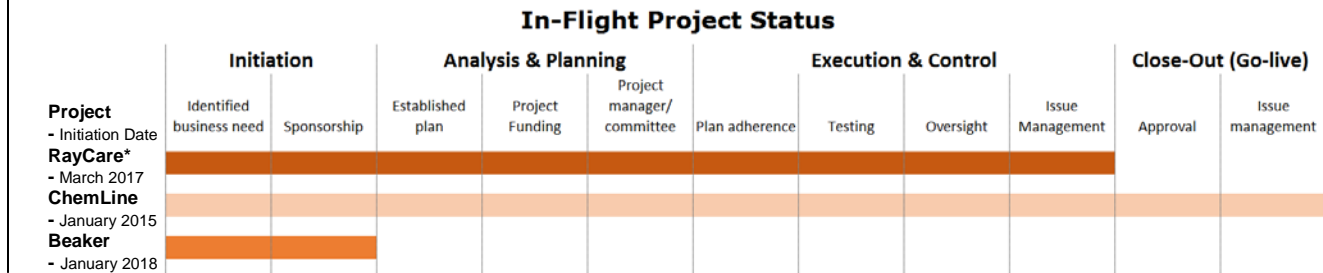# 18-404 In-Flight Project Assessment Audit

EXECUTIVE SUMMARY

Internal Audit (IA) selected three projects at different stages in their project lifecycle to perform an in-flight project assessment to determine if project management aligned with Institutional policy and leading practice. See the figure below for the projects selected and where they are in the project management methodology (PMM) phases at the time of this assessment.

In-Flight Project Status

Project - Initiation Date	Initiation		Analysis & Planning			Execution & Control				Close-Out (Go-live)	
	Identified business need	Sponsorship	Established plan	Project Funding	Project manager/ committee	Plan adherence	Testing	Oversight	Issue Management	Approval	Issue management
RayCare* - March 2017	████	████	████	████	████	████	████	████	████		
ChemLine - January 2015	████	████	████	████	████	████	████	████	████	████	████
Beaker - January 2018	████	████									

*Refer to note at the conclusion of the RayCare paragraph in Appendix C

We identified that two of the selected projects (RayCare and ChemLine) did not consistently adhere to the established IT project governance framework. Both projects followed the information technology (IT) project governance processes, but their respective steering committees determined that Information Services (IS) Executive Team (ISET) approval was not required. The RayCare project highlights the lack of clarity regarding the role of IT and governance of research and development projects. The ChemLine project highlights the need for increased coordination and transparency of prioritization of funding and resources from capital equipment, facilities, and IT. The governance process needs increased clarity regarding governance requirements and procedures.
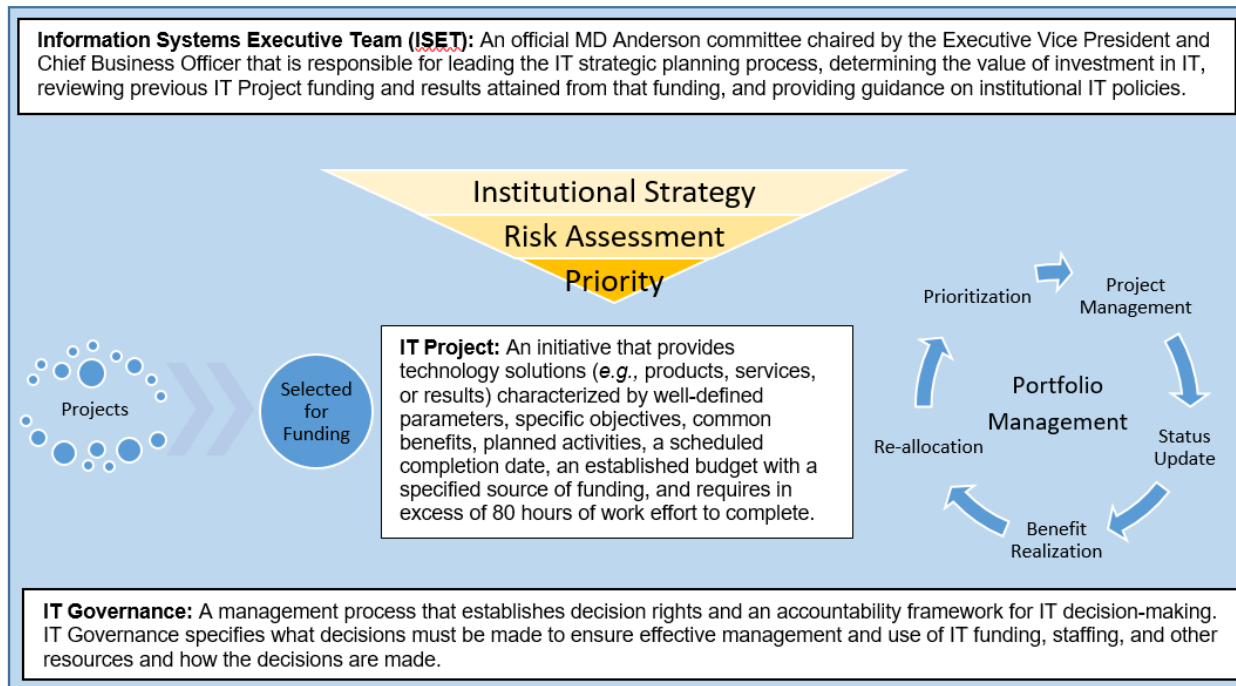
Background

