UT Southwestern
Medical Center

**The University of Texas Southwestern Medical Center
Office for Technology Development Audit**

Internal Audit Report 15:15

June 16, 2015

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Executive Summary

Background

The Office for Technology Development (OTD) supports University of Texas Southwestern Medical Center (UT Southwestern) faculty and inventors by creating collaborative relationships with the public and private sector to develop, protect, transfer, and commercialize research results for the public benefit. OTD's team of cooperative research, licensing, patenting, technology transfer, and venture development experts provides an essential service to the UT Southwestern research community by promoting effective and strategic partnerships in academic labs as well as industry through agreements related to valuable UT Southwestern intellectual property (IP). IP encompasses intangible property rights that are the results of intellectual efforts and include patents, copyrights, trademarks and trade secrets. OTD objectives include:

- Initiating and sustaining cooperation between UT Southwestern and Biomedical industry.
- Providing faculty with strategic and legal guidance to manage IP developed on campus.
- Generating revenue for UT Southwestern and inventors to support the research enterprise.
- Facilitating Biomedical industry growth within the region.

OTD is organized into three distinct functions: Technology Commercialization, Cooperative and Sponsored Research (CSR), and Financial Management. The department has authorized staffing of 24 with fiscal year (FY) 2015 revenue and expense budgets of $8.2 million and $4.3 million respectively. The Board of Regents of the University of Texas System, through UT Southwestern, owns the rights to inventions created by employees if the invention was made using UT Southwestern facilities or time. The OTD assists inventors in reviewing IP disclosures and filing patent applications for inventions with the United States Patent Office. The OTD also identifies parties interested in an invention in order to commercialize or license the technology. License revenues received by OTD are first used to reimburse UT Southwestern expenses including patent costs. The remaining amount is distributed using a sharing formula to the inventors, labs, and UT Southwestern Office of the President.

The main software applications used by OTD for day-to-day operations are the PATTSY intellectual property management software and the Administrative Information Management system or *i*Aim. PATTSY is a locally-hosted Microsoft Access database application and patent docket system for the processing and management of IP disclosures, patents, trademarks, commercialization evaluation, and licensing. A financial module was later customized and added to PATTSY for OTD users. PATTSY was implemented in 2000. *i*Aim is an internally developed automated workflow system and is used by the CSR division to process collaborative and sponsored research agreement proposals.

Scope and Objectives

The UT Southwestern Office of Internal Audit has completed its Office for Technology Development Audit. This was an operational risk based audit and part of the FY 2015 Audit Plan.

The audit scope covered selected OTD transactions, records, and reports processed from September 2011 through March 2015. Audit procedures included interviews with stakeholders, review of policies and procedures and other documentation, analysis of departmental financials, system review, data analytics, and substantive testing.

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The primary objectives of the audit were to evaluate the effectiveness of OTD processes and determine whether:
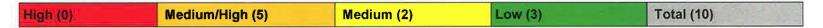
- Adequate controls are in place surrounding revenue recognition and collections.
- Licensing expenditures and royalty distributions to inventors and other payees are timely, accurate and complete.
- Overall financial management controls are effective.
- IT system administration and user access are appropriate for protecting data integrity.
- Adequate controls exist for the safeguarding of intellectual property information and assets.
- The department is in compliance with UT Southwestern and UT System policies and applicable laws and regulations.
- The department is in compliance with contractual obligations (including license agreements) and adequate monitoring procedures are in place

We conducted our examination according to guidelines set forth by the Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing.

Conclusion

Overall, there are opportunities to strengthen the department infrastructure including: increased staffing in critical positions such as Compliance; formalizing policies and procedures; and strengthening internal controls, including establishing monitoring controls to ensure critical procedures are performed timely. The department experienced significant turnover in 2011, including the department Vice President, and the activities of OTD have continued to increase. The most significant opportunities identified in the audit relate to the need for OTD management to ensure there is proper accounting of royalty distributions and that payments are made timely to IP inventors, labs, and the UT Southwestern President's Office. Controls need to be improved to ensure licensees are appropriately billed and UT Southwestern is collecting earned royalty income in accordance with the license agreement in a timely manner. Opportunities also exist for reviewing and correcting PATTSY system data to ensure database integrity and accurate reporting. Additional opportunities were identified for updating policies and procedures and performing monitoring and reporting to ensure compliance with license agreements.

