



UW Medicine Information Technology Services

STRATEGIC PLAN

Executive Summary, December 2003

UW Medicine
Information Technology Services

UW Medicine Information Technology Services Strategic Plan

Developing the Plan

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A blue-tinted photograph of four people in a meeting. In the center, a man with dark hair is smiling and holding a white cup. To his left, a woman with dark hair is looking down at a document. To his right, a man with dark hair is looking towards the center. On the far left, the back of an older man's head is visible. The background is a plain, light-colored wall.

DEVELOPING THE PLAN

Introduction

This report provides an executive summary of the UW Medicine Information Technology Strategic Plan.

Background

In April of 2003, Dr. Paul Ramsey charged a group of leaders within UW Medicine to develop a strategic plan for information technology. The group was charged with:

- Analyzing the planned scope of the major systems under development to ensure that we are taking maximum advantage of the opportunities to leverage the capabilities of these systems. This will include both ensuring that we have the infrastructure to support these systems and that we have considered the opportunities to use these systems to address other gaps in clinical, administrative, and financial computing.
- Assessing the security of these systems, including the level of redundancy required providing “24x7” support.
- Evaluation of the governance and support structures required to ensure appropriate oversight of the UW Medicine IT investment process and to sustain the benefits associated with the investments.

- Identify how systems investments can better assist in the quality improvement and patient safety areas.
- Identify other major IT investments that are, or will be, required over the next 5 to 10 years and the level of financial support required to support UW Medicine IT operating and capital requirements.

Scope

The focus of this planning effort was the UW Medicine clinical system and will not address directly the administrative, educational, or research IT requirements of the School of Medicine (SoM). However, there will be areas (e.g., security, payroll) where it is important to consider School of Medicine systems requirements.

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Environmental Scan

In developing the IT Strategic Plan, the committee considered external and internal factors identified in the UW Medicine Strategic Plan. The key conclusions reached in the review of the environmental scan, is that UW Medicine needs to focus its scarce capital resource on those systems that promote quality, patient safety and reduce cost of operations. The factors that were considered include:

External Factors

- We should not assume any changes in the fundamental organization of the health care finance and delivery market — at least in the next 5 years.
- Patients with commercial insurance will continue to have broad choice and will have stronger personal financial incentives related to that choice. Ease of access and perceived service quality will also affect choice of provider.
- Patients covered by Medicare and Medicaid will experience difficulties in access as private providers limit their practices. The UW Medicine will experience an increase in demand from these beneficiaries.
- Medicare will begin financially rewarding providers with better outcomes.
- The number of uninsured will grow and will require UW Medicine to manage the demand for service from this population.
- The pressures on revenues from public and private payers and the costs of drugs, devices, staff, etc. will continue and escalate.
- Insurers will prioritize cost above all other factors in selecting providers.
- Local market will see continued consolidation. There will be increased competition for routine specialty and tertiary care as private providers attempt to utilize capacity.

Internal Factors

- Our medical centers and clinical departments are financially solid, but there are substantial commitments against existing capital capacity. We will have to be very selective in our use of capital.
- UW Medicine will become more systems-based, emphasizing service lines, centers of emphasis that manage patients across our clinical settings.
- The growth of programs, coupled with requirements for high census will make competition for clinical resources more acute.
- There will be a very high premium on effective management of resources — the sensitivity to relatively small shifts in census levels, payer mix, cash, cost of care, and other basic metrics is very high.
- The pace of systems implementations need to balance the schedule, cost, scope and the timing of benefit realization.
- Systems implementations need to account for the teaching and research components of the mission.
- Partnership with physicians, nurses, and administrators will be key to effective management of resources.

IT Services Current State

IT Services was formed in 2001 as the result of merging the information technology organizations of the Medical Centers, University of Washington Physicians Network (UWPN), University of Washington Physicians (UWP) and the Vice President for Medical Affairs (VPMA)/Dean of Medicine. The goal of the consolidation was to better support the three-fold mission of teaching, research and clinical care through improved information sharing, technology accountability and coordinated oversight.