Responsible governance of Institutional IT project activities, as supported by widely accepted standards bodies such as the Project Management Institute (PMI), should be focused on the overall oversight, prioritization, and governance of ongoing projects and program management. Per Institutional Policy ADM 1048 "Information Technology Project Management and Governance Policy," "MD Anderson shall institute and use project management and IT governance practices in accordance with statutes and processes prescribed by the Texas Department of Information Resources, Texas Administrative Code (Title 1, Part 10, Chapter 216, Subchapter C, Rule §216.20-216.22), and PMI®."

This policy applies to all Institutional information technology projects, regardless of source of funding, staffing, and/or other resources involved in the creation, governance, management, staffing, and implementation of information technology projects at MD Anderson.

Making Cancer History®

Systems are acquired through different means: however, some of these methods may bypass the established governance process. The Information Services (IS) Executive Team (ISET) has been established to provide guidance and oversight to IT Strategy, IT Portfolio Management, IT Projects and IT Investments at MD Anderson. ISET provides the highest level of IS oversight and is accountable to the Executive Committee (EC).

Information Systems Executive Team (ISET): An official MD Anderson committee chaired by the Executive Vice President and Chief Business Officer that is responsible for leading the IT strategic planning process, determining the value of investment in IT, reviewing previous IT Project funding and results attained from that funding, and providing guidance on institutional IT policies.

IT Project: An initiative that provides technology solutions (*e.g.*, products, services, or results) characterized by well-defined parameters, specific objectives, common benefits, planned activities, a scheduled completion date, an established budget with a specified source of funding, and requires in excess of 80 hours of work effort to complete.

IT Governance: A management process that establishes decision rights and an accountability framework for IT decision-making. IT Governance specifies what decisions must be made to ensure effective management and use of IT funding, staffing, and other resources and how the decisions are made.

Management is currently addressing observations from the 2017 *IT Project Governance and System Portfolio Management Assessment*, which relate to IT governance strategy, structure, policies and procedures. The observations below are symptoms of these outstanding observations, which IS management is working to address.

Audit Results:

Through the assessment of the three selected in-flight IT projects, IA identified two key areas for improvement related to compliance with policy and enhancement of effective project management and solution implementation.

- Although the projects were each progressing, governance processes were not consistently followed for two of the selected projects.

- Sufficient analysis and planning to identify all relevant stakeholders, key resource requirements, and full funding requirements was not adequately coordinated across the associated governing committees for one project.

Making Cancer History®

Although the internal audit was focused on the IT governance and funding process, Internal Audit noted areas for improvement related to the integration and coordination of multiple funding sources (Capital Equipment, Facilities, and ISET) to ensure all anticipated resources and costs are appropriately identified, approved, and accounted for. Internal Audit also noted a need for additional clarity related to the governance of research and development projects that have not yet operationalized.

The observations above are symptoms of outstanding observations from the 2017 *IT Project Governance and System Portfolio Management Assessment*. IS management is working to address these observations which relate to IT governance strategy, structure, policies and procedures.

Management Summary Response:
Management agrees with the observations and recommendations and has developed action plans to be implemented on or before August 31, 2019.