The table below summarizes the observations and the respective disposition of these observations within the UT Southwestern internal audit risk definition and classification process. See Appendix A for Risk Rating Classifications and Definitions.

High (0)	Medium/High (5)	Medium (2)	Low (3)	Total (10)

Key improvement opportunities risk-ranked as medium/high and medium are summarized below.

- **Ensure Royalty Distributions Are Made Timely** – Royalty distributions to IP inventors, labs, and UT Southwestern accounts were not processed timely. Pending distributions totaled approximately $4.5 million, of which $3.7 million came from licenses with effective dates prior to 2011. Additionally, a process was not in place to remit unclaimed payments to the state Comptroller's office in compliance with state escheatment laws.

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- **Increase Controls to Ensure Accurate Accounting for Royalty Distributions** – There was a $2.7 million unreconciled difference in pending distributions between PATTSY and the general ledger which could indicate overstated liabilities.

- **Improve PATTSY Database Integrity** – The PATTSY database contained inaccurate or outdated data, including records with incomplete or conflicting key data fields, and valid license agreements with undistributed royalty income which were misclassified as "miscellaneous" records.

- **Use the PATTSY Docket Report to Ensure Timely Billing of Licensees** – The PATTSY License Docket Report provides reminders for upcoming royalty billings, required communications, and milestones, but was not generated and reviewed regularly. As a result, there were missed revenue opportunities.

- **Segregate Duties to Strengthen Internal Controls** – Financial and operational duties performed by the Senior Financial Analyst/Manager were not appropriately segregated to prevent or detect errors or misappropriation of funds.

- **Improve Physical Security to Safeguard Assets** – Physical access to the OTD office suite was not adequately controlled to prevent loss or theft of sensitive and confidential information.

- **Develop and Finalize Policies and Procedures** – Standard operating procedures for Technology Commercialization and CSR were either under development or in draft status and not yet finalized.

Management has developed action plans to address the issues identified in the report; and in some cases, corrective measures were already implemented prior to audit completion. These responses, along with additional details for the key improvement opportunities listed above and other lower risk observations, are listed in the Detailed Observations and Action Plans Matrix (Matrix) section of this report.

We would like to take the opportunity to thank OTD management members and staff for their professionalism, cooperation, and assistance during this audit.

Sincerely,

Valla F. Wilson, Assistant Vice President for Internal Audit

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       Frank Grassler, Vice President for Technology Development
       Kathy Schutt, Director, Cooperative and Sponsored Research
       Ray Wheatley, Director, Technology Commercialization
       Tina Tran, Senior Financial Analyst/Manager, Financial Management

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Medium/High 🟡 **1. Ensure Royalty Distributions Are Made Timely** Royalty distributions to IP inventors, labs, and University accounts were not processed timely. According to a manual review of the PATTSY system, there were pending distributions totaling approximately $4.5 million as of January 2015; $3.7 million of which was from licenses with agreement effective dates prior to 2011. Untimely royalty distributions are in non-compliance with contractual obligations and could result in reputational damage. Additionally, an escheatment process was not in place to remit unclaimed payments to the state Comptroller's office after the expiration of applicable time limits (i.e. three years). Lack of an escheatment process could result in non-compliance with state regulations and fines to UT Southwestern. OTD Financial Management is currently performing reconciliation review of royalty accounts and individual license agreement files to identify and issue all unpaid royalty distributions.	1. Complete the review and reconciliation of license files and royalty accounts to identify all payees due a distribution. Consider allocating additional resources to the review and reconciliation as necessary so proper distributions can be made as soon as possible 2. Continue coordinating with the Medical Center departments, including Human Resources and Information Resources, to obtain necessary information for remaining payees due a distribution. 3. Coordinate with the Office of Legal Affairs to determine the appropriate action for undistributed funds that meet the state escheatment requirements.	**Management Action Plans:** 1. Review all license records currently entered in PATTSY to identify license revenue available for distribution. 2. Locate former employee inventors by contacting HR, UTSW department administrators and former colleagues, or searching the internet. If unsuccessful, consider contracting with a third party agency specializing in locating "missing" persons. 3. Communicate to Legal Affairs any license revenue that cannot be distributed. **Action Plan Owners:** Frank Grassler, Vice President for Technology Development **Target Completion Dates:** 1. August 31, 2015 2. October 31, 2015 3. December 31, 2015