Current State of Clinical Applications

The status of clinical applications is in transition. ORCA (Online Record of Clinical Activity) is the ongoing implementation of several clinical applications at University of Washington Medical Center (UWMC) and Harborview Medical Center (HMC) from Cerner Corporation, including:

- Results Review
- Computerized Practitioner Order Entry
- Health Information Management
- Pharmacy
- Interdisciplinary Documentation

Over time, this implementation replaces several systems including Health Information Management (HIM) and nurse documentation systems from Eclipsys, home grown results review (MINDscape), and a legacy pharmacy system. ORCA also is intended to eliminate paper as the source for clinical documentation. It started in July 2003 and is expected to take 3-4 years.

UW Medicine Neighborhood Clinics use the Electronic Medical Record (EMR) from Epic Corporation.

Significant automation exists in each of the diagnostic and therapeutic areas, based on a best of breed basis. These systems are typically supported by the departments with coordination with IT Services. Key applications include Picture Archiving & Communications System (PACS) from GE which has both medical centers to the point of being close to film-less. The key point with PACS going forward is to complete the move to film-less and to have a robust storage environment for the storage of the large volume of images.

Current State of Financial/ Administrative Applications

The primary strategy for financial applications is to cluster like-applications with the same vendor.

General Ledger, Accounts Payable, Materials Management, Surgery Scheduling, Perioperative Charting and Decision Support are sourced from McKesson.

Outpatient Registration, Scheduling and Professional Billing are sourced from Epic Corporation. The Medical Centers will transition to Epic's facility billing application in the next two years.

Human Resources and Time and Attendance is an active project which will utilize applications from Lawson and Kronos. It is due to be completed in calendar 2004.

Current State of Infrastructure

Current State: End user devices

- Medical Center support is done primarily by IT Services, with some departments self supporting. School of Medicine support is highly variable with some departments that are well supported, and other with little support. In a few instances, IT Services provides support for a SoM department.
- Medical Centers have a standard device that is actively managed but is very manually intensive
- Unmanaged devices are source of security problems
- School of Medicine has high variability in devices and support
- Device to support ratios are high, with many locations and variable service levels
- Proliferation of unmanaged Personal Digital Assistants (PDA) are a security and support concern
- Slow progress on staff consolidation

Current State: Network

- Support for Medical Centers networks was recently transitioned to UW Computing and Communications (C&C). Previously it was a shared IT Services/C&C responsibility. The intent is to leverage the expertise of C&C for high bandwidth computing and to reduce the errors associated with handoffs.
- No real network architecture — networks have evolved in response to local demand
- Inadequate security and performance — largely as a result of unplanned network evolution
- No monitoring of network performance
- Proliferation of rogue wireless access points

Current State: Data Centers

- UW Medicine has their server assets spread across multiple server locations, including several in Health Sciences, the Medical Centers and 4545 where campus houses their main computers. Many servers are in uncontrolled areas, including under desks and in closets.
- The Health Science and Medical Centers server locations are inadequate from a power, heating, fire suppression and physical security perspective. They fall short of most of the standards for quality data centers.
- 4545 is a limited capacity, B grade data center
- Unplanned growth, especially with research
- Lack of central service. No physical (or logical) central control center.

Information Technology Services Core Purpose

IT Services uses the power of information technology to make a difference in healthcare delivery, research and teaching.

Strategic Goals

As part of the strategic plan, a vision for IT was developed. The details of the vision are in Attachment 1. From that vision the following strategic goals were developed.

