

August 14, 2018

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Subject: *Sleep Center*
Report 2018-18

The final report for *Sleep Center*, Report 2018-18, 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.

David Meier
Director
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Attachment

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UC San Diego

AUDIT & MANAGEMENT ADVISORY SERVICES

Sleep Center
Report No. 2018- 18
August 2018

FINAL REPORT

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ATTACHMENT A – SCE Denial Transaction Analysis

ATTACHMENT B – SCE Overnight Sleep Staffing Analysis

I. EXECUTIVE SUMMARY

Audit & Management Advisory Services (AMAS) has completed a review of the Peter C. Farrell Sleep Center of Excellence (SCE) at UC San Diego Health (UCSDH). The objective of our review was to evaluate whether internal controls provided reasonable assurance that SCE business processes were effective, resulted in accurate financial reporting, and were conducted in compliance with University policy. The scope of the review was fiscal year 2017/18 operations.

We concluded that SCE internal controls provided reasonable assurance that financial results were accurately reported and activities complied with relevant policies, procedures and regulations. We observed that SCE management and staff were experienced in financial and operational management to ensure appropriate controls and financial monitoring were in place. We noted that over the last year UCSDH has been working to establish SCE as a unique organizational entity in financial and clinical systems to allow for reporting separate from the Pulmonary division. This work remained in process during our review, therefore a separate identification for SCE was not fully established in some systems or databases. Management will continue to work on this initiative going forward.

We observed opportunities for improvement with respect to oversight for certain revenue cycle processes such as open encounters and denial transactions; and coordinating staffing schedules with expected volume of patient appointments for overnight sleep studies. Management Action Plans to address these findings are summarized below:

A. Financial Oversight Processes

1. SCE will work with Information System staff to resolve open encounter issues, and will develop procedures to perform routine monitoring of unbilled encounters.
2. SCE will develop procedures to perform routine monitoring of denial transactions. Meetings have been initiated with Revenue Cycle to obtain the data needed to perform this review.

B. Overnight Sleep Study Staffing

1. SCE management will follow-up with the Epic team to obtain a unique department identification code in order to more effectively monitor overnight sleep study appointment status.
2. SCE will consider opportunities to improve staffing and scheduling plans to more fully utilize scheduled staff while at the same time maintaining compliance with SCE staffing ratios.

Observations and 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 the Peter C. Farrell Sleep Center of Excellence (SCE) at UC San Diego Health (UCSDH) as part of the approved audit plan for Fiscal Year (FY) 2017-18. This report summarizes the results of our review.

The SCE is a specialty team within Pulmonary Medicine that performs comprehensive evaluations, treatments and research in the area of sleep disorders. The American Academy of Sleep Medicine (AASM) awarded the SCE accreditation for all types of sleep testing in December 2017. SCE has 13 employees including one manager, two assistants, and ten sleep technicians (part time or full time) who perform sleep center operations under the oversight of a team of nine faculty and one nurse practitioner in the Department of Medicine. In addition to consults and return patient visits, the primary SCE activity is to provide overnight sleep studies. The SCE's current overnight capacity is seven beds.

In July 2017, a separate financial index was established to record SCE operational costs and financial status, and allow for financial reporting independent from the Pulmonary division. A summary for the SCE operation for from July 2017 to April 2018, based on most currently available Epsi financial reports, is outlined below.

July 1, 2017 – April 30, 2018	Total	%
REVENUE		
Operating Revenue	\$ 4,923,897	100%
Contractual Adjustments/Deductions	(3,447,107)	-70%
Total Net Operating Revenue	\$ 1,476,790	30%
EXPENSES		
CARE ¹ Payment	\$787,282	42%
Staff Salaries and Benefits	753,717	40%
Medical Supplies/Facilities & Utilities/Other Expenses	325,119	18%
Total Expenses	\$ 1,866,118	100%
Gain/(Loss) from Operations	\$ (389,328)	

Source: Epsi Report (June 19, 2018) ²

Based on Epic charge transaction data³, as of May 25, 2018, SCE billing for the patient visits for the first quarter of 2018 (January – March) totaled \$1.6 million. The table below illustrates appointments, charges, and payments by financial payors: Commercial, Medicare/Medicaid CA, and others.