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Medium/High 🟠 **2. Increase Controls to Ensure Accurate Accounting for Royalty Distributions** There was a $2.7 million unreconciled difference between pending royalty distributions in PATTSY ($4.5 million) and the PeopleSoft general ledger ($7.2 million), indicating a potential overstatement of liabilities. The variance was related to aged transactions that were not entered into PATTSY during implementation in 2000. OTD Financial Management is currently performing a reconciliation of royalty accounts and reviewing individual license agreement files to identify the aged items that account for the variance.	1. Complete the review and reconciliation of license files and royalty accounts to identify the cause of the aged variance between PATTSY and the general ledger. 2. Coordinate with the Office of Accounting to make the necessary adjustments based on the results of the reconciliation. 3. Establish periodic (e.g. monthly) reconciliations between PATTSY and general ledger accounts.	**Management Action Plans:** 1. Review and reconcile all license records predating PATTSY implementation. 2. Consult with Accounting regarding general ledger excess/shortage upon completion of step 1 above. 3. Reconciliation is performed monthly between PATTSY and the general ledger for all records post PATTSY implementation. The remaining reconciling difference will be eliminated over time as step 1 is implemented. **Action Plan Owners:** Frank Grassler, Vice President for Technology Development **Target Completion Dates:** 1. 33% of backlog by September 30, 2015 67% of backlog by October 31, 2015 100% of backlog by December 31, 2015 1. December 31, 2015 2. December 31, 2015

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response

Risk Rating: Medium/High 🟡
 	
3. Improve PATTSY Database Integrity
 	
The PATTSY database contained inaccurate or outdated data. With approximately 1,460 records, the database is used to store all IP agreement types, including licenses, options, assignments, joint ventures, and confidential disclosure agreements. OTD did not perform quality assurance reviews of data entry and other key fields to ensure data accuracy and integrity. Analysis revealed the following data inaccuracies:
 	
• Three of five "miscellaneous" records reviewed (creation dates ranging from 2001 to 2006) had valid undistributed royalty income of $105,000 that was not previously identified or accounted for by OTD. Miscellaneous records (e.g. exploratory IP opportunities, hypothetical licensing scenarios, etc.) were not consistently updated once a business purpose was identified.
• License agreement records had incomplete or conflicting values in key input fields. Examples included:
   o Contracts "In Effect" or "Active" but termination date was 2014 or earlier (140 or 10%)
   o Contracts "Expired", "Terminated", or "Inactive" but no termination date specified (55 or 4%)
   o "Type", "Status", and "Termination" fields in contracts without input values (50 or 3%).
 	
Data inaccuracies such as those identified above could result in non-compliance with contractual obligations, loss of revenue, untimely royalty distributions, and/or reputational damage.
	1. Correct the data errors in PATTSY that were identified during the audit.
	
	2. Establish a process for periodic review of the PATTSY license and IP records. The individual assigned for review should distribute timely reports to licensing associates for updating and correction.
	
	3. Perform a review of existing miscellaneous records, including the exceptions identified in the audit, and take appropriate action as necessary.
	
	4. Establish procedures for the creation, use, and management of miscellaneous records in PATTSY including communication to the individual assigned for IP database review prior to setup.
	
	5. Ensure records created for illustration or non-financial purposes have a separate pre-fix and are closed out after their intended use. Temporary exploratory records should have their status upgraded upon attaining permanent status or closed out as needed.
		Management Action Plans:
		
		1. Receive final report of errors identified during audit and correct.
		
		2. Establish the following processes for:
		
		• License records - Provide a report for licenses completed during last year to the corresponding Licensing Associate for review of PATTSY entries. (For Licensing Associates no longer at UTSW, review to be conducted by Director for Technology Commercialization.)
		• IP records - Provide a report of all new IP entries for the previous six months to Patent Manager for review to confirm entries are accurate.
		
