

**BIDMC  
INFORMATION SYSTEMS  
OPERATING PLAN  
FY12**

## Information Systems FY12 Operating Plan

### **Introduction**

This document outlines the BIDMC Information Systems FY12 Operating Plan. In FY12, we will again align our goals with the operating goals of our customers.

We have developed this Operating Plan based on discussions with our customers within BIDMC. We will use this plan throughout the year as a yardstick to evaluate our performance in meeting our goals. All levels of Information Systems staff have contributed to the Operating Plan and are committed to seeing that these promises to the BIDMC community are fulfilled.

It is very important to us that the customers of Information Systems are fully aware of our activities and plans. We will keep all stakeholders informed about our progress on the Operating Plan throughout the year. We value your feedback and welcome any comments or questions on the initiatives described in this plan.

John D. Halamka MD

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### **Academic and Research Computing**

**Leader:** Steve Berry

**Strategy:** To select, design, implement, and support research administrative applications, including grants management, human subjects monitoring, animal research monitoring and compliance education.

#### **Goals for FY12:**

- Roll out second phase of grant electronic management system (GEMS) for close outs and System to System processing.
- Continue Implementation a Clinical Trial patient recruitment solution to support the enrollment of patients into approved human subject protocols.
- Implement required changes in the Conflict of Interest system to support the new federal guidelines
- Support Training Certification needs until new LMS is purchased
- Implement version 5 upgrade to Topaz for ARF and animal user community
- Begin the process of migrating the IRB from paper protocols to an electronic protocol processing application.
- Work with Catalyst to promote and educate researchers on REDCap electronic data collection solution.
- Update and maintain business performance/benchmark reports on Research at BIDMC.

#### **Staffing:**

Director

1 Manager, Research Informatics

7 Analysts/Programmers

3 Desktop and application support specialists

1 EDC Form Programmer/Analyst

1 CTSC EDC Coordinator

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### **Clinical Systems**

**Leader:** Larry Markson

**Strategy:** To design, build and maintain clinical systems. To select, implement, and support clinical applications

### **Goals for FY12:**

#### **Governance**

- Support the FY12 BIDMC goal of ensuring alignment between IT and institutional priorities via an enhanced Clinical IT Governance Committee

#### **Billing/Compliance/Charge Capture**

- Engage in planning, analysis and remediation of existing systems to meet ICD10 coding mandates for 2013
- Support BIDMC FY12 goal of strengthening the revenue cycle around timely submission of charges and authorization of services via POE and billing interface enhancements
- Design and implement a major revamp of eTicket to improve workflow and charge capture

#### **Inpatient/POE/Pharmacy**

- Complete pending implementations of POE for NICU and New Born Nursery Complete pending implementations of POE for ED
- Complete implementation of inpatient medication reconciliation
- Complete rollout of bar--coded patient identification for infants
- Participate in BIDMC efforts to enhance infection control management and surveillance
- Begin planning for major upgrade of the patient safety reporting system as prioritized by HealthCare Quality

#### **WebOMR**

- Enhance outpatient recall and referral tracking to “close the loop” for outpatient referrals and follow up
- Continue to develop and expand the roll out of test results tracking
- Implement enhancements to allergy documentation
- Continue to develop and expand the roll out of online surgical orders
- Expand the roll out of pharmacy---initiated renewals
- Continue to roll out scanned external records in webOMR
- Roll out new services to integrate scanned internal notes and reports in webOMR

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### **Health Information Exchange**

- Expand the use of HIE technologies to push outpatient notes to referring MDs
- Implement “magic buttons” to share electronic health records with Milton, Cambridge Health and BIDPO eCW
- Continue expansion of NEHEN notification and communication systems

### **Clinical Documentation**

- Support the multi--year BIDMC goal to enhance medication management and documentation, including eMAR.
- Support the FY12 BIDMC goal to design the ideal workflow for inpatient documentation
- Complete intra--operative documentation in PIMS as prioritized by OREC
- Participate in planning for OB/GYN clinical documentation as prioritized by OB--GYN

### **Oncology**

- Enhance the Oncology Management System (OMS) as prioritized by the OMS Steering Committee
- Enhance the OMS Steering Committee structure, process and membership

### **Pathology**

- Continue implementation of SCC Laboratory system and go live with Phase 1 (all modules)
- Go live with SCC results interfaces to eClinicalWorks and Logician at three Community Health Centers
- Begin planning for Phase II enhancements as prioritized by LIS Steering Committee

### **Critical Care/Anesthesia/OR**

- Perform major upgrade to critical care documentation system (Metavision)
- Perform upgrade to existing Anesthesia Information System (AIMS)
- Continue planning and begin multi--year implementation of new multidisciplinary

### **AIMS**

- Perform major upgrade to Fetal Monitoring System
- Implement POE for the holding area