The IT systems implemented at UW Medicine will make a difference in these key areas:

- Improve patient safety and quality of care
- Improve patient access to UW Medicine
- Identify and help drive cost out of the organizations
- Improve clinician and staff work flow and efficiency
- And where possible provide a Return on Investment (ROI)

Key Overall Strategies

Investments in information technology are categorized in one of four ways:

- Infrastructure
- Strategic Core Systems
- Strategic Systems
- Tactical Projects

Infrastructure

As UW Medicine becomes more reliant on information technology for the operations of the Medical Centers, the systems need to be reliable, available, responsive and secure. The risk to patient care in the event of system downtime is significant and needs to be reflected in our infrastructure. To accomplish this, investments need to be made to increase the overall robustness of the infrastructure in three key areas:

- Managed End User Devices
- Managed Networks
- Managed Data Centers

The pace of infrastructure investments needs to be based on conscious risk/service/cost tradeoffs.

Strategic Core Systems

Investments in applications will focus on building a strong core of functionality on which the enterprise can improve overall care quality, workflow and processes, as well have access to better information for decision making. The core strategic investments underway need to successfully be completed before substantive investments in other applications are made. The key strategic core systems that need to be completed are:

- ORCA (Pharmacy, Order Entry, Multi-disciplinary documentation, Health Information Management)
- Resolute Professional Billing
- Resolute Facility Billing/ADT
- Combining clinical and financial data for decision support
- Human Resources
- Time and Attendance
- PACS
- School of Medicine Administrative Systems (SOMAS)

Strategic Systems

UW Medicine will continuously identify systems that further its mission and directly tie to organizational imperatives. Given the constraints on capital and operating budget, it is incumbent upon the organization to evaluate these investments in the light of compliance, return on investment and other specific organizational value.

An inventory of potential strategic investments was identified as part of the planning process. An inventory and prioritization of these is in Attachment 2.

The primary source for applications will be package solutions from key vendors with which UW Medicine already has a relationship. As new application needs are identified, initial screening will be to look to see how we can make use of offerings from the following vendors:

- Clinical applications Cerner, Epic
- Front End/Billing Applications Epic
- Decision Support McKesson, Cognos
- General Financials McKesson, Lawson

Tactical Projects

Projects that are identified throughout the course of operations that are perceived to add value but are not directly tied to a specific strategy will be evaluated on their own merits against available capital.

Implementation Strategies

Projects will be evaluated using a disciplined stage-gating process to properly assess feasibility prior to full commitment. Applications will be implemented as a partnership between IT Services and Executive Sponsors that represent the operational or clinical areas that are intended to benefit from the application.

Infrastructure Strategies

Managed End User Devices

End user devices include desktop personal computers, laptops, PDA's and printers. UW Medicine will work to improve the overall reliability, support and cost of ownership of end user devices by:

- Identifying two key standards for personal computers, those handling personally-identified health information (PHI) and those that do not.
- Creating and maintaining the mechanisms, staffing and structure to keep desktop operating systems up to date
- Supporting standard devices from two PC manufacturers.
- Budgeting in the medical centers to a bronze support level of one support person for every 750 devices.

- Adopting standard end user devices in the School of Medicine. Non standard devices will be allowed as long as they do not pose a threat to the network and the support is born by the owner. Costs of non-standard devices to UW Medicine will be periodically reviewed.
- Support for SoM departments will be on a “pay or play” basis. Departments who do not have support staff to keep end user devices maintained will pay either through a tax or on a per-use basis for support. Departments with support staff will follow the standards

Managed Network

UW Medicine will work with UW Computing and Communications to enhance the network to achieve desired levels of performance, redundancy, security and operational stability.

Managed Data Centers

UW Medicine will invest in robust data centers to house and protect its server assets and the data they contain. The data centers will provide the appropriate environmental and physical safety measures appropriate for the class of data being housed including power, HVAC, emergency power, security and fire suppression. Data Centers are classified based on the availability they are engineered to support. Class B data centers are 99.9% availability, Class A at 99.99%.

