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0763

Subject: COVID-19 Testing Agreements - UCSD Expedited COVID-19 Identification Environment (EXCITE) Lab Report 2022-13B

The final report for COVID-19 Testing Agreements - UCSD Expedited COVID-19 Identification Environment (EXCITE) Lab Report 2022-13B, is attached. We would like to thank all members of the department for their cooperation and assistance during the review.

Because we were able to reach agreement regarding management action plans in response to the audit recommendations, a formal response to the report is not requested. The findings included in this report will be added to our follow-up system. We will contact you at the appropriate time to evaluate the status of the management action plans.

UC wide policy requires that all draft reports be destroyed after the final report is issued. We also request that draft reports not be photocopied or otherwise redistributed.

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Attachment

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AUDIT & MANAGEMENT ADVISORY SERVICES

COVID-19 Testing Agreements
UCSD Expedited COVID-19 Identification Environment (EXCITE) Lab
Report No. 2022-13B
June 2022

FINAL REPORT

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I. EXECUTIVE SUMMARY

Audit & Management Advisory Services (AMAS) has completed a review of COVID-19 Testing Agreements performed through the University of California San Diego (UCSD) Expedited COVID-19 Identification Environment (EXCITE) Lab as part of the approved audit plan for Fiscal Year 2021-22. The objective of our review was to evaluate whether internal controls and business processes related to external COVID-19 Testing Agreements provide reasonable assurance that expenses are reconciled accurately and completely and facilitate reimbursement of incurred expenses from external and internal clients. The scope of this report is the testing agreements and services provided by the EXCITE Laboratory. Agreements through UCSD Health (UCSDH) are addressed in a separate report.

Based on our review, we concluded that internal controls and business processes related to COVID-19 Testing Agreements need improvement to provide reasonable assurance that expenses are reconciled accurately and completely and facilitate reimbursement of incurred expenses from external and internal clients. The EXCITE Lab team was established quickly to respond to the needs of the UCSD campus and greater San Diego communities. The team has been overall effective in implementing the testing with the appropriate agreements and approvals. However, we noted opportunities for improvement in the business process related to the timeliness of billing, reconciliation to facilitate reimbursement of incurred expenses from external and internal clients.

During our review we noted that resource constraints, lack of documented processes and procedures, and a new financial system created challenges in efficiently and effectively managing the responsibilities of the EXCITE Lab financial operations. In our review of ten client accounts, including eight external and two internal, we noted that five were not billed and over 90 days past due, three were collected but not yet reconciled, and only two client accounts were fully collected and reconciled. In addition, the recharge billing process is not implemented in the Department, therefore the two active internal recharge clients have not been billed since the beginning of operations in October 2020 representing total unbilled charges of \$359,603.

Management Action Plans to address our findings are summarized below:

A. Financial Management: Billing, Collection and Reconciliation

1. The Director of Sponsored Projects will resolve the six external and two internal accounts identified with billing and/or reconciliation issues.
2. The Director of Sponsored Projects will work with Department of Pediatrics Management to document the external and internal recharge billing procedures for the EXCITE Lab to provide consistent practices and a cross-training tool. These procedures should ensure charges are billed timely and accurately to internal recharge and external clients, reconciliation procedures are implemented and followed, and employees are trained in procedures and related systems.
3. Department of Pediatrics Management has evaluated whether additional resources can be identified to assist with billing and reconciliation and have hired additional staff to assist the department with billing, collection and reconciliation.

Observations and related Management Action Plans are described in greater detail in section V. of this report.

II. BACKGROUND

Audit & Management Advisory Services (AMAS) has completed a review of COVID-19 Testing Agreements performed through the University of California San Diego (UCSD) Expedited COVID-19 Identification Environment (EXCITE) Lab as part of the approved audit plan for Fiscal Year 2021-22. This report summarizes the results of our review.

Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. California reported its first coronavirus death on March 4, 2020 and within 15 days Governor Gavin Newsom issued a first-in-the-nation mandate for all 40 million residents to shelter in place to slow the virus' spread. As the COVID-19 pandemic developed over 2020 and into 2021, UCSD has provided coronavirus-related testing services for the health and safety of patients, students and the campus community.

With the quick onset of this pandemic, UCSD Health (UCSDH) implemented testing agreements with external third parties to assist the community in slowing down the spread of the disease. UCSDH leadership began to address the external testing capacity across the organization in April 2020 by first implementing a Testing and Utilization Committee then a "Front Door Committee" where any request for testing services was reviewed. After review, testing services may be provided by either the UCSDH clinical enterprise, or the Expedited COVID-19 Identification Environment (EXCITE) Lab, established in October 2020 under the oversight of faculty in the UCSD School of Medicine.