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### **CVI**

Provide project management and technical support for projects as prioritized by departmental governance, including:

- Select reporting solutions for Cath Lab, Echo, and EP; and begin planning for implementation
- Opening of Cath Lab Room 4
- Upgrade of Mac and Cardio Lab Systems
- Implementation of Radiation Safety Cumulative Dose Tracking
- Implementation of PeopleSoft/MacLab/CardioLab interface

### **Radiology**

Provide project management, technical support and development for projects as prioritized by departmental governance, including:

- Go live with phase 1 of front--end voice recognition as part of multi--year plan to achieve RIS--based workflow
- Install RIS/PACS integrator
- Determine approach and select system (build/buy) for Interventional Radiology
- Installation of new Radiology modalities
- Complete installation of Needham PIX (Patient Identity Cross Reference system)

### **Rad/Onc**

Provide project management and technical support for projects as prioritized by departmental governance, including:

- Upgrade Philips Pinnacle Treatment Planning System workstations
- Upgrade to Mosaiq 2.3 Treatment Delivery system

### **Enterprise Image Management**

Advance enterprise PACS efforts in conjunction with the IS infrastructure teams, including:

- Provide consultative, project and technical management to Radiology, OB, GI, CVI and other medical center PACS projects as prioritized by the Enterprise PACS committee
- Perform major upgrade from Enterprise Archive 3.0 to 4.x
- Begin to plan and implement a centralized process for Enterprise Archive management
- Continue Radiology PACS Disaster Recovery activities
- Complete technical assessment and recommend approach for image sharing with referring institutions

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### **Ambulatory/Community EMR**

- Design and implement a Community Electronic Health Exchange (EHX)
- Implement an eCW Viewer for WebOMR (“Reverse Magic Button”) as part of Phase II Clinical Information Sharing
- Implement Provider to Provider “P2P” clinical information exchange
- Expand BIDMC discharge summaries to BIDPO eClinicalWorks from pilot to production
- Implementation of eClinicalWorks Patient Portal for BIDPO EHR project
- Design and implement an online archive system for all Logician retired systems and practices.
- Continue eClinicalWorks EHR Implementations to BIDMC affiliates including Lawrence General Hospital, APG Milton and Milton area acquisitions
- Support the migration of APG Chestnut Hill to WebOMR
- Continue to support existing BIDPO eClinicalWorks EHR deployments, Logician, and other community systems

### **Staffing:**

Clinical Development: VP, 4 Managers, 19 Programmers

Clinical Applications: Director, 4 Managers, 21 Analysts

### **Decision Support**

**Leader:** Carolyn Conti

**Strategy:** To implement decision support systems, including data warehousing, master physician directory, web-based reporting, and workflow applications.

### **Goals For FY12:**

- Introduce new Business Intelligence technologies and reporting (with the Web Applications team)
- Implement Performance Manager reports and dashboards as needed to support organizational needs
- Implement clinical data marts as needed to enable quality measurement, pay for performance goals, and other decision support needs
- Maintain provider interfaces to support ePrescribing and HIE
- Enhance SOAR (Accounts Receivable workflow) to support denial tracking and appeals workflow
- Support Cactus and NEHEN Express users

### **Staffing:**

Manager

1 Programmer

2 Analysts

2 SQL Developers

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### **Fiscal Systems Operating Goals**

**Leader:** Steve Herzog

**Strategy:** Provide on-going applications and workflow improvement support in the selection and implementation of critical financial and human resources based software applications that will improve the hospitals overall Revenue Cycle, Human Resources, General Financials, Payroll, Research and Supply Chain Management operations.

#### **Goals for FY12:**

- Continue the development effort in both IBAX and NEHEN to transition from the current 4010 format to the new 5010 claims and remittance format.
- Support ICD10 planning and remediation efforts in revenue cycle systems
- Provide on-going enhancements in support of the BIDMC Cost and Payment Department and the use of the Harvest DRG Payment Verification application.
- Upgrade the PeopleSoft HRMS application from V8.9 to V9.1
- Upgrade the PeopleSoft SCM application from V8.9 to V9.1
- Upgrade the current PeopleSoft Tools set from 8.49 to 8.5.
- Support a number of Human Resources/Payroll initiatives such as but not limited to:
  - EEOC Payroll compliancy enhancements.(The 'Litter' list)
  - Complete the HR/Payroll Multi Job's project to compliment the future state 'mytime' project
  - Additional deployment of the Payroll 'PPC/Shift Diff' program to other Clinical Operating areas within the hospital.
- Continue with the replacement of the current eGate integration engine too the Intersystems 'Ensemble' alternative.
- Continue to support the Massachusetts/NEHEN Clinical Data Exchange project.
- Implement additional non NEHEN processing capabilities to payers that are not currently NEHEN members in support of PFS Revenue Cycle improvement opportunities.
- Support OIG Compliance requests from PFS
- Support the existing BIDMC Financial and Decision Support based applications
- Implement CCC/IBAX revenue cycle enhancements as prioritized by Patient Access Services and Patient Financial Services
- Provide eGate, Ensemble and HIPAA transaction support to all BIDMC and CareGroup customers

