

# **UT Southwestern** Medical Center

## **Institutional Advancement - Office for Technology Development (OTD) Audit**

**Internal Audit Report 21:11**

**May 18, 2021**

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# Executive Summary

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## 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 provides an essential service to the UT Southwestern research community by promoting strategic partnerships through institutional intellectual property (IP) agreements. This encompasses intangible property rights resulting from intellectual efforts, patents, copyrights, trademarks, and trade secrets.

OTD's objectives include:

- Initiating and sustaining cooperation between UT Southwestern and the 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

The Board of Regents of the University of Texas System, through UT Southwestern, owns the rights to inventions created by institutional employees if the invention was created using UT Southwestern facilities, equipment, or time. OTD assists inventors in reviewing IP disclosures and filing patent applications with the United States Patent Office. OTD also identifies interested parties to commercialize an invention through licensing the technology. The OTD department recently went through a restructuring and has a new leadership team with the recent hire of an Assistant Vice President in 2020.

For fiscal year 2020, UT Southwestern royalty revenues totaled \$6.8 million (refer to Appendix A for revenue trends). Royalty revenues received are first used to reimburse the university for legal and commercialization expenses, the remainder is distributed to the inventors, the inventor's research labs and UT Southwestern according to specific revenue sharing agreements.

OTD uses SOPHIA, a cloud-based application, to manage UT Southwestern intellectual properties from invention to patenting and commercialization. Budget and Resource Planning team members are responsible for performing financial management duties, including processing IP transactions through PeopleSoft, uploading support into SOPHIA, billing licensees, collecting royalty payments, and distributing royalty payments in accordance with agreements. Budget and Resource Planning further assists the OTD Office with IP agreement milestones monitoring, inventor account setup and support.

# Executive Summary

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## Scope and Objectives

The Office of Internal Audit Services has completed its Institutional Advancement - Office for Technology Development audit. This was a risk-based audit and part of the fiscal year FY21 Audit Plan. The audit scope period included activities during September 2019 through January 2021. The review included assessing processes and controls that support key department objectives, operations and compliance with key policies and regulations. Specifically, review of records, transactions and supporting documentation to determine whether effective controls are in place to ensure oversight for the following:

- Timely and accurate management of royalty receipts and distributions
- Appropriate system user access and segregation of duties
- Efficient and effective system tools to track and manage operational and financial activities
- Compliance with applicable UT Southwestern policies and procedures, National Institute of Health reporting requirements, and selected IP agreements

Audit procedures included interviews with stakeholders, review of policies and procedures and other documentation, substantive testing, and data analytics. 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, OTD has well designed operational procedures to support the department's mission and goals. We noted significant improvement in processes and controls since the last audit that was performed in 2017. Opportunities exist to strengthen procedures related to SOPHIA user access administration, timely resolution of outstanding billings and receipts, and consistency in the use of key operational monitoring reports (see Observations list below).

Included in the table below is a summary of the observations along with the respective disposition of these observations within the UT Southwestern internal audit risk definition and classification process. See Appendix B for Risk Rating Classifications and Definitions. There were no Priority rated issues identified in the audit.

<b>Priority (0)</b>	<b>High (1)</b>	<b>Medium (2)</b>	<b>Low (0)</b>	<b>Total (3)</b>
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## Executive Summary

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Key observations are listed below.

- **#1 Implement Additional Controls Over SOPHIA User Account Access** – SOPHIA user account setup and administration is not adequate due to insufficient user account administration and monitoring. This includes elevated administrator accounts with non-UTSW logins, active terminated user accounts, and absence of formal periodic user access reviews.
- **#2 Implement a Follow Up and Escalation Plan to Resolve Aged Receivables and Undistributed Royalties** – The monthly Intellectual Property (IP) accounts receivable (A/R) and undistributed royalties contains outdated licensee billings and receipts pending resolution, due to delays in follow up for resolving open items with licensees.
- **#3 Update Key Non-Financial Docket Report Data** – The key Non-Financial Docket report, designed as a monitoring tool to track agreements and SOPHIA records for completeness and accuracy, is not consistently reviewed and updated.