The EXCITE Lab is led by UCSD faculty members and managed by the Director of the Center for Microbiome Innovation and Professor of Pediatrics and Computer Science & Engineering, the Professor of Cellular and Molecular Medicine and Co-Director of the Bioinformatics and Systems Biology Graduate Program, and the Professor and Vice-Chair for Translational Research in Obstetrics, Gynecology and Reproductive Sciences. This Lab is operating separately under an Emergency Use Authorization (EUA) extension of the Pediatric Biochemical Genetics Laboratory's Clinical Laboratory Improvement Amendments (CLIA). The EXCITE Lab has developed a test to detect the SARS-CoV-2 virus in less than 24 hours.

During our review, the EXCITE Lab had 18 external clients¹ and three UCSD internal clients. Separately, there were approximately 46 active corporate account agreements for services provided by UCSDH. These two labs have ramped up sample processing which has allowed UCSD to extend its ability to test individuals who are both symptomatic and asymptomatic. Both labs are on target to provide approximately 6,000 tests per day if needed.

Below is a summary of revenue, expenses and total net charges for all EXCITE lab clients from inception of the lab in October 1, 2020 through January 31, 2022.

¹ Contracts with external clients may be handled through contractual agreement or Letter of Engagement.

EXCITE Lab Testing Services <i>(from inception 10/1/2020 – 1/31/2022)</i>	
Total Revenue	\$793,108
Less Operating Expenses	(\$177,632)
Less Personnel Expenses	(\$44,792)
EXCITE Lab Testing Balance	\$570,684

A separate report, *COVID-19 Testing Agreements – UC San Diego Health (Report #2022-13A)*, was issued with a detailed evaluation of internal controls and business processes related to external COVID-19 testing within UCSDH.

III. AUDIT OBJECTIVE, SCOPE, AND PROCEDURES

The objective of our review was to evaluate whether internal controls and business processes related to external COVID-19 Testing Agreements provide reasonable assurance that expenses are reconciled accurately and completely and facilitate reimbursement of incurred expenses from external and internal clients. The scope of this report is the testing agreements and services provided by the EXCITE Laboratory. Agreements through UCSDH are addressed in a separate report.

In order to achieve our objective, we performed the following:

- Reviewed applicable University policies including: UCSD Recharge Policy; Business & Finance Bulletin (BFB) A-47: Direct Costing Procedures and BFB A-56: Academic Unit Costing and Billing Guidelines;
- Interviewed the EXCITE Lab management including the three EXCITE Lab faculty leaders; the Chief Operations Officer / Administrative Vice Chancellor Pediatrics; the Department of Pediatrics Director of Sponsored Projects; and the Health Sciences Director of Business Contracting;
- Evaluated:
 - The roles and responsibilities of the EXCITE Lab team and the process for initiating and implementing new agreements, adding new clients into the UCSD Oracle Financial System for billing, collection and reconciliation;
 - Recently implemented recharge rates and methodology for price determination for the EXCITE Lab;
 - The process for EXCITE Lab billing, collection, and reconciliation;
 - The list of Letters of Engagement and contractual agreements for the EXCITE lab;
 - Reports utilized by the COVID-19 Operations team; and
- Tested:
 - A judgmentally selected a sample of ten EXCITE Lab agreements, invoices and payment information, for eight external clients and two recharge clients, to verify accuracy in cost and timeliness in billing and collections.

IV. CONCLUSION

Based on our review, we concluded that internal controls and business processes related to COVID-19 Testing Agreements need improvement to provide reasonable assurance that expenses are reconciled accurately and completely and facilitate reimbursement of incurred expenses from external and internal clients. The EXCITE Lab team was established quickly to respond to the needs of the UCSD campus and greater San Diego communities. The team has been overall effective in implementing the testing with the appropriate agreements and approvals. However, we noted opportunities for improvement in the business process related to the timeliness of billing, reconciliation to facilitate reimbursement of incurred expenses from external and internal clients.

During our review we noted that resource constraints, lack of documented processes and procedures, and a new financial system created challenges in efficiently and effectively managing the responsibilities of the EXCITE Lab financial operations. The Director of Sponsored Projects works diligently to collect all the testing data and create the invoices for billing, however the workload volume appeared to be a challenge in timely processing. The implementation of Oracle introduced changes to workflow related to invoice creation and processing of recharges which required training. These changes, and the amount of the workload from other responsibilities, have made it more challenging to process EXCITE lab charges in a timely manner. In addition there is not currently a documented workflow process for the Department of Pediatrics’ EXCITE Lab billing externally or internally.

