

State of Michigan

Expansion of Vital Records Automation and Integration into Medicaid

Michigan Department of Community Health  
Medical Services Administration

Contact Person: Paul Reinhart, Director  
(517) 241-7882  
(517) 335-5007 Fax  
[ReinhartP1@michigan.gov](mailto:ReinhartP1@michigan.gov)

## **Abstract- Expansion of Vital Records Automation and Integration into Medicaid**

The BRS database has been developed to contain birth data for Michigan births, to issue official certified copies of vital records, to enable official amendments to the recorded data and to generally serve as the official source of legal “prima facie” information on the facts of each birth. The database currently contains full or partial records on nearly 9 million Michigan live births. This large database has been constructed by uploading legacy data that had been captured over a nearly 50 year period and under 13 different data file formats and four distinctly different processing systems. This significant effort to standardize these data into a single and uniform database has been very successful but has important limits. These limits do affect the value of the data and the ability to rely on the database to make appropriate administrative decisions on Medicaid cases.

The major goals of this project are to address the following database issues:

- Birth record data prior to 1989 contains only limited “index” information on the birth. This can significantly reduce the likelihood of a case worker positively locating a birth record.
- Records have been identified that are missing within the database. This means an unsuccessful search of the file is not conclusive evidence that the birth facts supplied are incorrect.
- The birth records within the files are not all properly linked to corresponding death record data.
- The current birth data interface screens were designed prior to the significant upgrades to the BRS, and were not originally designed to be used by Medicaid staff. This upgrade will enhance the ability of a case worker to perform citizenship validation online and avoid unnecessary effort and expense by the recipient or applicant.

Funds are requested for a project (**\$3,929,317**) that has four specific outcomes and objectives relative to database improvement.

1. **Improve DHS Citizenship Validation Capability** – Revising the DHS Medicaid eligibility intake worker interface to BRS to improve birth fact validation from approximately 70% to 90-95%.
2. **Improve the reliability of Medicaid BRS search results** – Identifying and resolving missing BRS birth data will raise DHS online case verification rates and ensure reliable search results.
3. **Link Death Records to Birth Records** – Provide Medicaid intake and quality improvement staff a source of death information to identify applications using false identity.
4. **Upgrade Interface Screens** – Increase the ability of Medicaid staff to properly locate and confirm birth facts in BRS.

# **Expansion of Vital Records Automation and Integration into Medicaid**

## **Statement of Project Need**

The State of Michigan has a long-standing tradition of interoperability between Departments. This culture of cooperation has produced significant efficiencies and cost savings. One of the most significant endeavors currently underway is the construction of a comprehensive, on-line, fully automated Vital Records Database. Even though this project is far from complete, the partial information that is currently available has already revolutionized processes throughout Michigan State Government. In particular, Michigan Medicaid saves between \$6 – 10 million per year via the use of vital records validation. Michigan Medicaid systems primarily use the Birth Registry System (BRS) with links to the Death Registry System (DRS)

To date, Michigan has successfully loaded full or partial information on nearly 9 million live births by uploading legacy data that had been captured over an approximately 50 year period. The data was previously stored in 13 different data file formats and four distinctly different processing systems. The significant effort to standardize this data into a single and uniform database has been very successful, but has important limits. These limits affect the value of the data and the ability to rely on the database to make appropriate administrative decisions pertaining to Medicaid cases.

Projects underway to improve the timeliness of Vital Records reporting include:

- Web-based newborn reporting – Implementation starting January, 2007.

- Death reporting automation – Implementation starting January, 2008.

Increased interdepartmental use of vital records information has highlighted the limitations of the current database. The one key element that is not currently included in the scope of the Vital Records Database upgrade process is ensuring the *completeness* of the data. Improvements in the completeness of this available data set will significantly enhance the value of this resource to Medicaid quality assurance and in establishing the citizenship status of beneficiaries. These database improvements fulfill needs of the Medicaid program at a modest, one-time investment cost. The outcome of the project will be:

- Improved access to the data,
- A more efficient and reliable database,
- Reduced operating costs, and
- Minimized delays and inconvenience to Medicaid applicants.

