VII.   STANDING COMMITTEES

A.   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 enter into appropriate contracts and to increase the total project budget by $17,454,654 to an amount not to exceed $42,869,314 for acquisition and implementation of Phase III of the electronic medical record system for UW Medicine.

BACKGROUND:

The Board of Regents approved the acquisition and implementation of an electronic medical record (EMR) system for UW Medicine in 2002. Cerner Corporation was selected to provide hardware, software, and implementation services for the electronic medical record. The Regents authorized the Cerner contract at an amount not to exceed $16,500,000 million plus sales tax. The Board of Regents in November 2005 increased the project budget authorization by $4,283,660 for capital investments needed to enhance system responsiveness and reliability.

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, targeted for inpatient and hospital-based ambulatory clinics, including Harborview Medical Center (HMC), UW Medical Center (UWMC), and the Seattle Cancer Care Alliance (SCCA), comprises a number of individual component systems. The initial contract with Cerner included component systems for functions needed in an electronic record. Phase I of this implementation has been completed with installation of Cerner EMR systems for physician documentation, results reporting, medical records, and a Cerner inpatient pharmacy system for the medical centers.

The November 2005 Board of Regents action authorized Phase II hardware, database and software upgrades to improve operational performance and stability. The first part of Phase II, an extensive software upgrade was completed in February, 2006. The second part of Phase II, upgrading the hardware to enhance system responsiveness and reliability, is in progress and expected to be completed late fall 2006.

VII.   STANDING COMMITTEES

A.   Finance, Audit and Facilities Committee

Amendment for Electronic Medical Records System (continued p. 2)

The requested increase in the budget will allow UW Medicine to begin work on the next phase (Phase III) of adding functionality to the system. Phase III of the implementation is targeted to address fragmentation of the record and replacement of aging systems. At present, the clinical team does not have access to a unified patient record across the continuum of care. In addition to the paper record, separate electronic medical records exist for nursing documentation, results reporting, primary care clinics, and to support care team transition. Phase I began the process of creating a unified record for the hospitals and hospital-based clinics; Phase III will significantly enhance it.

Phase III comprises the following elements:

1. **Clinical documentation for inpatient and procedure areas.** Replace the current online Clinical Information System (CIS) clinical documentation and data repository system with a set of Cerner solutions. The primary users are all disciplines within the medical centers—nurses, respiratory care practitioners, social works and rehab therapists are among the groups who will enter data in this application. Physicians will benefit from ability to review patient treatment data. It will provide:
   a. Ability to enter patient care documentation for admission, discharge, procedure and progress notes
   b. Flowsheets for charting
   c. Ability to review documentation in the context of other patient care information
   d. Interface with bedside cardiac monitors
   e. Charting of medication administration
   f. Support for the retrospective analysis of clinical data

2. **Retail Pharmacy application.** The Cerner PharmNet Retail application will complete the transition of departmental pharmacy functions onto one, unified system begun with the implementation of the inpatient pharmacy application in 2005. It will replace the current departmental retail application, Pharmacy Computer System, Inc., PCSI, for retail pharmacy functions in all the facilities. In addition to HMC, UWMC and the SCCA, Rubenstein Memorial Health Center Pharmacy (Hall Health) will also be converted to the Cerner system. It will provide:
   a. Electronic retail prescription processing (order entry)
   b. Integration of the patient's home, inpatient and clinic medications within one application
   c. Patient information leaflets
   d. Online claims processing and adjudication

A.	Finance, Audit and Facilities Committee

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

> e. Interfaces for interactive voice refill systems, claims adjudication including patient responsibility (co-pay), prescription processing robotics, and point of sale devices
> f. Inventory management

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

3. **Reporting Database.** Development of a reporting database tool and infrastructure to meet the needs of obtaining management, compliance, ad hoc and other reports based on the data in the transactional database. This includes:
   a. Development of a parallel environment to support reporting needs
   b. Creation of a toolset framework to be used in the development of reports from this environment.
   c. Development of the requisite automated process to extract data from the transactional system and populate the reporting system.

The project cost adjustment of $17,454,654 provides for acquisition and service contracts and consultants, and UW staff time to implement Phase III. While the current level of investment was not contemplated in the budget set in 2002, the project budget is now more in line with experiences at other national medical centers. An independent quality assurance reviewer is now monitoring the project on a monthly basis.

The ongoing production costs for all installed phases are projected at $26,225,675 over the next 5 years, through 2011. Projecting the production costs for the initial 5 years of operating new systems is a requirement of the state's Information Services Board.

The project cost increase includes additional acquisition and service costs with Cerner Corporation. There will be up to $8,000,000 in investment costs for additional hardware and software acquisitions and for implementation consulting services.

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.

A.   Finance, Audit and Facilities Committee

<u>Amendment for Electronic Medical Records System</u> (continued p. 4)

<div align="center">

ELECTRONIC MEDICAL RECORD
PHASE III
PROPOSED BUDGET
(July 2006 through June 2011)

</div>

Investment and Lifecycle Costs

	CIS Replacement	Reporting Database	Retail Pharmacy	Total Phase III Investment Cost	Ongoing Project and Production Cost	Total Phase III Budget
Capital Expenditures						
Hardware, Software & Maintenance	1,134,021	1,272,936	156,051	2,563,008	1,250,967	3,813,975
Capital Labor						
Internal Labor	3,799,896	90,413	1,611,654	5,501,963	851,666	6,353,629
Cerner Consulting	4,707,723	82,620	557,572	5,347,915	170,299	5,518,214
Other Consulting	-	-	349,200	349,200	332,550	681,750
Sierra Systems Quality Assurance	470,000	188,000	282,000	940,000	-	940,000
Total Capital Labor	8,977,619	361,033	2,800,426	12,139,078	1,354,515	13,493,593
Total Capital Expenditure	10,111,640	1,633,969	2,956,477	14,702,086	2,605,482	17,307,568
Operating Expenditures						
Software & Maintenance	-	-	-	-	12,086,012	12,086,012
Expense Labor						
Internal Labor - Project Team	75,149	7,858	33,945	116,953	9,880,663	9,997,615
Internal Labor - Prog Mngt & Admin	1,461,600	503,789	670,227	2,635,616	909,127	3,544,743
Cerner Consulting	-	-	-	-	744,392	744,392
Total Expense Labor	1,536,749	511,647	704,172	2,752,569	11,534,182	14,286,750
Total Operating Expenditures	1,536,749	511,647	704,172	2,752,569	23,620,193	26,372,762
Grand Total Expenditures	**11,648,389**	**2,145,616**	**3,660,649**	**17,454,654**	**26,225,675**	**43,680,330**