners, clinics and audiologists to enter newborn hearing screening information and follow up information into the hearing screening module of the EVRSS.

12. Why is the program a new and creative approach or method?

South Dakota is the first state in the nation to implement a Vital Records Program that incorporates the newborn metabolic and hearing screening systems. Many states develop them separately and share data. Combining these systems is a new approach to accomplishing the necessary functions of a state department of health. By combining the systems, SDDOH was able to reduce the cost of the systems by reusing the same platform, connectivity, and system support staff, as well as the same developer and to reduce unnecessary duplication of effort. As a result of using this approach, SDDOH can assure that babies receive the appropriate screens and follow-up and SDDOH is better able to serve their customers close to home.

13. What were the program's start-up costs? (Provide detail about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.)

System Development – \$525,000

- Birth, Marriage, Business Functions - \$285,000
- Hearing and Metabolic Screening - \$15,000
- Death and Fetal Death - \$150,000
- Divorce - \$75,000

Onsite Technical Support – \$137,956

At the outset of the project, SDDOH had one on-site technical support person. This person was in charge of handling the system implementation, security, installations and system changes. As a result of the workload, a second on-site technical support person was added to support the system. The above dollar amount includes both.

Hardware/ Software - \$217,383

SDDOH purchased the following equipment for each of the 64 local registrars:

- Pentium III Gateway computers with ethernet cards;
- Hewlett Packard Laserjet 4100 printers that included an extra feeder and paper tray; and
- Topaz Electronic Signature Capture Devices.

In addition to the equipment purchases, SDDOH purchased 200 licenses for Citrix and 64 licenses for EXTRA – 32 bit to allow them to continue to use the mainframe to issue titles

Infrastructure Building – \$12,000

SDDOH divided the cost of pulling Wide Area Network lines to each of the 64 local registrar offices.

Connectivity – \$4,000

SDDOH pays a monthly fee to connect each user.

Training – \$3,000

Payment for computer lab and travel time to do training.

Citrix and Database -

SD already uses Citrix to deploy many of its programs. SDDOH piggybacked infrastructure currently in place. Fee for service is part of the connectivity fee.

14. What are the program’s annual operational costs?

Maintenance - \$78,750

Onsite Technical Support - \$137,956

Connectivity - \$32,000

Travel for training - \$5,000

15. How is the program funded?

The birth, marriage, business functions, newborn metabolic and hearing screening modules were funded through the following sources:

- **Maternal Child Health Title V Block grant**
- **CDC Early Hearing Detection Intervention Newborn screening grant**
- **Vital Records Fees**

Funding sources for death registration module include

- **Social Security Administration**
- **Preventive Health & Health Services Block Grant**
- **Vital Records fees**

16. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.

Changes were required to state law to allow for electronic filing of birth SDCL 34-25, marriage SDCL 25-1 and death certificate SDCL 34-25. Changes will also need to be made to permit the electronic filing of divorce certificates SDCL 25-3. No changes were required for the newborn metabolic and hearing screening modules.

17. What equipment, technology and software are used to operate and administer this program?

The EVRSS was developed by QS Technologies, Inc. out of South Carolina. It was built on a software framework that easily allows the client to customize features to meet the user's needs. SDDOH can very easily make changes such as adding or removing a field, changing a field placement or field title, adding or removing edits, users, reports etc. EVRSS is role based so each user is assigned a role which allows the customized access to only the field they need to do their work while allowing administrators to access all the information. EVRSS is easy to administer, maintain and use.

EVRS is deployed in South Dakota using Citrix, which is a metaframe application. The software runs on the Citrix server and the users connect to the application via an industry standard browser or a Citrix Icon on their desktop. With Citrix, only small packets of information are sent back and forth from the user's terminal. This helps with network traffic and lowers the possibility of intercepting meaningful information from the telephone/internet lines. Because the application runs on a set of servers, nobody has a true database login. The true database userid and password is encrypted and hidden on the Citrix server so that the userid and password that the user enters just gains them access to the EVRSS system. Citrix significantly enhanced the security of the system.

