Improving the Process of Implementing System Changes

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Overview and Description of Current Process

The South Carolina Department of Health and Human Services (SCDHHS) is responsible for the administration of the Medicaid Program in South Carolina. Medicaid provides health insurance for approximately 1,000,000 low income individuals in South Carolina. Annually, SCDHHS processes approximately 25 million health claims and health insurance premiums. In Fiscal Year 2006, SCDHHS spent 5 billion dollars on health care. The mission of the South Carolina Department of Health and Human Services is to manage the Medicaid Program to provide the best healthcare value to South Carolinians. In order to meet this mission, it is important to have a business process in place to address changes to the claims processing system related to policy changes, state and federal regulation changes and other system improvements identified by SCDHHS management. Business process improvement takes time and buy-in from affected stakeholders. Due to the size of the South Carolina Medicaid program and the ever-changing landscape of healthcare, it is imperative that SCDHHS have an efficient process in place to address potential changes to its major systems, both in claims processing and eligibility determination. Enhancing the process will ensure consistency, better communication and be able to address the Medicaid program policy and operational changes that are on the horizon.

SCDHHS has a contract with Clemson University for the hardware and programming related to the Medicaid Management Information System (MMIS). MMIS is the claims processing system for Medicaid claims. The MMIS interfaces with many external entities in order to ensure an adequate claims processing system (Appendix 1). The Bureau of Information Systems (BIS) within SCDHHS serves as the internal technical support staff for issues related to MMIS, and also work closely with Clemson University staff to implement and test system changes. The Bureau of Program Support (BPS) within SCDHHS serves as system support for internal SCDHHS staff regarding MMIS issues and also manages the system priority process. BPS is the primary area that defines system requirements and communicates technical issues with BIS and Clemson University. Consultation with executive staff is often needed to determine what the most important system efforts are.
The current system process is currently named the System Worksheet (SW) Process. This process was put into place fifteen years ago to address system changes needed and prioritizes system requests, or system worksheets, so that the most important system needs get worked on first. System changes are prioritized into the following groupings: Executive Priority, High Priority, Resource Available Priority and No Priority. The process is very simple. A user area defines a system need, and completes a SW Form (Appendix 2). The form is the method by which the user explains what is needed, why it is needed and when it is needed. This form is prioritized by BPS staff and sent to Information Systems and Clemson University for their input and planning. The Priority and status of each work request is communicated to users, Clemson University, Information Systems, Program Support and SCDHHS management by the distribution of the SW Priority List (Appendix 3). This list is distributed every two weeks.

The current system change process has become inefficient. The current SW Priority List indicates that there are system work requests that have been pending for more five years or more. There are currently eleven executive priority SWs, twenty high priority SWs, twenty-six resource available SWs and ten SWs with no priority. There are issues with the current process that are preventing the completion of required system work in a timely and efficient manner.

There are several reasons contributing to the problems with the current process. The reasons identified are:

- Competing and unrealistic deadlines
- Lack of adequate resources at SCDHHS and Clemson University
- Lack of agreed-upon timeframes for completion of work project
- Acceptable definition of requirements
- Communication with stakeholders that are affected by system changes
- No measurement process to gauge whether or not system process is meeting staff expectations
- Minimal executive staff involvement in the decision-making process of assigning priority to system requests

Obviously, there are many factors that are contributing to this issue, and there is not a simple solution to the problem. These reasons were identified using several methods. The Bureau of Program Support
(BPS) is in constant communication with the users on system issues, system priority and coordination with technical staff. BPS is relied upon by all segments of the agency to lead system initiatives from the user perspective. Strategic meetings have been held with the stakeholders to identify their perceptions of what the issues are with the current process. Experience with the current process also was important in the selection of the causes. The causes indicate a wide range of issues that need to be addressed.

