

VII. STANDING COMMITTEE

B. Finance, Audit and Facilities Committee

Amendment for Electronic Medical Records System

RECOMMENDED ACTION:

It is the recommendation of the administration and the Finance, Audit and Facilities Committee that the President or the President’s authorized representative be delegated authority to increase the project budget authorization by \$7,423,009 to an amount not to exceed \$46,485,967 for acquisition and implementation of an electronic medical record system for UW Medicine.

BACKGROUND:

The Board of Regents approved a total budget of \$39,062,958 million for the acquisition and implementation of an electronic medical record system for UW Medicine in 2002. Cerner Corporation was selected to provide hardware, software, and implementation services for the electronic medical record, and the Regents authorization included an amount not to exceed \$16,500,000 million plus sales tax for payments to Cerner Corporation. The electronic medical record unifies patient data that currently resides in various paper and electronic sources and provides tools for documenting care, viewing results of diagnostic tests, monitoring patient status, and ordering supplies and services. The Institute of Medicine has identified integrated electronic medical record systems as a critical step to improving patient safety.

The electronic medical record comprises a number of individual component systems. The following table summarizes the current status of the component systems.

| Implemented  | Yet to be implemented   |
|--|---|
| <ul style="list-style-type: none"> <li>▪ Document imaging at Harborview</li> <li>▪ Medical record &amp; transcription</li> <li>▪ Clinical results review</li> <li>▪ Physician documentation</li> <li>▪ Inpatient pharmacy</li> </ul> | <ul style="list-style-type: none"> <li>▪ Document imaging at UWMC</li> <li>▪ Nursing documentation</li> <li>▪ Outpatient pharmacy</li> <li>▪ Order entry</li> <li>▪ Emergency department triage and tracking</li> </ul> |

Thus, there are a number of operational components of the system that require operational support and enhancement.

The request to increase the authorized project budget is an interim measure to support the existing operational elements of the system and stabilize the hardware

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and software environment. These measures will provide important improvements in the operational reliability and responsiveness of the system to meet the needs of physicians and are essential to support the existing system functions. During this time, UW Medicine will develop a comprehensive plan for upgrading its technical infrastructure expertise and for the completion of the electronic medical record project. It is expected that this review will be completed by February 2006, and UW Medicine will return to the Board of Regents for authorization of that revised project total. Regardless of the scope and pace of the future plans, the funds to support the existing operations and system stability are essential.

The project cost includes Cerner acquisition and service contracts, acquisitions from other suppliers and consultants, UW staff time, and cost of maintenance for equipment and software once installed. The \$16,500,000 ceiling on the Cerner contract is adequate, but total project spending for stabilization of the infrastructure during 2006 must be increased by \$7,423,009 to a total of \$46,485,967.

Funding for the project costs is available from patient revenues and has been approved by the Harborview Medical Center Board and the UW Medicine Board. The Washington State Department of Information Services and Information Services Board, which has oversight for information technology acquisitions by state agencies and institutions, will consider this proposed budget increase once it is approved by the Regents. This request has been approved by the Vice President for Medical Affairs, Vice President for Computing and Communications, Information Technology Advisory Committee, and the Executive Vice President.

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B. Finance, Audit and Facilities Committee

Amendment for Electronic Medical Records System (continued p. 3)

**ELECTRONIC MEDICAL RECORD  
INFRASTRUCTURE AND OPERATIONS STABILIZATION  
PROPOSED BUDGET  
(January 2006 through June 2006)**

|                                      | Cerner<br>Software<br>Upgrade | Hardware<br>Upgrade | Medical<br>record<br>interfaces | Total<br>investment<br>cost | Production<br>costs | Total               |
|--------------------------------------|-------------------------------|---------------------|---------------------------------|-----------------------------|---------------------|---------------------|
| Current<br>approved<br>budget        |                               |                     |                                 |                             |                     | <b>\$39,062,958</b> |
| Hardware &<br>software               |                               | \$2,390,000         |                                 | \$2,390,000                 | \$302,199           | <b>\$2,692,199</b>  |
| Cerner                               | \$120,744                     | \$267,048           | \$83,448                        | \$471,240                   | \$802,105           | <b>\$1,273,345</b>  |
| Internal<br>labor                    | \$143,319                     | \$564,761           | \$193,016                       | \$901,095                   | \$2,012,617         | <b>\$2,913,712</b>  |
| Other<br>consulting                  |                               | \$152,145           | \$234,180                       | \$386,325                   | \$22,428            | <b>\$408,753</b>    |
| Quality<br>assurance                 | \$19,200                      | \$65,400            | \$50,400                        | \$135,000                   |                     | <b>\$135,000</b>    |
| Subtotal                             | \$283,263                     | \$3,439,354         | \$561,044                       | \$4,283,660                 | \$3,139,349         | <b>\$7,423,009</b>  |
| <b>Total<br/>proposed<br/>budget</b> |                               |                     |                                 |                             |                     | <b>\$46,485,967</b> |

**Notes:**

1. The Cerner software upgrade and medical record interface costs are for the period January 2006 through June 2006. Payments to Cerner will remain within the \$16,500,000 limit already approved by the Regents.
2. Cerner costs include consulting, hardware and production support costs.
3. The hardware upgrade costs will occur between March 2006 and December 2006.
4. Production costs are for the period January 2006 through June 2006.