The specific strategies recommended include:

- Continue use of 4545 as the highest availability data center – Class B
- Build out the UWMC Surgical Pavillion – Class B
- Include a server location in the HMC bond project – Class B
- Explore development of a data center at the Rosen Building – Class B
- Longer term — build either standalone or in conjunction with UW Computing and Communications a data center in South Lake Union – Class A
- Identify appropriate redundant locations out of area – Class A

Fiscal Imperatives

UW Medicine needs to carefully evaluate IT investments given its capital position. Focus needs to be on core applications and infrastructure. Disciplined processes need to be in place to evaluate IT investments against other programmatic, equipment and building investment opportunities presented to the enterprise. Fiscal impact of the strategic plan is Attachment 3.

Next Steps

- Identify how IT capital requirements fit into overall UW Medicine capital picture – January 2004
- Refine PACS and Surgery capital plans – March 2004
- Distribute Strategic Plan – March 2004

A man and a woman are looking at a laptop screen together. The man is on the left, wearing a suit and tie, and is pointing at the screen. The woman is on the right, smiling, and is also looking at the screen. The background is a bright, slightly blurred office setting.

ATTACHMENTS

Attachment 1: IT Vision

Overview

UW Medicine operates as an integrated delivery system that includes Harborview Medical Center, University of Washington Medical Center, University of Washington Physicians (practice plan), School of Medicine, and University of Washington Physician's Neighborhood Clinics. It is also a part owner in the Seattle Cancer Care Alliance.

UW Medicine seeks to use the power of information technology to make a difference in accomplishing its three-part mission: clinical care, teaching, and research. UW Medicine must leverage its core investments in applications and infrastructure to achieve these goals. IT Services partners with key stakeholders to achieve the benefits associated with process changes enhanced by information technology.

Some guiding principles that drive the implementation of technology include:

- Provide standards, tools, processes and infrastructure that promote patient safety and reduce the cost of care
- Provide patients with the choice of using technology to facilitate their relationship with UW Medicine
- Promote compliance and safety by making it easy to do the right thing
- Support clinician productivity with systems that are easy to use, fast and helpful to workflow
- Support decision-making and process improvement by delivering the right information to the right people at the right time.
- Evaluate technology investments as any other capital investment, including ROI
- Utilize the internet to promote the mission of UW Medicine
- Leverage UW Medicine expertise in advanced research areas such as genomics and proteomics, coupled with clinical informatics to improve clinical care
- Promote system-wide decision-making as UW Medicine

The following narrative represents a vivid picture of how patients and staff will interact with UW Medicine in the future.

Patient access and ongoing relationship

Patients consult authoritative health content via a UW Medicine website authored by UW faculty physicians or other selected experts, plus view outcomes data available on national scorecards for each provider. Patients also select a physician and request an appointment online, pre-register, and have their insurance status and information verified. Information can be sent via any preferred media including phone, email, secure web site, or alpha page. All information and processes are available in multiple languages as well as in multiple medias for patients with special needs. Patients who do not have access to computers at home use inexpensive or disposable devices provided by UW Medicine.

Once patients have arrived at a UW Medicine hospital or clinic, they navigate by entering way-finding kiosks and using a smart card that knows who they are and where they need to go. New patients can use touch screen prompters that direct them to a registration area where a smart card will be created for them. Upon reaching the correct destination, patients can check-in via a multi-lingual kiosk, verifying demographics and insurance information before completing basic family and social history forms. Patients will be able to view a constant update screen informing them of wait times and unforeseen delays. If the patient has been referred from another provider, paper records are scanned

or electronic clinical data can be imported from a smart card or directly from the referring provider's EMR using industry standard interfaces.

Upon leaving the clinic patients may stop at a kiosk to receive appropriate patient educational materials and complete a patient satisfaction survey, or if they prefer, have the materials and resources e-mailed to them.

Inpatients will have the option to review patient educational materials from their beds, and keep in touch with family members through email, video conferencing, or personal web sites. Entertainment options such as video games and movies on-demand are always available. Visitors can also use e-mail if they wish. Patient family members can access a full suite of services and information to facilitate extended stays if they are from out of town.