Number of Priority Findings to be monitored by UT System: None

Sherri Magnus

Sherri Magnus, CPA, CIA, CFE, CRMA
Vice President & Chief Audit Officer
August 30, 2018

Making Cancer History®

Observation 1:	
Insufficient IT Planning Involvement in ChemLine	**RANKING: High**

The Pathology and Laboratory Medicine laboratory automation (ChemLine) project followed the capital equipment governance process and was approved by Clinical Capital Equipment Committee in October 2015 . Approval of Facilities and IT funding was required as part of the governance process. Although there was evidence of coordinationa and communication with IT, Internal Audit was unable to obtain evidence of IT funding approval. The incoming IT Director identified that IT funding was not approved for Chemline in March 2016. As a result, in August 2017, an additional ~$1.3M in IT funding was requested from the Information Services Executive Team (ISET) to cover remaining expected IT related expenditures necessary to properly complete the project implementation. This highlights an opportunity for improvement around the coordination of the governing bodies (Facilities, Equipment, and IT) and the need for additional transparency of resource prioritization and approvals to ensure the Facilities, Equipment, and IT governing bodies are aligned.

Insufficient integration and transparency among the governing bodies creates a risk of underfunding of future projects requiring contingency funding, unexpected expenses and delays. Inadequate involvement of key stakeholders (through the governing committees) during initiation, analysis, and planning increases the risk for scope creep, unexpected requirements, budget over-runs, and additional funding. Internal Audit noted this is a symptom of open audit observations in the 2017 *IT Project Governance and System Portfolio Management Assessment,* which IS leadership is working to address.

Recommendation
Future projects should identify all key project stakeholders, including capital equipment, facilities, and IT, in the early phases of the project. Early involvement by all key stakeholders helps to appropriately capture key requirements, dependencies, and anticipated costs early in the project. All anticipated costs should be included in the funding request so it can be adequately approved and accounted for.

Management should work with the governing committees to ensure adequate involvement and transparency of future projects as IS leadership continues to address observations from the *IT Project Governance and System Portfolio Management Assessment.* One approach to accomplish this may be for each governance committee (Facilities, Equipment, and IT) to have standing representatives from the other governance committees in attendance to ensure proper awareness, prioritization, and integration of committee priorities. This ensures all committees are aware of and aligned on priorities. This prevents re-work, delays, avoidable cost and time overruns and lends itself to proper governance.

Making Cancer History®

Management's Action Plan:
Responsible Executive: Dr. Stanley R. Hamilton
Owner: David Partlow
Due Date: March 31, 2019

Pathology and Laboratory Medicine involved IT in developing the capital request and obtained IT approval for the FAR although documentation could not be provided, due to time period passed and transitions in parties involved. We will continue to include IT in the prioritization of future projects and obtain approvals where appropriate.

We will provide assistance in improving coordination and transparency between the governing committees as IS leadership continues to address observations from the IT Project Governance and System Portfolio Management Assessment.

Observation 2:
IT leadership Involvement and Governance over RayCare   RANKING: Medium

---

The RayCare Parternship project in its current state is not a technology implementation project; however, the key project objective is to assist in the development of a more integrated, user friendly, resource efficient radiation oncology information system. At the conclusion of the current development agreement, MDA has the option to proceed with the implementation of the finalized RayCare application product. The initial collaboration did not go through Information Services Executive Team (ISET) approval. After presenting the project to the Informatics Governance Committee (IGC) Area IS Steering Team, a subcommittee of ISET, business users were told that the project did not require ISET approval.

Per Institutional policy, IT governance approval is needed for any project that utilizes IT funding, staffing, or other IT resources in excess of 80 hours. Management agreed to utilize 20 – 100% of a full time Sr. Project Manager to support this project. The RayCare Partnership agreed to compensate the Institution $90,000 for the employee's time and expenses.

Internal Audit noted a lack of clarity in policies and procedures regarding the governance requirements for the use of IT resources (including those compensated by the projects), in support of research and developmental projects, which may not yet be operational projects or implementations. Internal Audit noted this is a symptom of open audit observations in the 2017 *IT Project Governance and System Portfolio Management Assessment,* which IS leadership is working to address. If appropriate leadership is not involved in the project or aware of the progress, it may not be able to plan for and provide sufficient resources and funding. The governance process is necessary to ensure that resources are adequately prioritized and allocated across approved projects.

Making Cancer History®

Recommendation

As the RayCare development agreement ends, or at which time the agreement is renewed within the next 12 months, it is important for IT leadership to have insight into the strategic direction and partnership of the project. Early involvement and transparency allows IT to better plan and align the IT departmental resources necessary to appropriately complete planned projects. As such, Internal Audit recommends a formal presentation to the ISET oversight committee to make them aware of changes to the project status or timeline. Significant development requiring IT resources or system integration or implementation activity should be approved by ISET to ensure adequate funding and resources are available.