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# **Electronic Medical Record Projects**

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**Status Report**

November, 2005

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# Presentation outline

- Background
  - Current Project scope & status
  - Proposed action
  - Decision-making process
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# Integrated electronic medical record

*What does it do?*

- **Replaces paper**
  - Paper medical record\*
  - Handwritten physician notes\* & orders
- **Replaces existing, separate electronic systems**
  - Nursing documentation
  - Results review (e.g., lab, radiology, EKG, etc)\*
  - Inpatient \* & outpatient pharmacy
  - Back office medical records functions and transcription\*
  - Document imaging\*
- **Adds new electronic tools**
  - Computerized practitioner order entry
  - Emergency department triage & tracking

\* System capability operational

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# Background

- In May 2001, UW Medicine submitted a DIS investment plan with a budget of \$10.3 million for hardware/software/services. Internal costs and incremental maintenance were mentioned but not costed.
  - In March 2002, UW Medicine received approvals from the UWMC Board, Harborview Board and the UW Board of Regents based on a budget of \$39.1 million.
  - After the selection of a vendor (Cerner Corporation), UW Medicine did not update the DIS investment plan with the new budget.
  - The initial go-live was September 2003. Significant acceptance issues resulted from that go-live.
  - A proposed budget amendment, increasing the Cerner budget in early 2004, triggered a review by the DIS and ISB.
  - UW Medicine has taken significant steps to slow down and restructure the project, including external review, the engagement of an independent QA reviewer (Sierra Systems), and significant changes in IT management.
  - We are now proposing a \$7.4 budget amendment to stabilize the operational elements of the system while we evaluate longer term options. The stabilization is essential to support existing elements of the system that are in active use at UW Medicine.
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# EMR – current status

- **Current activity level**

- 1400 physicians signing documents electronically
- 1500 staff using the system each day
- 4000 documents processed per day through transcription & direct entry
- 7000 documents scanned per day, including ED notes and discharges
- Inpatient pharmacy system in full operation
  - 6000 medication orders processed per day
  - \$23 million in billable charges per month
- 3 years of lab, radiology & pathology results online – other results being added

- **Principal barrier to expanded use – system reliability**

- Slow response time
  - Lack of system stability
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# Project scope & status

Completed

Begin Stabilization

January 1, 2006

| Phase I  | Phase II                     |
|--|------------------------------|
| All functionality delivered to-date  | Stabilization                |
| HMC Document Imaging   | Cerner System Upgrade        |
| Medical Records transcription  | Hardware / Software Upgrades |
| Clinical Results Review<br>(lab & other diagnostic tests) – added features | PowerChart II / Interfaces   |
| Physician Documentation  |                              |
| Inpatient Pharmacy   |                              |

## Phase III Options:

**Current plan:** Add new Cerner functionality to complete planned scope (outpatient pharmacy, non-MD documentation, order entry, emergency dept. triage & tracking).

**Option A:** Limit Cerner functions to current applications plus outpatient pharmacy and continue to use other existing systems.

**Option B:** Back away from Cerner over several (3 to 5) years, adding functionality to other existing systems and replacing existing Cerner functionality.

**Current plan, Option A, and Option B all require that Phase II be completed**

# Investment plan (January 2006 – June 2006)

|  | Cerner Software Upgrade | Hardware Upgrade   | Medical record interfaces | Total investment cost | Production costs   | Total               |
|--|-------------------------|--------------------|---------------------------|-----------------------|--------------------|---------------------|
| Current approved budget                      |                         |                    |                           |                       |                    | \$39,,062,958       |
| Hardware & software                          |                         | \$2,390,000        |                           | \$2,390,000           | \$302,199          | <b>\$2,692,199</b>  |
| Cerner (incl. hardware & production support) | \$120,744               | \$267,048          | \$83,448                  | \$471,240             | \$802,105          | <b>\$1,273,345</b>  |
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| Quality assurance                            | \$19,200                | \$65,400           | \$50,400                  | \$135,000             |                    | <b>\$135,000</b>    |
| Subtotal                                     | <b>\$283,263</b>        | <b>\$3,439,354</b> | <b>\$561,044</b>          | <b>\$4,283,660</b>    | <b>\$3,139,349</b> | <b>\$7,423,009</b>  |
| <b>Total proposed budget</b>                 |                         |                    |                           |                       |                    | <b>\$46,485,967</b> |

**Notes:**

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- 3.Production costs are for the period January 2006 through June 2006.

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# Anticipated Next Steps

## Proposal to ISB – January 2006

- **Stabilizing**
  - Stabilization of the IT environment
    - Cerner application software upgrade
    - Hardware and database software upgrades
    - New application interfaces to improve patient view and physician adoption
  - Approval of an increase in the total project budget to achieve this stabilization

## Proposal to ISB - March 2006

- **Addressing key project management issues**
    - Revised project plan
      - Direction, schedule and budget for the remainder of the project
      - Detailed investment plan
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# Decision-making process

- UW Medicine leadership – Harborview, UW Medical Center, and the Vice President for Medical Affairs
- Harborview Board, UW Medicine Board
- UW Information Technology Advisory Committee
- UW Vice President for Computing & Communications
- UW Executive Vice President
- UW Board of Regents
- Information Services Board