Discharged patients receive pertinent health information based on their areas of interest or concern. Test results and doctors notes are available to them online. In addition, their clinical record can be summarized to a smart card for portability. Patient follow-up occurs via email or voice response to monitor patient compliance, functional status, and patient satisfaction. Chronically ill patients may be asked to provide locally administered test results via their home computer (e.g. blood sugar levels) or report functional status. Video transmissions provide case managers a chance to

observe patients rather than relying solely on phone or written communication. Patients correspond securely via e-mail with their care team to ask questions or get advice. Insurers include payment for e-mail consultations as a covered service. Patients or family members can also participate in online support groups with people who share similar health problems.

Similarly, clinical information is made available to referring physicians, long term care facilities or home health professionals as is best suited for the patient's recovery.

Patients see the status of their bills online, including explanations about charges, and can submit payment electronically or communicate with their insurer.

Patient Care

The care team has access to a single UW Medicine patient record across the continuum of care. All appropriate clinical information is available to providers regardless of where patients enter the system and where they receive healthcare.

Interdisciplinary care teams are able to locate patients or one another at any point in time, from anywhere using radio frequency ID tags, wireless PDA's or other wireless devices. The system identifies the members of the care team. All members of the care team document care online, using structured notes or data capture. All documentation is evaluated for compliance

and medical necessity perspective. Voice entry is available as an alternative means of data capture.

Orders are entered online by the appropriate caregiver, drawing on standard order sets. Rules evaluate the orders, cross checking against the patient's electronic medical record to determine if there are potential safety risks or if there might be a more cost-effective alternative. Throughout the stay of an inpatient or the visit of an outpatient, the system compares the patient's care plan against standards for safety, health maintenance, and utilization management. Actions show up on the work lists of different members of the care team based on variances. Standards are updated based on best practice as well as trends identified in the historical information. Overall clinician workflow is enhanced by the systems.

Clinical specialties capture additional data to support Quality Improvement (QI) and research needs as a standard part of creating the clinical record.

Resident data recording for presence at procedures and number of hours worked are tracked automatically.

Surgical administrative and care management functions are fully automated beginning with the pre-surgery screening process and anesthesia record, then continuing through pre-operative,

peri-operative and post-operative aspects of care. Workflow is automated and tracked to identify safety issues, bottlenecks, and resource requirements. Supplies are standardized and arrive "just in time" from the supplier based on the scheduled surgeries.

Diagnostics and Therapeutics

The integration of genomic information and clinical data will enhance early preventive care and therapeutic intervention. Gene variants are used to help identify candidates for early treatment. Genomic data are also used for guidance in drug prescribing. Privacy of such information is highly regarded and appropriate measures are taken to protect it.

All types of images are captured and stored digitally and are available anywhere needed by clinicians. Images captured remotely can be transmitted and reviewed by UW Medicine clinicians for primary or secondary opinions. Telemedicine and teleradiology extend UW Medicine clinical expertise throughout the world.

Workflow associated with diagnostic and therapeutic functions is fully automated. Key data captured from devices are summarized and saved as part of the clinical record.

Charges are automatically generated from any therapy or diagnostic procedure in a compliant form and sent to the billing system.

Revenue Cycle

Patients can pre-register or update demographics, guarantor and insurance information via the phone or online. Insurance is automatically verified prior to care delivery. Required pre-authorizations, co-pays and co-insurance are identified and tracked until obtained. Front desk staff can access the benefit plans of major employers and payers online. All patient personal and insurance data are shared across UW Medicine and maintained in a standard way. Quality of data issues are tracked and fed back to the source for improvement and training.

Appropriate facility and professional charges accumulate for a patient automatically based on medical record documentation. Compliance checks happen real-time. Claims scrubbers identify incomplete claims. Work queues are created for billers, coders, utilization review, or other checkpoints, based on rules set up by the revenue cycle manager.