Additionally, IS leadership should provide clarity around governance requirements as it relates to research and development projects and the potential operationalization of those projects.

Management's Action Plan:

Responsible Executive: Dr. Joseph Herman
Owner: Robert Ghafar
Due Date: 8/31/2019

Management will provide an update to ISET or the appropriate subcommittee (IGC) when the decision has been made to end or renew the RayCare development agreement or if there are significant changes. If management decides to operationalize RayCare, we will obtain appropriate ISET approval.

Management will assist IS leadership to provide clarity around the IT governance requirements for research and development projects where there may be needs for IT resources as IS leadership continues to address observations from the IT Project Governance and System Portfolio Management Assessment.

Making Cancer History®

Appendix A - Project Management Methodology:

MD Anderson has an established Project Management Methodology (PMM) and Solution Development Life Cycle (SDLC) providing a general framework to assist in the development and execution of IT project solutions. The framework is designed for use in projects regardless of the product, service, or solution being delivered and is broken out into 4 key phases, as seen in the figure below.
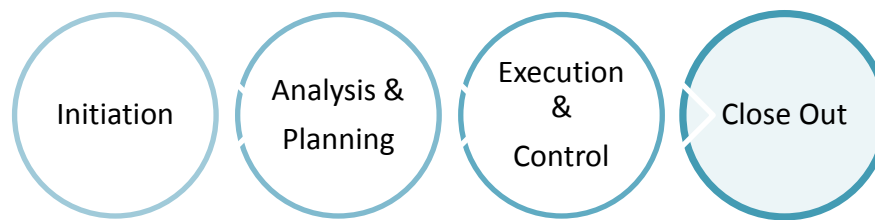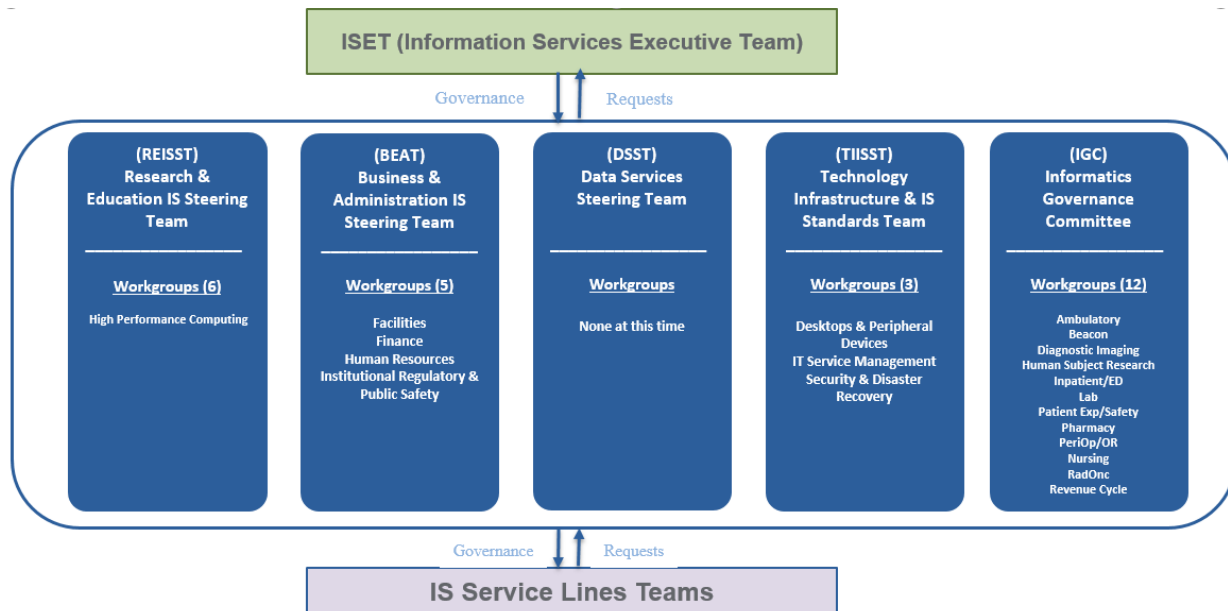

Phase 1, Initiation, includes activities associated with the identification of customer needs and/or problems and includes establishing of a project framework designed to address the desired business objectives. From Initiation, the PMM framework then moves to Analysis and Planning. This second phase includes a detailed analysis of the project requirements and planning activities such as charter development, risk assessment, human resource allocation, financial budgeting, etc.