Business process improvements are centered on customer satisfaction. It is challenging in state government to identify who the actual customer is. The customer in this case could be the citizens of South Carolina, the Governor, legislators, senators, or anyone that has a stake in the health and well-being of South Carolinians. A customer is anyone whose satisfaction depends upon your success. In this business process improvement, the customer is the SCDHHS employee that works on behalf of Medicaid beneficiaries and providers in the South Carolina. These employees represent the 35,000 enrolled Medicaid providers and the 1,000,000 Medicaid beneficiaries in South Carolina. Medicaid providers depend on an efficient and accurate payment system to be compensated for the health care they provide. Medicaid beneficiaries depend on an efficient and accurate eligibility system to ensure that they remain eligible to receive the health care services that they need.

Responsibilities and Levels of Users

There are four distinct levels of job functions that are key to the success of a systems environment. The “end user” is the actual user of the system. This level of users is the face of SCDHHS. They interact with Medicaid providers, talk with beneficiaries, coordinate policy development and changes with executive management, and carry out the mission of SCDHHS. The “business analyst” is a staff member who understands the needs of the end user, and has the expertise to translate that need into general technical requirements. This person is not familiar with the actual system coding, but in general has excellent problem-solving skills and has knowledge of how the system is organized and can determine how changes affect the end users system-wide. The business analyst works closely with the end users.

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with system questions and is the end users first point of contact when a system need is identified. At SCDHHS, the business analyst function is primarily located in BPS. The “systems analyst” is a staff member who is familiar with the coding of the system and works closely with the business analyst to understand the system need. The systems analyst then determines technical components that are affected and can offer advice to the business analyst as far as best practices, alternatives and if the system need is something that can indeed accomplished. In general, the systems analyst has excellent programming knowledge, but does not necessarily perform the actual system programming function. The system analyst function at SCDHHS is primarily located in BIS. The “applications analyst” codes the system changes. They work closely with the systems analyst to determine coding specifications, and coordinate testing of system changes. The programming function for SCDHHS is primarily performed by Clemson University. Clemson University’s role is to perform the programming changes and maintenance needed on the claims system that is a result of the coordination among the end user, business analyst and the systems analyst. Clemson University is often consulted when a systems change is being developed, and sometimes in general takes on a systems analyst role. In order for a new process to be developed and to be successful, these four levels of job functionality should be further defined and implemented. There is no clear delineation of these duties in the current process. The first step of the process improvement for system changes is to allocate adequate staffing for the business analyst, systems analyst and programming functions. This staffing is necessary to ensure the system needs are being met, and there is an adequate definition of responsibilities.

Currently, the process is getting bogged down with inadequate specifications, competing deadlines, and an unclear vision of job responsibilities. As a result of these staffing changes and a commitment to adhere to these job functions, there will be much improved system requirements. Requirements elicitation is perhaps the most difficult, most critical, most error prone, and most communication-intensive aspect of software development. It can only succeed through an effective customer-developer partnership. The analysts must create an environment conducive to a thorough
exploration of issues pertaining to the product being specified. System requirements are vital for Clemson University to be able to complete work requests in a timely and efficient manner. Inadequate scope or lack of good specifications will add time to system projects. In a claims processing environment that is funded by federal and state dollars, time is definitely money. Better requirements will lead to better results. Through detailed analysis by the business and system analysts, with input from Clemson University and the end user, requirements will improve and work will become more efficient. Functional requirements must align with the objectives established by the business requirements. To better communicate the needs to Clemson University, the current SW Form (Appendix 2) will be enhanced in order to provide more information to the analysts.