### **Project Justification**

Efforts to utilize vital records data to reduce Medicaid over-billing, fraud, improper payment and to improve the quality of patient-care services have proven very effective.

Examples of these activities include:

- Receipt of timely data on newborns for linking to eligible Medicaid recipients and enroll newborns into Medicaid, which in turn provides Medicaid eligibility for newborns to health care providers.

- Required validation of newborn coverage for all managed care claims through birth record verification, avoiding what had been a persistent problem with facility double billing.
- Receipt of timely death record data for screening against the Medicaid files to identify deceased recipients and avoid payment of inappropriate or fraudulent claims.
- Available BRS information via an online interface for use by Medicaid intake workers to validate birth information during the eligibility determination process. This has eliminated the cost, frustration and delay associated with requiring printed birth certificates to satisfy the new requirement for citizenship verification.
- Direct messaging system to facilitate Department of Human Services (DHS) intake workers and Medicaid quality assurance staff to make requests for assistance to the vital records office staff to locate information necessary for verification of facts or case management.

Each of these features is serving to improve the efficiency of program administration while reducing payment errors. It is estimated that these measures are resulting in \$4.6 million in reduced overpayments and a reduction in unrecovered overpayments of \$2 million annually.

In order to properly respond to the new regulation on establishing citizenship and identity for recipients, the Medicaid program will need to rely even more heavily on vital records

data services. Access to birth certificate data is planned as a key component of the strategies being developed to effectively manage this new administrative requirement.

- Data systems are being adjusted to maintain a record of all Medicaid enrollments where birth certificate validation of facts has occurred. This will avoid the need for caseworkers to verify citizenship and eliminate the needs for clients to produce birth certificates for newborns when the case can be established or validated through the birth record database.
- Provide active recipient data for validation against the BRS to establish citizenship through a strategy of manual and electronic matching, retaining key link information to be able to document the match, and thus eliminate the need to provide a printed copy of a birth certificate.

Work is currently underway to improve the timeliness of vital records data. The reporting of newborns using a Web based reporting system is targeted for statewide implementation in January of 2007. The automation of death reporting is in development, as well, with a rollout targeted to begin in January of 2008. These two projects, funded in part by CMS, will result in much more timely data on:

- **Births**, with 90 percent currently reported in 30 days to 90 percent within 1 week, and
- **Deaths**, where data are currently available in 90 to 120 days while the new system will provide data for electronic reports within 3-5 days.

In both cases, the efficiency and effectiveness of Medicaid management will be improved. Improved death record timeliness results in avoiding upwards of \$1.8 million in inappropriate or fraudulent charges each year, while accelerated birth reporting will reduce provider concerns for delayed payments awaiting birth record verifications for newborns.

This series of initiatives serve to demonstrate the considerable value to the Medicaid program administration of readily accessible and accurate vital records data. While all these initiatives are proving to be very effective and of critical importance to Michigan's efforts to improve recipient services and reduce fraudulent and improper payments, limitations within the vital records data files translate into corresponding limits on the usefulness of these files. Key vital records database completeness issues reduce the effectiveness of these efforts and the ability to reduce the documentation burden placed on current recipients and new applicants for benefits. An improved database will allow most Michigan born applicants to successfully apply for benefits and satisfy the new citizenship and identity documentation using documents one would normally carry, and eliminate the need to acquire certified copies of documents rarely used or accessed. This proposed enhancement will reduce the expense of applying for benefits and sharply reduces the likelihood that an applicant will need to make a second visit to a DHS office to obtain needed benefits.

All of these benefits will be enhanced or enabled by this project to ensure that the data contained in the Vital Records Database is complete and accurate.