We would like to take the opportunity to thank the individuals included in this audit for the courtesies extended to us and for their cooperation during our review.

Sincerely,

Valla F. Wilson, Vice President and Chief Audit Executive, Office of Internal Audit Services

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## **Executive Summary**

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## Detailed Observation and Action Plans Matrix

Observation	Recommendation	Management Response
<p><b>Risk Rating: High ●</b></p> <p><b>1. Implement Additional Controls Over SOPHIA User Account Access</b></p> <p>There were inadequate controls over access administration of the SOPHIA system. Absence of adequate user access management and administration controls increases risk of inappropriate access to sensitive intellectual property data. A review of system access identified the following deficiencies:</p> <ul style="list-style-type: none"> <li>Two user accounts with elevated system administrator privileges were set up with non-UT Southwestern email account logins, i.e., Gmail. Accounts with non-UTSW email logins are not subject to Single-Sign-On (SSO) authentication potentially resulting in security access risks. The users also retained duplicate user accounts in SOPHIA.</li> <li>Users with multiple roles in SOPHIA were associated with different system permissions.</li> <li>19 terminated employees retained active SOPHIA user account access. 18 of the 19 had greater than View Only access. 1 of 19 had a non-UTSW email account login.</li> <li>A SOPHIA system user access report to identify active users and their access permissions was not readily available. This has hindered the completion of periodic user access reviews and general user access administration to ensure access was limited to appropriate employees.</li> </ul>	<ol style="list-style-type: none"> <li>Consult with institutional Information Resources-Academic and Administrative Information Resources (IR-AAIR) to eliminate dual and local account setups.</li> <li>Ensure the primary and alternate system administrative roles are assigned to non-financial personnel.</li> <li>Formalize a process for administering user account setup, required authorization and monitoring, as well as periodic access reviews.</li> <li>Obtain vendor assistance to identify or implement a standard user entitlement report and their access levels.</li> </ol>	<p><b><u>Management Action Plan:</u></b></p> <ol style="list-style-type: none"> <li>Investigate and streamline dual and local accounts to enforce SSO credentials by removing non-UTSW emails. Engage AAIR for assistance in converting users currently utilizing Gmail accounts to UTSW email accounts. This will ensure SSO credentialing for all SOPHIA users.</li> <li>Provide ad hoc temporary administrative access for financial personnel as needed to allow access to SOPHIA testing site.</li> <li>Create a formalized process for administering user account setup, required authorization and monitoring. Assign periodic independent reviews to Manager OTD Compliance.</li> <li>This feature currently exists as an option for SOPHIA administrators.</li> </ol> <p><b><u>Action Plan Owner(s):</u></b></p> <p>AVP, Office for Technology Development AVP, Information Resources Operations and Compliance</p> <p><b><u>Target Completion Date(s):</u></b></p> <ol style="list-style-type: none"> <li>9/1/2021</li> <li>9/1/2021</li> <li>9/1/2021</li> <li>Complete</li> </ol>