**Process Control**

A key to successful business process improvement is the identification of process control. There needs to be a group or area that owns the process, and controls the process. Control of the systems process would include assigning system priorities which will include input and direction from SCDHHS executive staff and high management. In order to better control the process, an improvement is needed in the assignment of system priorities as well as managing the list of priorities. BPS will maintain the SW priority assignment function. An enhancement will be made to how priorities are assigned and how the SW Priority List is organized and maintained. The main improvement as far as the decision making process is that the upper management of SCDHHS needs to be more involved in the priority process. Communication among the affected stakeholders needs to be improved. There are two actions that will enhance this area. One, when an SW is developed, a meeting will be scheduled with Information Systems, Program Support and the area requesting the change, so that the business and system analysts have an opportunity to discuss the needs with the end user. This meeting will serve as an initial requirements gathering opportunity, and will give the analysts a forum to discuss the challenges and provide feedback on any system changes, reporting or issues that may affect the change being requested.

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Second, a monthly meeting will be scheduled with the Bureau Chiefs of SCDHHS, which include representation of all major areas of responsibility at SCDHHS. This management level receives directives from executive staff to carry out the mission of the agency. This forum will serve as the management direction on the assignment of system priorities. Management will have an opportunity to negotiate for the needs and advocate for their system work to be completed. This meeting will not conclude until there is agreement on the final SW ranking list, which will serve as the work order for Clemson University to make system changes and provide system maintenance. The new SW Priority List will be a list with all current SWs ranked from the most important to the least important in the eyes of SCDHHS management.

In an effort to assist the bureau chiefs in this discussion, the SWs will be categorized into groupings. A definition of groupings will be agreed upon by SCDHHS management. In general, these groupings are described as: Federal and/or State Governmental Direction, Cost Savings measure (should include an estimate of savings to the Medicaid program), Efficiency (this is a change that enhances the claims system for the provider and/or SCDHHS end user), and Executive Order (executive staff has directed the change to be completed. This includes policy changes, changes related to reimbursement and other special changes as needed). There are a variety of current system worksheets that are created to cover work that is done on a regular, recurring schedule. It is recommended that these requests be listed in a separate list to be managed by Program Support, but coordinated with BIS and Clemson University to ensure this work is planned accordingly. Prior to this new process being implemented, a SW file cleanup needs to be coordinated with Program Support, Information Systems, Clemson University and other areas of management within SCDHHS. With input from affected stakeholders, agreement will be reached on the system priorities of SCDHHS. This file maintenance project will eliminate system requests that are no longer needed or not deemed a priority by SCDHHS management. There is another level of work being completed by Clemson University that is not managed by SCDHHS. Ongoing maintenance and corrective action on issues that arise with the claims processing system are not included in the system priority process. These issues are currently communicated to SCDHHS by Clemson University, and that
process is expected to continue in its current format. Clemson University is currently evaluating their resource requirements to present to BIS. The staffing plan that Clemson University is developing should incorporate plans to address these issues as well as be able to address the ongoing system enhancements that are covered by the system priority process.

**Staffing**

The South Carolina Medicaid program has grown into a program that serves one million beneficiaries, thirty five thousand Medicaid providers and accounted for five billion dollars in state and federal money in state fiscal year 2006. The current staffing at Clemson University and also at SCDHHS is inadequate to manage the size of the system. In the contract that SCDHHS has with Clemson University, there is an allowance for thirty-one full time employees. BPS currently has two full time employees to dedicate to the systems process and BIS has six full time employees that coordinate claims processing changes. These staffing levels are inadequate for a program this size. Clemson University should provide the current staffing plan, which should address all subsystems of MMIS. A detailed analysis should be completed with input from Clemson University, Information Systems and Program Support to determine the staffing needs both on the programming side and the analysis side (SCDHHS). These needs are based on the current SW priority list, recurring work and regular maintenance. It is the responsibility of BIS and BPS to convey staffing needs for Clemson University and Information Systems to executive management. It is ultimately executive staff’s decision to increase staff. If executive staff does not support the addition of new staff, difficult decisions will need to be made to determine which systems requests simply will not be completed. These requests will not be listed on the priority list, but will be cancelled at the direction of executive staff.