## **Project Goals and Outcome**

The BRS database has been developed to contain birth data for Michigan births, to issue official certified copies of vital records, to enable official amendments to the recorded data and to generally serve as the official source of legal “prima facie” information on the facts of each birth. The database currently contains full or partial records on nearly 9 million Michigan live births. This large database has been constructed by uploading legacy data that had been captured over a nearly 50 year period and under 13 different data file formats and four distinctly different processing systems. This significant effort to standardize these data into a single and uniform database has been very successful but has important limits. These limits do affect the value of the data and the ability to rely on the database to make appropriate administrative decisions on Medicaid cases.

Key database issues of interest include:

- Birth record data prior to 1989 contains only limited “index” information on the birth. This can significantly reduce the likelihood of a case worker positively locating a birth record for a case since the search is heavily dependent on the recorded name for the registrant. Name alone is an almost useless search criteria.
- Records have been identified that are missing within the database. This means an unsuccessful search of the file is not conclusive evidence that the birth facts supplied are incorrect.
- The birth records within the files are not all properly linked to corresponding death record data. By not being linked to a death, the birth verification process can not alert the case worker to a potential false identity, as records of decedents are targets for identity theft.

- The current birth data interface screens were designed prior to the significant upgrades to the BRS, and were not originally designed to be used by Medicaid staff. With minimal effort, the screens can be enhanced to enable case workers to supply birth facts that are not currently carried within the Medicaid eligibility files. This upgrade will enhance the ability of a case worker to perform citizenship validation online and avoid unnecessary effort and expense by the recipient or applicant.

Funds are requested for a project that has four specific phases and objectives relative to database improvement.

5. **Improve DHS Citizenship Validation Capability** – Revising the DHS intake worker interface to BRS to improve DHS birth fact validation capability will reduce the need for support requests by vital records staff. The project would involve review of the current DHS online access screens and search capability to enhance the ability for real-time, online citizenship validation. Additional customization should enable a significant increase in ability to locate and verify birth facts, pushing success from approximately 70% to 90-95%.
6. **Improve the reliability of Medicaid BRS search results** – Identifying and resolving missing BRS birth data will raise DHS online case verification rates and ensure reliable search results. This work would entail completing an

inventory of Michigan birth data on the BRS system to identify and then capture all missing Michigan births since 1935. The project would identify and load missing birth data to BRS which will enhance the reliability of search results.

7. **Link Death Records to Birth Records** – Provide Medicaid intake and quality improvement staff a source of death information to identify applications using false identity. This project would identify and mark birth records for deceased individuals. While birth records for deaths under 45 have been annotated since 1981 there are many deaths that remain unlinked and not noted in the BRS database. Using the death database that is now under development, conduct manual and electronic birth death linkages to identify and properly flag the BRS database with deaths to guard against the potential for an applicant using a false or stolen identity.
8. **Upgrade Interface Screens** – Increase the ability of Medicaid staff to properly locate and confirm birth facts in BRS. By capturing additional information on historic births occurring prior to 1989, birth searches will be possible using information other than just the name of the individual. This will noticeably enhance birth verification by enabling searches using the name of a parent. Searching on name alone is virtually useless – adding corroborating information will unlock the usefulness of the data. The project will capture key information from each birth registration to augment the BRS database for births occurring prior to 1989. The approach selected to minimize the cost per record is to scan and OCR as well as manually enter

birth record data for 9 million birth registrations from 1935 through 1988 births. The process will capture parental information and other facts which will assist in birth fact verification by case workers. The goal is to increase the online search success rate for caseworkers and Medicaid quality improvement staff from approximately 50 % to over 90% for pre 1989 births while reducing the ongoing operational cost of accessing and effectively utilizing these data for birth facts and citizenship verification

### **Estimate of Impact to Beneficiaries**

Enhancing this resource will improve the efficiency of case enrollment and reduce sharply the potential for applicant frustration and potential loss or denial of benefits due to lack of proof of citizenship. The projects proposed will avoid the need for program recipients to purchase official vital records copies and state expenses to obtain those copies for recipients unable to pay. The cost of official copies of birth certificates for Michigan born Medicaid applicants in Michigan is an estimated \$32.2 million with state savings of an estimated \$9.6 million for the roughly 20% of Medicaid applicants who can not afford to obtain the documents needed.