## Detailed Observation and Action Plans Matrix

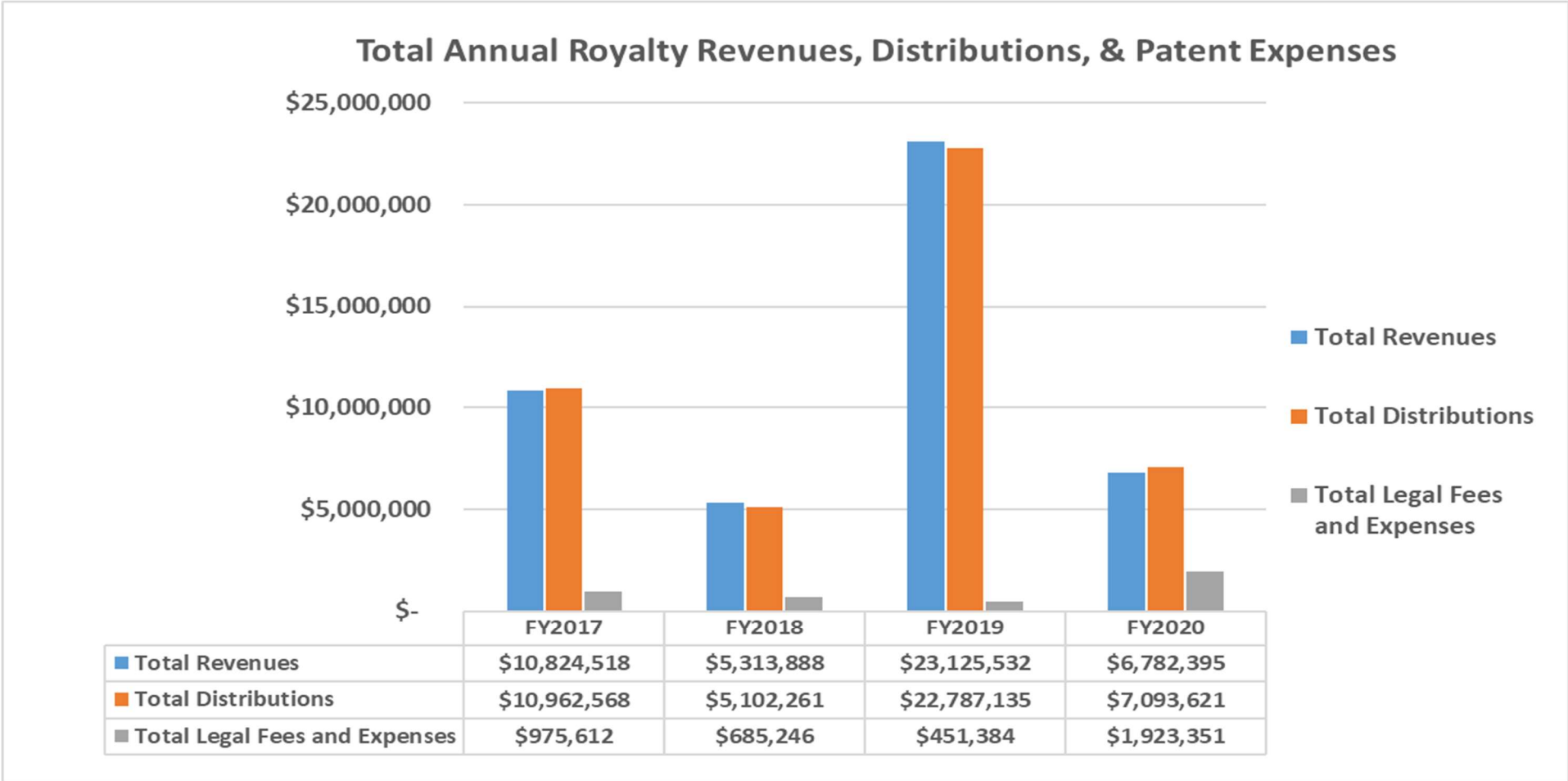
Observation	Recommendation	Management Response
<p><b>Risk Rating: Medium</b> ●</p> <p><b>2. Implement a Follow Up and Escalation Plan to Resolve Aged Receivables and Undistributed Royalties</b></p> <p>The monthly Intellectual Property (IP) accounts receivable (A/R) and undistributed royalties contain outdated licensee billings and receipts pending resolution, due to delays in follow up for resolving open items with licensees.</p> <ul style="list-style-type: none"> <li>The A/R billed balance of \$1.03M as of March 2021 included \$266k in receivables with due dates of 90 days or older. The majority of overdue balances pertained to patent expenses billed to two licensees for reimbursement, pending payment modification or license termination.</li> <li>The majority of the \$2.4M in undistributed revenues pertained to current receipts or items withheld to defray patent expenses. \$336K of undistributed revenues were pending due to inability to locate Revenue Sharing Agreements (RSA), unresolved settlement of an inventor's beneficiary/estate and inconsistent follow up with beneficiaries within the last 24 months.</li> </ul> <p>Delays in resolving aged items could result in untimely collection of revenues from licensees and delays in distribution of payments to inventors, labs, and the institution's general fund.</p>	<ol style="list-style-type: none"> <li>Coordinate with the licensees in question to collect old outstanding A/R balances in order to restore status to in-compliance. Risk rank the remaining accounts and allocate resources to work them by order of priority.</li> <li>Establish policy guidance for A/R portfolio management to include remedies and an option for last resort write-off.</li> <li>For undistributed revenue balance withholdings, develop frequency of required follow up for missing RSAs and policy guidance for fund disbursement when there is a delay with estate settlement of one member of the invention team.</li> </ol>	<p><b><u>Management Action Plan:</u></b></p> <ol style="list-style-type: none"> <li>Contact the licensees to create a resolution plan for A/R balances.</li> <li>Modify OTD policy to include guidance for A/R portfolio management.</li> <li>Develop a process for obtaining RSA's (e.g., wait until ready to commercialize). Modify policy to allow for partial fund disbursement to inventors with no issues while working to resolve issues with other inventors.</li> </ol> <p><b><u>Action Plan Owner(s):</u></b> AVP, Office for Technology Development</p> <p><b><u>Target Completion Date(s):</u></b></p> <ol style="list-style-type: none"> <li>8/1/2021</li> <li>8/1/2021</li> <li>8/1/2021</li> </ol>