#### **Staffing:**

- 1 Senior Director Fiscal Information systems
- 4 Managers
- 15 Programmer Analysts
- 4 Integration Specialists

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### **Infrastructure**

**Leader: John Powers**

#### **Goals for FY12:**

Data Protection - Develop and implement a strategy for protecting BIDMC authentication credentials and sensitive data accessed from personally owned computers including mobile devices.

ICD-10 - Provide leadership support for HIM and infrastructure-related aspects of the ICD-9 to ICD-10 transition project with the goal of completing the initial assessment, gap analysis, remediation plan, and 25 percent of the implementation work by the end of FY12.

Patch Management - Improve patch management sufficiently to reduce Nexpose-metered vulnerabilities by 50 percent or more on I.S. managed systems.

Voice Mail System - Replace the current voice mail system that supports over 6,000 accounts with a more up-to-date, IP-based system without incurring extended disruption of service or loss of old content.

CCC Service Level - Implement high availability features for CCC using Cache ECP and Red Hat Enterprise Linux clustering technologies. Increase service levels for CCC from 99.9 percent to 99.99 percent or less than 6 hours per year of unplanned downtime due to Cache or Linux related problems.

DR Data Network - Virtualize the distribution layer of the data network in the disaster recovery center to permit more flexible repositioning of assets without regard to VLAN assignment.

Life Cycle Management - Replace one-third of the approximately 120 data network access switches in the east and west campuses with more up-to-date and efficient devices. The current switches are circa 2003 to 2004 and are beyond the 6 year life cycle target set for network switches. The new 4500 series switches are more energy efficient, sized more appropriately for the access layer mission and cost \$2,500 to \$3,000 less per year in maintenance expense.

Medical Record Storage - Successfully transition the Dedham medical record facility Iron Mountain service contract expiring March 2012 with the goal of achieving a \$2m or more, five year savings over the current run rate.

Security Dashboard – Develop metrics that in combination provide a way to quantify the risk, by subnet, of devices attached to our data network. Using this information, apply security measures that are tailored to the relative risk each subnet presents.

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Vulnerability Assessments – Deploy a commercial Vulnerability scanner along with updated processes and procedures to enhance our ability to identify and remediate vulnerable systems network wide.

Windows 7 – Upgrade all kiosk/public managed workstations to Windows 7 to enhance the user experience, improve security, and take advantage of better management features. Upgrade at least 50 percent of business builds to Windows 7 with the balance targeted for FY13.

“AA” Data Bases” – Migrate all “AA” SQLServers to a faster storage array to improve user performance and reliability. The migration involves 8 physical servers supporting 15 SQLServer instances and approximately 250 unique data bases.

SQLServer Enterprise Edition – Migrate two-thirds or more of the 32 data bases still using Standard Edition to Enterprise Edition. EE provides higher availability, larger hardware, improved auditing, and other features.

Rights Management – Improve the utility of the Varonis rights management system to include surveillance of unusual access patterns that may indicate a security issue.

Exchange 2010 – Plan the upgrade and deployment from Exchange 2007 to Exchange 2010.

Internet Access – Develop and implement a strategy that reduces the exposure of BIDMC IT technical resources and sensitive data to Internet-based malware that strikes a workable balance between the security threat and business need for Internet access.

Service Level Monitoring – Extend the use of Nagios software monitoring to 75 percent or more of the data center assets to improve the reliability, granularity, and accuracy of system alerts.

Application Support – As required, support the installation and upgrade of mission critical applications and other activities such as the LIS go-live, HRMS upgrade, psychiatry service move to 75 Fenwood, and others as required supporting goals of other groups.

Storage – Migrate all new image acquisition PACs to Atmos and begin conversion of all Centera assets to Atmos.

Ensemble – Support the e\*Gate-to-Ensemble data interface engine migration including upgrade to Ensemble 2010. This will allow the retirement of the last HP-UX server and

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Service Levels - Maintain IT infrastructure systems supporting the hospital's mission critical "AAA" clinical and business systems to achieve 99.9% availability, i.e. less than 9 hours of unplanned downtime per year.

Budget – Achieve the above goals within the FTE, operating and capital budget assigned.