		3. Director for Technology Commercialization and Director for Cooperative and Sponsored Research will review "X" records (miscellaneous) and modify as required
		
		4. Draft procedures for PATTSY License module records, including proper use of temporary exploratory records.
		
		Action Plan Owners:
		
		Frank Grassler, Vice President for Technology Development
		
		Target Completion Dates:
		
		1. Completed
		
		2. September 1, 2015
		
		3. September 1, 2015
		
		4. Completed

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response

Risk Rating: Medium/High 🟡
 	
5. Segregate Duties to Strengthen Internal Controls
 	
The following financial and operational duties of the Senior Financial Analyst/Manager were not appropriately segregated to prevent or detect unauthorized processing of financial transactions or misappropriation. Examples of improperly segregated duties include administrative level access to PATTSY combined with the following:
 	
• Financial Accounting responsibilities – processing Accounts Payable check requests; approving royalty revenue payment receipts and royalty distribution requests; reconciling PATTSY and PeopleSoft entries; and performing analysis of OTD sub ledger accounts and budgets.
• Other responsibilities – generating PATTSY license docket reports; performing licensee billing, collection, and financial compliance monitoring; terminating agreements in default.
	1. The following duties of the Senior Financial Analyst/Manager should be segregated where practical: record creation/updating, transaction/payment authorization and approval, and account reconciliation.
	
	2. Establish periodic quality assurance (QA) reviews of key financial processes by personnel independent of Financial Management (e.g. Compliance Officer).
		Management Action Plans:
		
		1. Segregate duties between the Accountant, Financial Analyst 1 and Finance Manager.
		
		2. Finance Manager will provide the following reports to VP for Technology Development for review:
		
		  a) Monthly: outstanding AR invoices, license revenue received FY to date, patent expenses paid FY to date, patent costs reimbursed FY to date, patent expense invoices unpaid past 60 days.
		
		  b) Annually on April 1: License revenue available for distribution.
		
		Action Plan Owners:
		
		Frank Grassler, Vice President for Technology Development
		
		Target Completion Dates:
		
		1. Completed
		
		2.a. Completed
		
		2.b. April 1, 2016

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Medium 🟡 6. **Improve Physical Security to Safeguard Assets** Physical access to the OTD is not adequate to prevent loss or theft of sensitive and confidential information. The side door to the OTD office suite located at the end of the main hallway is unlocked during business hours. Laptop computers were not cable locked and patent binders were accessible from within the unlocked door. Since OTD shares space within the BioCenter with other UT Southwestern departments and non-UT Southwestern tenants, this increases the risk that there could be inappropriate access to sensitive information.	1. Secure the identified door during business hours to ensure all non-OTD employees enter through the main OTD reception door. Alternatively, consider providing badge access capability to the side door.	**Management Action Plans:** 1. Lock back office door at all times. **Action Plan Owners:** Frank Grassler, Vice President for Technology Development **Target Completion Dates:** 1. Completed
Risk Rating: Medium 🟡 7. **Develop and Finalize Policies and Procedures** Standard operating procedures (SOPs) for Technology Commercialization and CSR were either under development or in draft status and not yet finalized. Without finalized SOPs, procedures may not be consistent with management's understanding and expectations.	1. Create or make updates to policies and procedures. Finalize draft policies with management approval.	**Management Action Plans:** 1. Complete policy and procedures 2. Administrative review and approval **Action Plan Owners:** Frank Grassler, Vice President for Technology Development **Target Completion Dates:** 1. August 1, 2015 2. August 31, 2015

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Low ● 8. **Improve IT System Administration** The following were noted regarding administration of PATTSY: • Departmental procedures for system administration are in place, but not formally documented. Without documented IT procedures approved by OTD management, personnel may not provide adequate IT service continuity. Documented procedures are essential during vacation periods and unexpected staff outage, and for training purposes. • Procedures are not in place for periodic review of PATTSY user access profiles to ensure access is appropriate. Unauthorized access may result in the loss of confidentiality, compromised data integrity, and unavailability of information assets.	1. Create departmental IT procedures document tailored for the OTD environment, and educate all staff accordingly. Content should include topics such as setup of new OTD users, user termination procedures, minimum length/complexity of passwords, safe-guarding computer assets, and actively locking computers when leaving workstations. 2. Implement procedures to periodically (i.e. at least annually) review and document user access profiles for appropriateness.	**Management Action Plans:** 1. Draft and implement PATTSY user policy and procedures. 2. Periodic review of access user profiles will be included in the PATTSY user policy and procedures. **Action Plan Owners:** Frank Grassler, Vice President for Technology Development **Target Completion Dates** 1. November 30, 2015 2. November 30, 2015