Revenue by Financial Payor – January 2018 - March 2018							
Financial Type (by Payor)	# of Appointments	% of Appointment	Total Charges	Total Payments	Charge %	Payment %	Payment / Charge %
Commercial	1,399	66%	\$1,098,040	\$249,089	68%	65%	23%
Medicare/ Medicaid CA	620	29%	\$450,231	\$113,651	28%	30%	25%
Other (a)	96	5%	\$78,362	\$20,510	4%	5%	26%
Total	2,115	100%	\$1,626,633	\$383,250	100%	100%	

(a) Other payors include managed care, Workers' Compensation, and other payors.

¹ Clinical and Reimbursable Event from the UCSDH Clinical Practice Organization.

² Epsi report is based on an accrual accounting system. Monthly amounts may vary depending on gross charges and allocation in actual revenue throughout the year. Fiscal year-end totals will agree with the University's official accounting system, IFIS.

³ Epic Transaction Cube maintains up-to-date charge transaction data based on the patient visit date.

For this period, overnight sleep studies (Current Procedural Terminology codes 95810 and 95811) totaled \$856K (53%) of charges.

A brief summary of statistics on SCE operations for the same time period (January through March 2018) is provided below.

January 2018 – March 2018	January	February	March
Days of the Month with Operation	28	27	31
Monthly Totals Polysomnography (PSG) Overnights	127	118	143
Average Overnight Studies Per Day	4.5	4.4	4.6
No shows per month	7	11	10
Clinic Consults Visits	153	142	178
Return Visits	302	247	260
PSG Scheduled Days Out (Next Available Appointment)	30	32	35

III. AUDIT OBJECTIVE, SCOPE, AND PROCEDURES

The objective of our review was to evaluate whether internal controls provided reasonable assurance that SCE business processes were effective, resulted in accurate financial reporting, and were conducted in compliance with University policy. The scope of the review was fiscal year 2017/18 operations.

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

- Interviewed Pulmonary Division Administrator, Senior Director, financial analyst, and SCE manager;
- Reviewed policy, procedures, and reports including:
 - AASM accreditation notification and Site Visit Report (November/December 2018);
 - Chancellor Park Pulmonary & Sleep Medicine Tracer and Environment of Care (EOC) Rounds Reports (September & November 2017);
 - SCE department policy and procedures and Sleep Medicine Scheduling Protocol;
 - Epsi financial reports and Med-Sleep Dashboard;
- Interviewed the following:
 - Director of Regulatory Affairs – Ambulatory Care for EOC process and reports;
 - Infection Prevention/ Clinical Epidemiology Director and supervisor for infection control reviews;
 - Clinical Practice Organization – Assistant Director for charge and denial transactions;
- Obtained and preformed data analytics for
 - Epic charge transaction reports by financial type, charges, payments, adjustments, payors, and Current Procedural Terminology (CPT) codes;
 - Epic denial transactions report (as of May 25, 2018) for denial reason and amounts;
 - Epic schedule reports for appointment status and total appointment counts;
- Analyzed SCE staffing ratio policy and related technician payroll hours;
- Reviewed transaction charges and patient schedules for one selected week (second week of October 2017) for billing practices;
- Reviewed charge transaction data including patient billing, lag time, and denied transactions;
- Reviewed Billable Open Overdue Encounters Report (June 10, 2018);

- Evaluated denial transaction causes and review processes; and
- Reviewed SCE safety practices and training documentation, 2017 Safety and Risk Review, Safety Coordinator binder, cleaning schedule, selected iReports.

IV. CONCLUSION

Based on our review, we concluded that SCE internal controls provided reasonable assurance that financial results were accurately reported and activities complied with relevant policies, procedures and regulations. We observed that SCE management and staff were experienced in financial and operational management to ensure appropriate controls and financial monitoring were in place.