Claims are generated daily and sent electronically to insurance companies. Remittance or claims status are returned electronically, automatically posting cash or creating a claim follow-up work queue.

Decision Support

Decision support information is the cornerstone to the management of UW Medicine institutions. Strategic initiatives, process improvement and daily operations are supported by the decision support activities.

All aspects of the clinical record are searchable for quality improvement, research, or public health reasons. The clinical data can be combined with resource utilization and reimbursement data to understand the cost-effectiveness of care or to evaluate clinical programs

Access to this type of data has allowed UW Medicine to:

- Identify the financial performance of physicians
- Reduce costs in their top service lines and centers of emphasis with improved outcomes, positioning them to be the preferred provider with the major insurance companies.
- Discontinue service lines and centers of emphasis not meeting mission or performance targets and the identification of new opportunities.
- Improved patient safety through statistical control methods

Research and population based activities

Researchers can use the clinical record to determine the effectiveness of care pathways and to identify candidates for research. Data can be extracted for analysis and supplemented. Access control, de-identification, vocabulary management, and HIPAA disclosure tracking are all managed for the researcher by the system. Clinical trials are tracked centrally.

Research protocols and current consent forms are available online so that researchers are sure they are following an up-to-date protocol and are using only approved consent materials. Safety reports are made and tracked online to improve the ability of researchers to manage clinical trials safely and effectively. Research subjects can communicate with the research staff and with compliance services via email, and researchers can provide subjects with up-to-date information about the research and reminders about study visits.

Support Services

Support Services support all of UW Medicine, including the School of Medicine and the clinical enterprises.

Materials management — Key suppliers automatically ship supplies based on scheduled surgical cases, census, scheduled visits or other automated indicators. Warehousing is automated where needed.

Human Resources — Positions are posted via the web. Applicants apply online. Once credentials, criminal history status, and references are verified through online data banks, automatic notices are sent to applicants who can then self schedule interviews with HR personnel. Work requests are automatically generated for system access, orientation, space allocation, and computer (if needed). Time worked is recorded on a positive basis. Employees can change payroll and demographic information online. Staff evaluations and development plans are electronic. Courses can be scheduled online and delivered online. All training is tracked.

Resource Scheduling — Staff and room scheduling are done online, tied into workflow, email and personal calendaring. Faculty academic calendars are integrated with clinical calendars.

Communications — Key information is available on a UW Medicine intranet. Content is managed by those best positioned to provide accurate, timely information without technical intervention. Staff can use the intranet to customize internal and external information sources that are of the most interest to them.

Person to person communication is facilitated through enhanced phone and video conferencing.

Marketing — The UW Medicine web site is world class in its ability to describe our mission and our services. Our faculty can easily publish articles to the site that further the mission clinically, educationally or from a research perspective. We are able to attract and retain patients based on our web-presence.

Infrastructure

Device access — staff are able to use wireless or fixed devices to access systems they are authorized to use. Login is “smart” identifying the user based on proximity, possession of a device or some biometric, with password confirmation. All systems needed are available through this process. Access from home is seamless.

Network — The network supports high volume video and voice traffic along with routine data traffic in a responsive and highly available manner. The network is safe.

Security — All data is appropriately protected from accidental, inappropriate or malicious access or alteration or destruction. All access or alteration can be tracked and audited for propriety. The environment is able to identify and respond to new attacks.

Availability/responsiveness/Service — System resources will be available 24/7 with quick response times. Appropriate staff and mechanisms are in place to support the applications and infrastructure with high customer satisfaction and consistent with the mission of UW Medicine

Disaster Recovery/Business Resumption — In the event of localized catastrophic events systems automatically switch to alternative locations in the Seattle region. In the event of regional disasters, mechanisms are in place to provide adequate system resources allowing resumption of business within a defined period.