After the completion of the Analysis and Planning phase, execution of the project is initiated. The Execution and Control phase entails all development and/or implementation activities performed to ensure the project is completed on time, within budget, and within scope. A critical area of this phase includes management of changes to original project plans and scope. The final phase of the PMM process is the Close Out phase, which includes activities necessary to wrap-up the project, such as go-live issue management and the documentation of lessons learned.

Appendix B - Background on ISET

ISET is made up of Area IS Steering Teams (AISST's), which are responsible for area specific strategies, project priorities, project implementations, and project oversight. The AISST's are Research and Education IS Steering Team, Business Enterprise Applications Team, Data Services Steering Team, Technology Infrastructure and IS Standard Steering Team, and Informatics Governance Committee. Steering Teams are made up of work groups which oversee a portfolio of projects. See governance structure below.

ISET (Information Services Executive Team)

Governance ↕ Requests

(REISST) Research & Education IS Steering Team	(BEAT) Business & Administration IS Steering Team	(DSST) Data Services Steering Team	(TIISST) Technology Infrastructure & IS Standards Team	(IGC) Informatics Governance Committee
Workgroups (6)	**Workgroups (5)**	**Workgroups**	**Workgroups (3)**	**Workgroups (12)**
High Performance Computing	Facilities Finance Human Resources Institutional Regulatory & Public Safety	None at this time	Desktops & Peripheral Devices IT Service Management Security & Disaster Recovery	Ambulatory Beacon Diagnostic Imaging Human Subject Research Inpatient/ED Lab Patient Exp/Safety Pharmacy PeriOp/OR Nursing RadOnc Revenue Cycle

Governance ↕ Requests

IS Service Lines Teams

The highest level of IS oversight is achieved by the Information Systems Executive Team (ISET). The ISET reviews previous project funding and results attained, provides future funding allocations for IS Steering Team approved programs and projects, and issues guidance on Institutional priorities. See below the process for prioritizing and approving programs and projects from IS Service Line Teams through ISET.

IS Service Line Teams → Submit project requests (funded/non-funded) → **Work Group(s)** → Access Value and Impact; Recommend Priority → **IS Steering Team(s)** → Assess Alignment w/Strategy, Ratify or Change Priority → **ISET** → Access Institutional Value; Finalize Priority; Approve Funding

Making Cancer History®

Appendix C - Background on Selected Projects

RayCare

The RayCare Partnership project is a 2 year partnership entered into on 3/14/2017 between the MD Anderson Radiation Oncology department and RaySearch, a medical technology company that develops software used in radiation therapy of cancer. The objective of the partnership is to assist RaySearch in the development of a new Radiation Oncology Information System, RayCare, with the goal of producing a platform for precision medicine that is user friendly with overall improved system environment integration. Note*: the RayCare Partnership project is not a system implementation at this point, however, the goal is to assist in the development of the RayCare product, which could be a potential replacement for the current MOSAIQ system.

The RayCare development partnership agreement did not go through ISET governance approval; however, was presented to an executive sub-committee of members. Based on the sub-committee's corroborative agreement, it was determined not to advance the project to ISET for IT governance approval. Although the project did not receive IT governance approval prior to contractual agreement to the partnership, IA noted that the project was presented to the Informatics Governance Committee (IGC) Area IS Steering Team during a general departmental update presented by the Radiation Oncology Informatics sub-committee.

ChemLine

The ChemLine Implementation project was initiated by Pathology and Laboratory Medicine (PLM) to streamline processes and improve the current laboratory chemistry instrumentation, replacing outdated chemistry instrumentation and implementing new software technology. The project was initiated in January of 2015.

Initial project approval was obtained from the Laboratory Medicine Department Chair and Pathology/Lab Division Head in January 2015. At that time, it was determined that additional IT project governance approval was not required as original funding provided by Facilities and Equipment would cover the costs of IT system integration. The Capital Equipment Committee approved the project in October 2015. The IT Project manager planned to include resource needs in the budget process; however, the IT budget was not approved for 2016. In August 2017, additional funding of approximately $ 1.3 M was requested from ISET to cover FY17 contractor expenses and FY18 project costs. Additional funding was approved by ISET in August 2017. ChemLine went live on April 19, 2018.

Beaker

The Beaker Anatomic Pathology (AP) Implementation project was initiated in January of 2018 to replace the current AP platform with Epic Beaker Anatomic Pathology, which is an integrated component of Epic's enterprise solution software. Beaker Anatomic Pathology project followed the necessary initiation procedures and was approved by the appropriate IT governance committees.

Making Cancer History®