We noted that over the last year UCSDH has been working to establish SCE as a unique organizational entity in financial and clinical systems to allow for reporting separate from the Pulmonary division. This work remained in process during our review, therefore a separate identification for SCE was not fully established in some systems or databases. Management will continue to work on this initiative going forward.

We observed opportunities for improvement with respect to oversight for certain revenue cycle processes such as open encounters and denial transactions; and coordinating staffing schedules with expected volume of patient appointments for overnight sleep studies. These issues are discussed in more detail in the balance of the report.

V. OBSERVATIONS REQUIRING MANAGEMENT ACTION

A.	Financial Oversight Processes
SCE had not developed processes for routine oversight of certain business processes which impact the revenue cycle, such as unbilled encounters and denial transactions.	
Risk Statement/Effect	
Lack of routine monitoring to address open encounters and identify causes of denied transactions could result in lost revenues and contribute to department operational deficits.	
Management Action Plans	
A.1	SCE will work with Information System staff to resolve open encounter issues, and will develop procedures to perform routine monitoring of unbilled encounters.
A.2	SCE will develop procedures to perform routine monitoring of denial transactions. Meetings have been initiated with Revenue Cycle to obtain the data needed to perform this review.

A. Financial Oversight Processes – Detailed Discussion

Unbilled Encounters

The billing of a patient encounter relies on the physician/SCE technician documenting the clinical visit/oversight sleep test results and closing the patient encounter on a timely manner. An open encounter affects the timely posting and billing of charges, and impacts downstream collection of revenue for the visit.

We reviewed of one week (October 2017) of patient encounters and billing to evaluate whether completed visits were timely billed. Our review noted that billing for two appointments (out of 147 appointments) were incomplete due to an encounter that was not closed timely.

Our review of the Billable Open Overdue Encounters Report (June 2018) provided by SCE which showed that SCE Overnight Room had 95 billable encounters that were not closed. Among these 95 transactions, 35 were open for more than 30 days. Another billable item – Home Sleep Test – had 40 open transactions, of which 23 were open for more than 30 days. SCE management stated that this delay was primarily due to staffing shortage, and Epic system issues which indicated “No Assigned Authorized Provider” for overnight study procedures. SCE management has requested assistance from the Epic team to identify the cause of this issue. However, it did not appear that SCE had processes in place for routine monitoring of open encounters, which could minimize unbilled transactions.

Denial Transactions

Another area where routine management review and analysis can impact the revenue cycle is in denial transactions. For January – March 2018, we noted a total 340 denied transactions, totaling \$206K. A closer review of 2018 denial transactions by top five denial reason codes is summarized in the table below.

Denial Reason Code Category (January 2018 – March 2018)	# of Denied Transaction	Denied Amount	% of Denied Transaction	% of Denied Amount
Additional Documentation Needed	108	\$60,540	32%	29%
Coordination of Benefits	56	\$36,251	16%	18%
Informational	39	\$22,316	11%	11%
Non-Covered	31	\$16,526	9%	8%
All Others	106	\$70,691	31%	34%
Total Count/Amount/%	340	\$206,324	100%	100%

We performed additional detail review for denied transactions for March 2018 noted that denied transactions could be sorted and analyze either by payor, CPT code, denial reason code, or other criteria in order to identify responsible parties for the missing required documents or incomplete tasks. Our analysis of March 2018 data is provided in **Attachment A**. Procedures to conduct routine management review of denial data were not in place at SCE. Data from the Denial Cube could be analyzed and reviewed with Revenue Cycle to identify root causes with the goal of reducing the number of denial transactions, increasing payments, and reducing department deficits.

B. Overnight Sleep Study Staffing	
SCE staffing for overnight sleep studies did not appear to fully utilize technician capacity, and in some cases did not fully comply with the SCE department policy requirements.	
Risk Statement/Effect	
Non-compliance with policy may result in understaff or overstaff for overnight sleep study operations, and may put employees and patients at risk. In addition, overstaffing results in additional payroll expenditures which may be unnecessary.	
Management Action Plans	
B.1	SCE management will follow-up with the Epic team to obtain a unique department identification code in order to more effectively monitor overnight sleep study appointment status.
B.2	SCE will consider opportunities to improve staffing and scheduling plans to more fully utilize scheduled staff while at the same time maintaining compliance with SCE staffing ratios.