Attachment 2: Project Evaluation Matrix

Number	Program/Project	Patient Safety	Patient Access/Satisfaction	Cost of Care	Quality of Care	Revenue Improvement	Service Lines	Staff Satisfaction	Education Research	Regulatory	High Cost Projection (000's)	Low Cost Projection (000's)	Annual Operating Cost (000's)	Annual Benefits (000's)	Risk of Project	Likely Sourcing
1.00	E-HEALTH															
1.01	Health Content		H				H								M	Custom
1.02	Scheduling		M			L									M	Epic
1.03	Personal Health Record	M			M										H	Epic/Cerner
1.04	Billing					M					\$2,400	\$1,600	\$1,200	\$2,000	M	Epic
1.05	Pharmacy refills		M												M	Cerner
1.06	Provider Communication	L	M		M					Y					M	Epic/Cerner
1.07	E-medicine, Chronic Disease	M		M	M										H	Custom/Vendor
1.08	Discharge follow-up	M		M	M										M	Epic/Cerner
1.09	Inpatient access to the Internet	L											\$1,000	\$800	L	Vendor
2.00	REGIONAL STRATEGY															
2.01	Underprivileged computing		M	L			L				\$10	\$10	\$70		M	Vendor
2.02	Referrals/Referring physician communication		M		M	M	M				\$325	\$325	\$50	\$600	M	Epic/Cerner
2.03	Medcon enhancements				M	L			M		\$392	\$215	\$44	\$240	L	Custom/Vendor
2.04	Community Health Network (sharing of clinical data)	M	M	L	M						\$1,131	\$676	\$59	\$80	H	Custom/Vendor
2.05	CME enhancements								M		\$455	\$260	\$100		L	Custom
2.06	Teleradiology					M	M				\$585	\$358	\$60	\$50	M	Vendor
3.00	PATIENT ACCESS/PATIENT FLOW															
3.01	Electronic patient check-in/checkout		M	L		M					\$1,820	\$1,092	\$149	\$800	M	Epic/Custom
3.02	Patient Tracking	L	M	M	M						\$845	\$312	\$330		M	Custom/Vendor
3.03	Enterprise Scheduling		M	L	M	L					\$1,261	\$761	\$67	\$400	M	Epic/Custom
3.04	Patient Smart Card	M	M	M	M						tbd	tbd	tbd	tbd	H	Epic/Cerner
4.00	PATIENT CARE															
4.01	ORCA enhancements(Apache, ED doc, ABN, Patient Safety content)	H		M	M		M			ABN	\$1,472	\$1,147	\$1,353	\$1,900	H	Cerner
4.02	UW Medicine integration of clinical data	M	M	M	M		L				\$1,560	\$1,027	\$150	\$720	H	Epic/Vendor
4.03	Bed Availability	M	M	M	M						tbd	tbd	tbd	tbd	M	Cerner
4.04	Research Data Base	M			M		M		H		tbd	tbd	tbd	tbd	H	Custom/Vendor
4.05	Medical Management	M	M	H	H	M	H								H	Cerner
	Ancillary Upgrades – Lab/Path										\$3,929	\$3,669	\$605		H	Cerner/Vendor
4.06	Ancillary Upgrades – Cardiology	M		M	M		H								H	Cerner/Vendor