In our review of ten client accounts, including eight external and two internal, we noted that five were not billed and over 90 days past due, three were collected but not yet reconciled, and only two client accounts were fully collected and reconciled. In addition, the recharge billing process is not implemented in the Department, therefore the two active internal recharge clients have not been billed since the beginning of operations in October 2020 representing total unbilled charges of \$359,603.

These observations are discussed in greater detail in the balance of this report.

V. OBSERVATIONS REQUIRING MANAGEMENT ACTION

A.	Financial Management: Billing, Collection and Reconciliation
Financial management processes for billing, collection and reconciliation of external and internal EXCITE Lab client accounts could be improved to facilitate timely collection and ensure stronger controls over lab funds. Our review of ten monthly charges noted that eight were not fully invoiced, collected, and reconciled timely and seven were billed late or not billed as of the time of this review.	
Risk Statement/Effect	
Inconsistent billing, collection and reconciliation processes, in addition to lack of sufficient resources or cross-training, could lead to billing errors resulting in missed or inaccurate revenue and reconciliation.	

Management Action Plans	
A.1	The Director of Sponsored Projects will resolve the six external and two internal accounts identified with billing and/or reconciliation issues.
A.2	The Director of Sponsored Projects will work with Department of Pediatrics Management to document the external and internal recharge billing procedures for the EXCITE Lab to provide consistent practices and a cross-training tool. These procedures should ensure charges are billed timely and accurately to internal recharge and external clients, reconciliation procedures are implemented and followed, and employees are trained in procedures and related systems.
A.3	Department of Pediatrics Management has evaluated whether additional resources can be identified to assist with billing and reconciliation and have hired additional staff to assist the department with billing, collection and reconciliation.

A. Financial Management: Billing, Collection and Reconciliation

UCSD Recharge Policy

University of California UC Policy BFB A-47: Direct Costing Procedures requires that recharges be related to the cost of goods or services furnished and provide for the recovery of actual costs, and that prices be adjusted at least annually to eliminate any surpluses or deficit greater than one month of the recharging unit’s activity. Policy further requires that identical goods and services carry identical prices for any and all customers that are identified as Category 1 direct costs, which represent costs charged to a University department for goods or services provided by another University department. Furthermore, all recharge activities shall publish a schedule of rates and process which shall be reviewed and approved by the Chancellor or his/her delegate. Recharge services can be provided to internal customers, or external customers for an additional charge. Effective July 1, 2020, internal customers are billed \$23.31 per test while external customers are billed \$34.00 per test. An additional rate of \$28.00 per test has been established for specific education and/or not-for-profit customers. Per UCSD Costing Policy & Analysis management, the rate and rate methodology will be reviewed annually with their department to ensure rates recover cost in accordance with institutional policies.

AMAS Sample Review Results

We evaluated a sample of billing activity totaling \$543,575, or 95% of the total outstanding charges of \$574,314 from October 2020 to November 30, 2021. This entailed reviewing ten accounts representing eight external and two internal clients totaling \$183,972 and \$359,603 in charges, respectively.

We noted issues with eight accounts, including five accounts were not invoiced, or over 90 days late, two were invoiced but not collected, and one was invoiced and collected but not yet reconciled. We also noted invoicing was not timely on seven of the 10 accounts reviewed. Below is a summary of observations during our review for the accounts reviewed, with detailed notes on each of the ten accounts following the table:

Type of Client	Was Client Invoiced / Collected / Reconciled?					Was Invoicing Timely?		
	Invoiced, Collected & Reconciled (A)	Invoiced, Collected, Not Reconciled (B)	Invoiced, Not Collected or Reconciled (C)	Not Invoiced, Over 90 Days Late (D)	Total	Invoiced Timely (E)	Invoiced Late / Not Invoiced (F)	Total
External	2	1	2	3	8	3	5	8
Internal	-	-	-	2	2	-	2	2
Total	2	1	2	5	10	3	7	10

External Accounts:

- #1: Unallocated balance of \$35,588 for October 2021 charges was invoiced timely, paid late, and not yet reconciled to the project. **(B & E)**
- #2: Outstanding balance of \$21,140 for October 2021 charges has not yet been invoiced as of January 27, 2022. **(D & F)**
- #3: No outstanding issues. Outstanding charges invoiced for March through May 2021 were invoiced late, paid according to terms and reconciled with project. No outstanding accounts receivable (A/R) balance to date. **(A & F)**
- #4: Outstanding balance of \$18,648 for October 2021, charges not yet invoiced as of January 27, 2022. **(D & F)**
- #5: Outstanding balance of \$29,344 for June 2021 through October 2021 charges invoiced late, are past due and not collected as of January 27, 2022. **(C & F)**
- #6: No noted issues. Outstanding balance invoiced for May 2021 charges was invoiced timely, paid timely and reconciled. No outstanding A/R balance to date. **(A & E)**
- #7: Outstanding balance of \$47,292 for July 2021 through October 2021, charges not yet invoiced as of January 27, 2022. **(D & F)**
- #8: Outstanding balance of \$31,960 for August 2021 charges invoiced on time, no payment received at date of review January 27,2022. **(C & E)**

Internal Accounts:

- #9: Recharge Client - Outstanding balance of \$120,280 for August 2021 charges not yet invoiced. **(D & F)**
- #10: Recharge Client - Outstanding balance of \$239,324 for November 2020 through June 2021 charges not yet invoiced. **(D & F)**

[EXCITE Lab Charge Reconciliation, Billing and Collection Process](#)

The intent from inception was that one of the core functions of the EXCITE lab would be COVID testing for the Campus, with services for employees and patients provided by UCSDH. The EXCITE Lab had its first clients in October 2020, and currently approximately 80% of their clients are external and the remaining 20% internal UCSD business. If the Front Door Committee or Testing Utilization Committee determines the testing should go through the EXCITE lab, the information is forwarded to the Lab and the client is contacted directly. The Business Contracting Office documents, obtains approval of and implements the agreement if necessary, and separately the Department of Pediatrics Business Office creates the Letter of Agreement. In order to get an agreement implemented, the entity needs to have a Letter of Engagement, a physician order and the demographics of the population involved.

The external third-party Letters of Agreement reviewed by AMAS had terms including monthly billing and payments within 30 days. The total amounts billed and paid, and the remaining A/R balances, per the responsible Pediatrics Director of Sponsored Projects, as of December 17, 2021, are noted below:

Client Type	Total # of Samples	Total Outstanding	Total Paid	A/R Balance
External Clients	63,479	\$1,786,304	\$1,572,106	\$214,198
Internal Clients	15,449	\$360,116	\$ 0	\$360,116
Overall Total	78,928	\$2,146,420	\$1,572,106	\$574,314

Until recently, the billing process required the Director of Sponsored Projects to use a department invoice template to send billings to the client, and payments were sent back to the department to process and deposit. However, starting in the Fall of 2021, this process changed to utilize the newly implemented Oracle financial system which requires the creation of an account for each of the clients and an invoice from that account. Each month, a representative from the EXCITE Lab calls the Director of Sponsored Projects and provides the number of tests completed for each client. The Director of Sponsored Projects tracks the number of tests in a spreadsheet and creates invoices. Once an invoice is created in Oracle, an email is sent to the client and the client sends the payment directly to the Cashier's Office.

Per discussion with management, the Director of Sponsored Projects has been working to promptly create these new accounts and update the system as necessary. However, the Director of Sponsored Projects has indicated that the A/R team is now asking for additional information for them to allocate the checks to the correct project number. As a result, there is a delay in payment reconciliation. At this time, a support ticket must be submitted together with the check so the check can be cashed and held until it is allocated to the appropriate account. The Director of Sponsored Projects indicated that she is working on implementing the new invoice process for all the external accounts and working with the A/R team to allocate the payments to those accounts.

Recharge Activity Billing and Reconciliation

The EXCITE Lab has established and approved recharge rates effective July 1, 2020 through June 30, 2022, however, the process for EXCITE Lab recharge billing and reconciliation by the Department of Pediatrics is not yet formalized. Running the Lab as a recharge unit was determined to be a more efficient process for running the tests and the resulting billing and collections. They currently have two active internal recharge clients with a combined outstanding balance of \$359,603 for recharge billing as of December 17, 2021, included in the \$360,116 total referenced in the table above.

Desk Procedures

We also noted a lack of written desk procedures, which would provide consistent processes related to this general billing area and a tool for employees to be cross-trained. The documentation should include procedures for established standards for timeliness and accuracy, charge documentation and payment reconciliation procedures.

Billing Personnel / Resources

During our review we noted resource constraints which impacted the effectiveness of the billing process. When the Director of Sponsored Projects assumed responsibility for this process, COVID-19 was prevalent at high volumes, and a high level of attention to a new process and a new financial system was required. In consideration of the significant volume of past and ongoing testing, and the complexities of the new information systems, the current resources do not appear adequate to effectively and efficiently manage these accounts. Additional support for this area should be considered to improve the timeliness and effectiveness of billing and reconciliation.