In some cases, individuals can not be assigned a user id and password to represent their signature (i.e. the bride and the groom in the case of a marriage license). In these cases, the SDDOH uses Topaz Electronic Signature Capture Devices to capture and store the signature in the database.

EVRS participants are connected to the system using either the Wide Area Network, Dialup access or Internet connection.

17. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address and telephone number.

We believe that the concept for a combined birth, metabolic and hearing program originated in this state. Innovators' names are

- **Kathlene A Mueller, Manager, Office of Data, Statistics and Vital Records, 600 E Capital Ave, Pierre, SD 57501-2536, (605) 773-5303.**
- **Kayla Tinker, Administrator, Office of Family Health, 615 4th St, Pierre, SD 57501, (605) 773-4439.**

18. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?

No

19. Has the program been fully implemented? If NO, what actions remain to be taken?

No – status is as follows

- **Birth – Complete**
- **Metabolic – Complete**
- **Hearing – The newborn hearing module was implemented at the hospitals. Implementation of this function at the clinics and audiologist offices needs to be completed to evaluate, diagnose and treat newborns with a hearing loss.**
- **Marriage – Complete**
- **Business Functions – Complete**
- **Death – Full implementation still required**
- **Divorce – Development and implementation required**

20. Briefly evaluate (pro and con) the program’s effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.

Pros

- **Improves Customer Service - The EVRSS connects 64 local registrars and the State Vital Records Office. Each of those entities can issue any vital record contained within the system at the push of a button.**
- **Improves security - EVRSS standardizes the issuance of vital records across the state. This improves the quality and security of the vital record and makes it easier for the user of the document to determine fraudulent documents. In addition, EVRSS tracks all the applicants, which certificates are issued to each applicant and issues the records on a piece of security paper with numerous security features.**
- **Reduces duplication of effort – Births and Marriages are now entered directly into the state’s system rather than having the local registrar type up a form that later needs to be entered by the state to generate statistics. This will eventually be the case for death and divorce records as well.**
- **Provides immediate live data and access to information by EVRSS participants – If a birth certificate is entered but not filed, metabolic results can still be matched to the record or an audiologist can still access the results of an exam done by the physician.**
- **Quicker follow-up of infants with metabolic disorders. Because the results can be matched with the birth certificate prior to the record being filed, SDDOH can follow-up on infants quicker.**

Cons

- **Computer Access – The state purchased computers for many groups to try to standardize the equipment that was being used to access the system. Even with these purchases, SDDOH still ran into issues with the age of computers being used as well as the access to a computer for users in each facility.**
- **Level of computer knowledge by user – Many of the local registrars and clinics had never used a PC, thus SDDOH spent a significant amount of time training users to use a PC and then training them to use the system.**

21. How has the program grown and/or changed since its inception?

When the program was conceived in 1998, it was a vital records system to accommodate the filing of vital records by hospitals, funeral directors, registers of deeds and clerks of courts as well as the business functions of the state and local registrars. It was expanded in 2001 to add the newborn metabolic and hearing screening modules to assist clinics and audiologists with providing services and data.

22. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?
- **Political Boundaries - The EVRSS system was conceived and implemented across two divisions within the Department of Health and two Departments within the State of South Dakota (SDDOH and the State's Bureau of Information and Telecommunications). This was successful because of the willingness to cooperate among the group, but also because South Dakota is a small state and the Department of Health is practiced at utilizing resources from different areas of the Department and the state to accomplish a task.**
 - **Financial Limitations – SDDOH has a fund source to improve the Vital Records System. Fees were increased in 1999 to accomplish the implementation of the EVRSS. In addition to fees, SDDOH received substantial federal funds to implement the system. When complete, the SDDOH will have received no general funds to implement the EVRSS program.**
 - **Staffing Limitations – SDDOH with limited staff has been successful in implementing a project large in scope. They have the assistance of two onsite technical staff as well as the support of the Bureau of Information and Telecommunications to support the program.**

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DEADLINE: All original applications must be postmarked or e-mailed by April 11, 2003, to be considered for an Innovations Award for 2003.