**Estimating Effort of System Changes**

The level of work needed to complete a system work request is not adequately communicated to SCDHHS. With the coordination of BIS and BPS, Clemson University should be able to communicate the resource and time needed to accomplish a system project. An analysis of manpower is needed for all
current system requests. Prior to this being completed, SCDHHS will need to communicate to Clemson University the timeframe requirement for each system request. Once this is completed, Clemson University will provide a staffing plan that will address what is needed to accomplish the SCDHHS directives as outlined in the new SW ranking list.

**Measurement and Follow-up Actions**

An important aspect of business process improvement is the ability to measure the success or failure of what you are trying to improve. In other words, how do you know if improving the process made a difference? The current system has been in place for almost twenty years. Change is difficult, and staff will need to become accustomed to being more involved in system issues, including executive staff and other management of SCDHHS. There is a good deal of work that needs to be completed prior to switching over to the new system process. As previously mentioned, an SW file cleanup process is needed. Meetings need to be coordinated with SCDHHS to determine priorities. To avoid confusion, a date will be determined to begin the new process, after these tasks have been completed. Managing two lists during a transition period will only add to the existing confusion and frustration. Since BPS controls the actual process, it will implement some measurement activities both initially and ongoing to ensure that the needs of all affected stakeholders are being met. This may include surveys, follow-up “lessons learned” meetings, and setting up an email group to solicit feedback and provide a forum for all levels of analysts and users to openly discuss issues and share system knowledge. These measurements are important to ensure the new process is working. Measurements must be used to measure and improve the process. By keeping measurements, it will be determined whether or not the process is improving.4 Results of lessons learned meetings and surveys will be distributed to Clemson University, Information Systems and Program Support to ensure that corrective action and follow up on issues is made. These surveys and lessons learned notes will become a permanent part of the SW documentation.

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Summary

The South Carolina Medicaid program has grown to a level that the current system process cannot address. There are several steps that must be taken to address the current process. The completion of these tasks is important to ensure that the long term growth and change in the Medicaid program is addressed from a system perspective. These tasks are:

- Additional staffing of business and systems analysis positions at SCDHHS
- Additional staffing for Clemson University
- Better communication from Clemson University on manpower needs, estimating resources for system work
- Improved requirements definitions
- Inclusion of a change control process that addresses changes needed after requirements have been finalized
- Better process control by BPS, to include new SW ranking list, input from SCDHHS management on the assignment of system priority
- SW file cleanup process.
- Addition of measurement practices

The completion of these tasks is necessary to improve the system change process. By improving this process, SCDHHS will be better able to meet the short and long term needs of the South Carolina Medicaid program. Ultimately, the Medicaid beneficiaries and the taxpayers of South Carolina will benefit from a claims system that is efficient. That efficiency will be greatly enhanced by a systems improvement process that is well-staffed, well organized and well-coordinated.
APPENDIX 2
State of South Carolina
Department of Health and Human Services

MMIS System Worksheet

Short Title:

Type of Request:  ☒ Modification;  ☐ Problem Notification;  ☐ One-time Report;  ☐ Project

<table>
<thead>
<tr>
<th>User Area:</th>
<th>Care Management</th>
<th>CLTC</th>
<th>Comm. &amp; Facility Services</th>
<th>Eligibility</th>
<th>Family Services</th>
<th>Fiscal / Budgets</th>
<th>Hospitals</th>
<th>Pharmacy / DME</th>
<th>Preventive &amp; Ancillary Health Svcs</th>
<th>Physicians</th>
<th>Program Integrity / SURS</th>
<th>Program Support</th>
<th>Reimbursement Methodology</th>
<th>TPL</th>
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</thead>
</table>

Reason for Request:

Action Requested:

Anticipated Benefits/Consequences if not Completed:

Requested Completion Date:  
Mandatory Completion Date (if applicable):

<table>
<thead>
<tr>
<th>Requested by:</th>
<th>Date:</th>
<th>Division Director Approval Signature:</th>
<th>Date:</th>
</tr>
</thead>
</table>