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response

Risk Rating: Low 🟢
 	
9. Improve CSR Agreement Processing
 	
Outdated pending CSR agreement proposals were noted in the contract workflow system, *iAim*, which could indicate missed grant funding opportunities in the event the proposals could have resulted in agreements. As of January 2015, 33 (12%) out of 275 open agreement proposals had a CSR receipt date of December 2013 or prior. Twenty-one (8%) had not received an update since March 2014.
 	
CSR management has since implemented a review process to update the status for all outdated pending agreements.
	1. Complete the review of outdated pending CSR agreements and update the status for each agreement accordingly.
	
	2. Implement a periodic review of pending CSR agreements going forward to ensure that agreement status is current.
		Management Action Plans:
		
		1. We agree. Implemented action steps going forward include:
		
		  a. Run weekly *iAim* status reports and provide to Specialists.
		  b. Any contracts with receipt dates more than three months past will be reviewed at bi-weekly CR group meetings to determine if special action is necessary.
		  c. For any contracts with receipt dates more than six months past, a specific action plan will be put in place to move it to closure.
		
		Action Plan Owners:
		
		Frank Grassler, Vice President for Technology Development
		
		Target Completion Date:
		
		1. Completed

Detailed Observations and Action Plans Matrix

Observation	Recommendation	Management Response
Risk Rating: Low ● **10. Improve Royalty Payment Verification** Controls need to be improved to ensure the accuracy of royalty payments to UT Southwestern. OTD Financial Management was not consistently verifying revenue payments received to ensure accuracy. Testing of 20 revenue payments identified two (or 10%) without adequate support to verify payment amount. • One exception pertained to a biomedical license and settlement payment that did not have all pertinent support on file (i.e. amended payment terms; subsequently located during the audit) • The second exception pertained to a royalty payment as a function of annual sales but the remittance schedule did not provide revenue data.	1. Establish procedures to verify all royalty payments received to ensure payment accuracy.	**Management Action Plans:** 1. We agree. A royalty revenue reporting template was developed and communicated to the licensee in question. **Action Plan Owners:** Frank Grassler, Vice President for Technology Development **Target Completion Date:** 1. Completed

Appendix A – Risk Classifications and Definitions

As you review each observation within the Detailed Observations and Action Plans Matrix of this report, please note that we have included a color-coded depiction as to the perceived degree of risk represented by each of the observations identified during our review. The following chart is intended to provide information with respect to the applicable definitions and terms utilized as part of our risk ranking process:

	Degree of Risk and Priority of Action	
Risk Definition - The degree of risk that exists based upon the identified deficiency combined with the subsequent priority of action to be undertaken by management.	**High**	The degree of risk is unacceptable and either does or could pose a significant level of exposure to the organization. As such, immediate action is required by management in order to address the noted concern and reduce risks to the organization.
	Medium/High	The degree of risk is substantially undesirable and either does or could pose a moderate to significant level of exposure to the organization. As such, prompt action by management is essential in order to address the noted concern and reduce risks to the organization.
	Medium	The degree of risk is undesirable and either does or could pose a moderate level of exposure to the organization. As such, action is needed by management in order to address the noted concern and reduce risks to a more desirable level.
	Low	The degree of risk appears reasonable; however, opportunities exist to further reduce risks through improvement of existing policies, procedures, and/or operations. As such, action should be taken by management to address the noted concern and reduce risks to the organization.

It is important to note that considerable professional judgment is required in determining the overall ratings presented on the subsequent pages of this report. Accordingly, others could evaluate the results differently and draw different conclusions.

It is also important to note that this report provides management with information about the condition of risks and internal controls at one point in time. Future changes in environmental factors and actions by personnel may significantly and adversely impact these risks and controls in ways that this report did not and cannot anticipate.