Beneficiary applicants who are Michigan born would normally be able to satisfy the new documentation requirements for identity with citizenship established through an integrated vital records system interface, avoiding delays in benefits, the need to make return visits to their DHS office, and decreasing the applicants' frustration with the eligibility determination process.

The project will contribute to an efficient and responsive application processing system which is important to avoiding possible denial of needed medical services due to unclear eligibility status.

Additional annual savings on the part of case workers and quality assurance staff would result by establishing an efficient citizenship verification process, reducing the impact on staff time of the new citizenship documentation requirement by an estimated \$1.8 in staff time annually.

Finally, the Medicaid eligibility files will be more accurate and timely which will reduce fraud and abuse and inappropriate payments.

### **Description of the Magnitude of the System Change**

The proposed enhancements will not directly modify any current systems but will, by addressing database completeness issues, enable rapid, efficient and reliable citizenship and birth facts confirmation for all Michigan born applicants. This project will primarily focus on the predominantly manual and tedious task of insuring that the BRS system data is complete and accurate.

### **Description of the Sustainability of the Project**

The funds being sought would constitute a one time project cost to significantly upgrade the completeness of the existing vital records birth database. As the effort to rewrite the existing Michigan Medicaid system moves forward, an ability to query the database and confirm citizenship status of new and renewing applicants will be designed into the system to enable a seamless query of the birth data files. There will be an ongoing need

to provide Information Technology staff support for this interface and for maintenance of the database, but these costs are already accounted for in the State budgets.

### **Evaluation Plan**

The project will include a number of quality control monitoring activities to assure the quality and completeness of the work. Vital Records staff will conduct inventories on the documents as they are prepared for scanning and received from scanning as well as reviewing the completeness and quality of the delivered scanned images. During OCR, data files received will be compared using acceptance sampling procedures to determine if accuracy is of acceptable quality. Accuracy of data must be 99.5% or higher.

Similarly, any data that is key entered will be subjected to acceptance sampling and returned to the vendor for amelioration if discrepancy rates are above tolerance levels.

Finally, as the revised interface is developed, information on the efficiency and speed of use of the BRS system for citizenship and birth facts verification will be collected. The percentage of cases that can be accurately confirmed for known Michigan births will be measured. These data will be compared to results of systems use after the database is fully updated. Information on the number of cases when a death is detected through the BRS validation will also be tabulated. Improvements in success rates and processing time will be measured and evaluated.

### **Description of the Project Implementation Readiness**

Plans for such a project have been in development for several months. Vendors have been identified for the imaging, OCR and data entry work required, all of whom have been awarded the current state contract for these activities, through a bid process. Budget detail was developed from contractual charges and/or vendor price proposals for this project.

### **Revise DHS intake worker interface to BRS**

Goal: Improve DHS Birth Fact Validation Capability Objective: Review and Revise BRS Access by DHS Intake Workers and Implement Revised Interface by June , 2007 Strategy: Revise and Update the current BRS online interface to BRS, to enable searching on information not presently available to DHS as search criteria			
<b>Action Steps</b>	<b>Persons Responsible</b>	<b>Timeframe</b>	<b>Status of Action</b>
Review and Evaluate Current DHS Screens and Interface	MDCH Vital Records staff, DIT staff, DHS staff	Dec 2006 – Mar 2007	Not started
Document Revised Functional Requirements	DIT staff or contractors	Mar 2007	Not started
Revise Interface	MDCH/DIT staff or contractors	Mar 2007- June 2007	Not started
Field Test and Implement Revised Interface	DHS, MDCH/ DIT support staff	June 2007	Not started