Number	Program/Project	Patient Safety	Patient Access/Satisfaction	Cost of Care	Quality of Care	Revenue Improvement	Service Lines	Staff Satisfaction	Education Research	Regulatory	High Cost Projection (000's)	Low Cost Projection (000's)	Annual Operating Cost (000's)	Annual Benefits (000's)	Risk of Project	Likely Sourcing
5.00	RADIOLOGY	M		M	M	M	H								H	Cerner/Vendor
	RIS										\$2,207	\$1,947	\$382			Cerner/vendor
	PACS										tbd	tbd	tbd			
6.00	SPECIALTY SYSTEMS	M	M	M	M	M	H								H	Cerner/Vendor
	Surgery										\$3,398	\$3,099	\$579	\$1,500		
	Cardiology										\$3,053	\$2,770	\$414	tbd		
	Women's Health										tbd	tbd	tbd	tbd		
	Oncology										tbd	tbd	tbd	tbd		
	Orthopedics										tbd	tbd	tbd	tbd		
	Primary Care															
7.00	REVENUE CYCLE															
7.01	Payer Integration		M			H					\$910	\$676	\$122	\$1,000	H	Epic/Custom
7.02	Front end enhancements		M			H									M	Epic
8.00	DECISION SUPPORT															
8.01	Clinical/Financial Decision Support	M	M	H	H	M	H				\$2,552	\$2,311	\$436		M	Vendor
8.02	Outcomes Reporting	M	M		H						included in above				M	Vendor
8.03	Executive Workstation			M	M		H				included in above				M	Vendor
8.04	Cost Accounting			H			H				tbd	tbd	tbd		M	McKesson
9.00	SUPPORT SYSTEMS															
9.01	PEPP Enhancements			H			M	M		L					H	Lawson/Kronos
9.02	Grant/Fund Accounting								H						M	Custom/Vendor
9.03	E-procurement			M											M	Vendor
9.04	Materials Management Enhancements			M							\$3,736	\$3,327	\$645		M	Vendor
9.05	Credentiailling				M										M	Vendor
9.06	Equipment Tracking	M		M											L	Vendor
9.07	Education Management							M							L	Vendor
9.08	Space planning			M											L	Vendor
9.09	Intranet	L		L	L			H							L	Custom/Vendor
9.10	Video conferencing							H							L	Vendor

Priority systems are shown in blue H = High M = Medium L = Low Y = Yes ABN = Advance Benefit Notification tba = To be determined

Attachment 3: Capital Projection All numbers are in 000's

Category	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009	Total
Infrastructure	4,716	3,400	3,350	3,400	3,400	3,400	
ORCA	6,978	4,220	870	1,036	1,000	1,000	
Legacy financial	1,256	850	720	200	200	200	
Financial system replacements	1,470	4,220	1,700	1,100	500	500	
Ancillary	-	1,000	1,000	1,000	1,000	1,000	
PACS	445	400	400	400	400	400	
CURRENT CAPITAL PROJECTIONS	14,865	14,090	8,040	7,136	6,500	6,500	57,131
E-Health (assume 2/3 MC)			800	800			
Other app priorities (100% MC)			1,410	845			
End User Devices		1,565	1,822	2,104	2,414	2,436	
Network (2/3 MC)	-	1,351	1,351	1,351	-	-	
Data Center (2/3 MC)	-	300	1,400	-	2,300	-	
Total Increment	-	3,217	6,783	5,100	4,714	2,436	
TOTAL WITH INCREMENT	14,865	17,307	14,823	12,236	11,214	8,936	79,382
Potential Offsets							
Defer Ancillary Upgrades		1,000	1,000	1,000			
PACS comes from other budget		400	400	400	400	400	
Reduce Future ORCA					500	500	
Total Offsets	-	1,400	1,400	1,400	900	900	
NET TOTAL WITH OFFSETS	14,865	15,907	13,423	10,836	10,314	8,036	73,382
INCREMENT OVER CURRENT MC PROJECTIONS	-	1,817	5,383	3,700	3,814	1,536	16,251
SOM/UWP Investments							
E-Health			400	400			
Data Center	0	1,800	0	0	1,100	0	
Network		676	676	676			
TOTAL SOM/UWP	0	2,476	1,076	1,076	1,100	-	5,727

Acknowledgments

Clinical Management Committee

IT Steering Committee

IT Leadership

IT Planning Committee

Harborview COO Group

UWMC Senior Leadership

UWPN Clinic Chiefs

UWMC Medical Staff Advisory Committee

HMC Medical Executive Board

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