## Detailed Observation and Action Plans Matrix

Observation	Recommendation	Management Response
<p><b>Risk Rating: Medium</b> ●</p> <p><b>3. Update Key Non-Financial Docket Report Data</b></p> <p>The key Non-Financial Docket report, designed as a monitoring tool to track agreements and SOPHIA records for completeness and accuracy, is not consistently reviewed and updated.</p> <p>The report contained Intellectual Property agreements that were assigned to inactive members and terminated employees and data input errors.</p> <p>Incomplete or inaccurate data input and monitoring reviews could impact the quality of review and delay recognition or receipt of revenues.</p>	<ol style="list-style-type: none"> <li>1. Review and update the Non-Financial Docket Report to correct identified errors and reflect the current status.</li> <li>2. Implement periodic quality assurance procedures to ensure data input accuracy. Provide feedback and appropriate training as needed.</li> </ol>	<p><b><u>Management Action Plan:</u></b></p> <p>OTD management acknowledges the referenced report was not emphasized due to other priorities within the Department.</p> <ol style="list-style-type: none"> <li>1. Identify and resolve outdated records by creating Sophia queries to identify records requiring updates.</li> <li>2. On a daily basis, one person will be inputting the data, and another is validating it. Establish quarterly Quality Review of Sophia Records, reviewing a sample set of records for accuracy.</li> </ol> <p><b><u>Action Plan Owner(s):</u></b></p> <p>AVP, Office for Technology Development</p> <p><b><u>Target Completion Date(s):</u></b></p> <ol style="list-style-type: none"> <li>1. 8/1/2021</li> <li>2. 8/1/2021</li> </ol>

**Appendix A – Royalty Revenues, Distributions, & Patent Expenses**



- The increase in total royalty revenues in FY2019 was attributed to a \$16.5M sale of equity

## Appendix B – 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:

<b>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.</b>	Degree of Risk and Priority of Action	
	<b>Priority</b>	An issue identified by Internal Audit that, if not addressed immediately, has a high probability to directly impact achievement of a strategic or important operational objective of a UT institution or the UT System as a whole.
	<b>High</b>	A finding identified by Internal Audit that is considered to have a high probability of adverse effects to the UT institution either as a whole or to a significant college/school/unit level. As such, immediate action is required by management in order to address the noted concern and reduce risks to the organization.
	<b>Medium</b>	A finding identified by Internal Audit that is considered to have a medium probability of adverse effects to the UT institution either as a whole or to a college/school/unit level. As such, action is needed by management in order to address the noted concern and reduce the risk to a more desirable level.
	<b>Low</b>	A finding identified by Internal Audit that is considered to have minimal probability of adverse effects to the UT institution either as a whole or to a college/school/unit level. 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.