### **Capture missing BRS birth data**

Goal: Improve reliability of Medicaid BRS search results Objective: Complete BRS database for 1935 and later births upload data on all missing BRS events to raise DHS online case verification rates by November 2007. Strategy: Complete BRS inventory for births since 1935, pull documents, conduct data entry and upload to BRS following quality assurance review.			
<b>Action Steps</b>	<b>Persons Responsible</b>	<b>Timeframe</b>	<b>Status of Action</b>
Finalize inventory of BRS records, identifying all missing documents.	MDCH Vital Records staff with DIT support	Nov 2006 – Mar 2007	90% complete

Initiate Data Entry of Records Missing in BRS	Data Entry Contract Vendor	Feb 2007 – Nov 2007	Not started
Quality Control of Delivered Data to Ensure Completeness/Quality	MDCH Vital Records Staff	Mar 2007- Nov 2007	Not started
Uploading of Processed and Edited Data into BRS	MDCH/ DIT support staff	April 2007- Nov 2007	Not started

### Identify and mark birth records for deceased

<p>Goal: Provide Medicaid intake and quality improvement staff a source of death information to identify applications using false identity</p> <p>Objective: Complete linkage between BRS and ERS data to assure reliable source of death information.</p> <p>Strategy: Using electronic and manual linkage procedures identify and update BRS with appropriate death link information.</p>			
Action Steps	Persons Responsible	Timeframe	Status of Action
Develop Birth/Death Linkage Specifications following national Guidelines	MDCH Vital Records and DIT staff	June 2007 – July 2007	Not started
Design, Develop and Implement Linkage of BRS with EDR Database	MDCH/DIT staff or contractors	July 2007 – Dec 2007	Not started
Review and Confirm Linkages and Update BRS Database	MDCH Vital Records staff with DIT support	Dec 2007 – Oct 2008	Not started
Manually Identify and Update BRS with Linked Deaths between 1935 and 1949 to births since 1935.	MDCH Vital Records staff	Oct 2008 – Dec 2009	Not started

### Capture additional data items on historic births

<p>Goal: Increase the ability of Medicaid staff to properly locate and confirm birth facts in BRS to validate facts and confirm citizenship</p> <p>Objective: Augment existing birth index data records in BRS with key information, including names of parents to permit searching for cases using various search criteria</p> <p>Strategy: Scan documents and process through OCR to capture and verify critical birth facts with manual keying from scanned images for documents that fail OCR</p>			
Action Steps	Persons Responsible	Timeframe	Status of Action
Scan 9 million birth record	MDCH Vital Records	Mar 2007 –	Not Started

documents for 1935-1988	directed with contractual project staff	June 2008	
OCR and verify birth with OCR accuracy rates of 90 percent or higher	MDCH Vital Records directed with contractual project staff	Mar 2007 – June 2008	Not Started
Manually key enter birth years with OCR rates below 90 % from scanned images	MDCH Vital Records directed with contractual project staff	Mar 2007 – Sept 2008	Not Started

**Budget:**

Estimated Total Project Budget                      \$9,823,293

**Total Funding Request                                      \$3,929,317**

We are requesting funding in the amount proportional to the Medicaid births here in the state, with the balance of the funds to come from state general and other funds.

<b>Budget by Phase</b>	<b>Total</b>	<b>2006/07</b>	<b>2007/08</b>
Personnel	529,291	<b>258,619</b>	<b>270,672</b>
Contractual	2,817,992	<b>1,799,288</b>	<b>1,018,704</b>
Supplies	114,560	<b>103,360</b>	<b>11,200</b>
Equipment	0	<b>0</b>	<b>0</b>
Other Costs (Indirect at 10.6% S&W )	56,108	<b>27,416</b>	<b>28,691</b>
(Random Moment @ 1.5%)	411,366	<b>266,163</b>	<b>145,203</b>
<b>All Phases</b>	<b>3,929,317</b>	<b>2,454,847</b>	<b>1,474,470</b>