### **Management:**

- 1 - Chief Administrative Information Officer
- 2 - Directors
- 13 - Managers

### **Staffing (Including management)**

- 65 - Health Information Management
- 58 - IS Support Center (Windows Servers, Desktop Eng, Ops, Messaging, Help Desk, On-Site/Off-Site Desktop Support, and App/Project Mgmt)
- 8 - Data Network Services (LAN, WAN, DNS, DHCP, Wifi)
- 3 - Data Center Support (Data Center power, cooling, racking, and space management)
- 4 - IS Security and Disaster Recovery
- 6 - Finance and Administration (Includes Departmental Admin Asst's)
- 13 - Technical Support (Linux, Cache, Storage, Prod Cntrl, Mainframe)
- 11 - Telecommunications (PBX, Voice Mail, Call Management System, Paging, Cabling)

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### **Knowledge Services**

**Leader:** Margo Coletti

**Strategy:** Knowledge Services manages the knowledge-based information resources for the BIDMC. KS staff assists BIDMC staff and students to access and assess knowledge-based information for clinical care, teaching and research; assists and advises staff with knowledge management tasks such as portal content organization and indexing content for MyCourses; provides instruction in health literacy, plain language and informed consent writing; provides training in PubMed and other medical knowledge bases; and manages an on-site library/information commons.

### **Goals for FY12:**

Collection Development:

- Continue the print-to-online migration of the collection.
- Add Visual DX and Medabbrev databases.

Instruction/Training:

- Develop content for On Time, Online CME course.
- Develop evidence-based-nursing (EBN) curriculum.
- Expand Health Literacy training.

Knowledge Management

- Continue work on MyCourses indexing
- Create subject-specific websites (Knowledge Guides) for medical ethics and informed consent.
- Continue organization of Nursing portal content.
- Wrap up Plain Language thesaurus and Approved Abbreviations database.

### **Staffing:**

Director

3.0 Information Specialists

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### **Media Services**

**Leader:** Peter Macaulay

**Strategy:** To provide photography, graphics and multimedia services

#### **Goals for FY21:**

- Support Poster and Graphics needs
- Support Multimedia/Telemedicine/Videoconference/Streaming needs
- Continue standardized electronification of conference rooms
- Upgrade the CCTV infrastructure to improve patient satisfaction/experience
- Continue to develop and upgrade multimedia infrastructure

#### **Staffing:**

Director

Supervisor

Admin

6 Media Specialists

2 Media Associates

### **Web Applications and Applied Informatics**

**Leader:** Qiang Wang

**Strategy:** To implement the content management, search and integration tools that power the CareGroup extranet and intranet.

#### **Goals for FY12:**

- Develop services as needed to support document scanning, metadata capture, and document display
- Support the BIDMC internal portal and external web site
- Create web services as needed for integration of BIDMC applications and for interactivity with external collaborators
- Enhance the Adverse Events Manager as prioritized by Healthcare Quality
- Continue the migration of account provisioning and metadirectory services to SQL Server and ASP.NET

#### **Staffing:**

Manager

6 programmers

1 Web Administrator

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### **Beth Israel Deaconess Hospital-Needham**

**Leader:** Steve O'Halloran

**Strategy:** To understand, support, and define strategic direction of all current and future environments related to Information Systems at BID-Needham

#### **Goals for FY12:**

- Continue to maximize usage of information systems within BID-Needham to improve communication, increase patient safety, and meet compliance requirements
- LIVE with Physician Documentation and Discharge Medication documentation in December 2011
- LIVE with MEDITECH Emar/BMV in Spring/Summer
- Implement integration of radiology and departmental reports to eCW
- Implement inbound orders interface from eCW to Needham Lab
- Attest for Meaningful Use for FY 2011
- Maintain MEDITECH for compliance with Meaningful Use in 2012
- Outsource Self Pay patients to HBCS in Fall 2011
- Await implementation voice transcription for radiology with M-Modal
- Await GE PIX integration with BIDN
- Maintain MEDITECH and PICIS within BIDN.
- Prepare and discuss BIDMC Cancer Center in Needham
- Deliver current hardware and network architecture to maximize productivity for end users at BID-Needham
- Continue to manage hardware lifecycle including replacement, upgrades, and net-new installation of devices at BID-Needham
- Manage and support public and private wireless network
- Grow relationship and development of new staff in IS and BIDN staff, to allow for focus on more IT Strategy and execution of tasks
- Educate staff on IT environment at BIDN to be able to transition tasks and support including user maintenance, PICIS OR Manager, MEDITECH.
- Focus on IS strategy, identifying cost savings, increasing patient safety, and better workflow and processes within BID-Needham
- Continue to manage functionality between IS applications at BIDMC and BIDN.
- Manage and maintain departmental costs by good decision-making and strong communication for all information systems projects/issues/strategies
- Continue to work with BID-Needham staff on involving IS for logistics, requirements, technology, and anything else that allows hospital projects to achieve success.
- Develop governance and/or steering committees to ensure strategic IS decision making occurs at BIDN

#### **Staffing:**

Director

3 Analysts