Complete This Section Only for Priority SWs

This SW has Priority Over the Following Outstanding Priority SWs For This User Area:

Priority Level:

<table>
<thead>
<tr>
<th>E</th>
<th>Executive Priority</th>
<th>Executive Staff Signature:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>High Priority</td>
<td>Division Director Approval Signature:</td>
<td>Date:</td>
</tr>
<tr>
<td>R</td>
<td>Resource Available Priority</td>
<td>Division Director Approval Signature:</td>
<td>Date:</td>
</tr>
</tbody>
</table>

04/07/04
### APPENDIX 3 SW Priorities 01/26/07

**E = Executive Priority** - must be started immediately and/or worked on above all other priority levels.

**H = High Priority** - to be worked on when completion of executive priority SW's is assured.

**R = Resource Available Priority** - to be completed when resources become available.

<table>
<thead>
<tr>
<th>Priority</th>
<th>LOE</th>
<th>SW #</th>
<th>Short Title</th>
<th>User Area</th>
<th>BIS</th>
<th>Justification</th>
<th>Status</th>
<th>As Of</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 01</td>
<td>***</td>
<td>05033</td>
<td>MMA / SPAP CHANGES</td>
<td>Program Support</td>
<td>EBT JSR</td>
<td>Medicare Part D / drug coverage changes</td>
<td>Working with CMS on issues with enrollment gaps on Part D file, adding prospective dual eligibles to MMA file. Creating new dual report to show numbers from CMS response file that will be used to verify clawback billing from CMS. MSIS changes implemented.</td>
<td>10/03/06</td>
</tr>
<tr>
<td>E 02</td>
<td>PR</td>
<td>05023</td>
<td>NATIONAL PROVIDER IDENTIFIER</td>
<td>Program Support</td>
<td>JCC CSM EYT</td>
<td>HIPAA requirement</td>
<td>SW to expand to include translator, etc.</td>
<td>07/20/05</td>
</tr>
<tr>
<td>E 03</td>
<td>***</td>
<td>05016</td>
<td>SFY 2006 TPL CHANGES FOR NEW MEDICAID INSURANCE VERIFICATION SERVICES (MIVS) CONTRACT</td>
<td>TPL</td>
<td>SLA ESH</td>
<td>New contractor - need info in order for contractor to meet our requirements</td>
<td>Pre-load Aries files are being gener'd to HHCD010 according to daily, weekly, monthly schedule.</td>
<td>12/27/06</td>
</tr>
<tr>
<td>E 04</td>
<td></td>
<td>06038</td>
<td>PAYMENT &amp; REPORTING OF SCHIP CLAIMS AT THE ENHANCED RATE</td>
<td>Fiscal</td>
<td>SLA</td>
<td>Federal compliance</td>
<td>Inactive - looking at starting up first part of Jan 2007</td>
<td>12/27/06</td>
</tr>
<tr>
<td>E 05</td>
<td></td>
<td>06029</td>
<td>BUNDLE ULTRASOUND CODES TO MANAGE FREQUENCY LIMITS</td>
<td>Physicians</td>
<td>EMG</td>
<td>Expenditure reduction</td>
<td>Some testing done but new concerns have surfaced and there will be other changes as per Jennifer. Implementation date moved to 03/01/07</td>
<td>01/10/07</td>
</tr>
<tr>
<td>E 06</td>
<td>**</td>
<td>06018</td>
<td>TRANSPORTATION BROKER PAYMENT PROCESS &amp; DATA COLLECTION</td>
<td>Family Services</td>
<td>JCC</td>
<td>To support monthly capitation rate and to collect encounter data for non-emergent transportation</td>
<td>Indentifying encounter data. Clemson University is coding for Member Listing and creation of J claims. (SLA) Has been inactive for awhile due to legal issues.</td>
<td>12/27/06</td>
</tr>
</tbody>
</table>