B. Overnight Sleep Study Staffing – Detailed Discussion

SCE adopted a *Technician Staffing Patterns and Ratios Policy* in 2017 to ensure overnight patient safety and adequate technician coverage. This policy established a technician-to-patient ratio of 1: 2.5. A ratio of 1:1 may be used when patients were expected to require additional assistance during the recording, based on approval by the SCE operations manager. The policy also states that a minimum of two technicians should be staffed in the sleep lab at night. Based on this policy, if the overnight sleep patient count is greater than five on any night, three technicians are required.

SEC provided a copy of Sleep Center Overnight Patient Count worksheet. We noted for the period January-May 2018, a total of 142 nights were available and 652 overnight sleep studies were completed, for an average of 4.6 overnight studies per night. We noted a total of 15 nights (out of 142, 11%) had more than five patients with a completed overnight study. According to SCE policy, these 15 nights were required to have three technicians, assuming without consideration for patient cancellation or no show. For overnight study procedures during this time period, “Cancellations” were 28% and “No Shows” 6%. Although staffing is impacted by cancellations or no shows, this data suggests that staffing needs for more than two technicians were infrequent.

We performed an additional detail analysis of overnight sleep studies completed in comparison to the staffing schedule for the most recent two months completed, April and May 2018, for policy compliance and operational effectiveness. This review data is summarized below, and presented in detail in **Attachment B**.

Comparison of Overnight Sleep Study Completed and Staff Schedule			
Findings / Month	April	May	Total
Number of Open Nights	29	27	56
# of Night that Overnight Sleep Study Patient Count <= 5	25	22	47
# of Night that Overnight Sleep Study Patient Count > 5	4	5	9
Minimum Staffed (Patient Count = 5, with 2 technicians) (a)	8	11	19
Increase in Staffing per Staffing Policy (Patient Count >5, with 3 technicians)	2	3	5
Nights with Excess Capacity (Patient Count < 5, with 2 technicians)	10	9	19
Overstaffed per Policy (Patient Count <=5, with 3 technicians) (b)	9	4	13

(a) 24-hour overnight study patients included.

(b) No show or cancellation could impact some of these counts.

As this data shows, we noted several nights where there was excess capacity for overnight tests, meaning the required two technicians were overseeing less than five patients. This suggests that efficiencies could be gained by better managing patient appointments to fully utilize scheduled staff. This may allow for a reduction in operating expenses for staff payroll costs, which represented 40% of total expenses for the first four months in 2018. The primary challenge in more fully utilizing scheduled staff appeared to be the impact of appointment Cancellations and No-Shows.

SCE management prepares technicians' working schedule five week ahead. Except for holidays, a minimum of two technicians are required per night for seven days a week. Some part-time technicians are also scheduled for more overnight sleep patients. Based on the work schedule and available beds, the SCE scheduling staff books the overnight sleep study appointment for patients. However, patients could cancel or not show up on the appointment date, which could result in overstaffing of three technicians, instead two required by the policy, if less than six patients presented for the day. SCE management also noted concerns with respect to retention of specialized technician staff and compliance with bargaining agreement requirements in modifying staff schedule in a short notice. In addition, overnight sleep capacity could be impacted due to maintenance or repair work.

As of today, SCE does not have an identification code in order to maintain its own number of no show or cancellation appointments in the Epic scheduling system. Similar to the charge transactions, these no show or cancellation appointments were combined with the Pulmonary Division. SCE is working with Epic team in establishing a separate department code in order to assist in better utilization the sleep center capacity.

Once a separate department code is available, SCE management will have better data to analyze staffing needs. Consideration should be given to modifying patient and staff scheduling to better utilize SCE capacity and minimize instances of overstaffing.

**Audit Management Advisory Services
Sleep Center (Report 2018-18)
Attachment A - SCE Denial Transaction Analysis - March 2018**

Reason Code Category / Payor	Commercial	Medicare /Medi-cal	Other Payors	Total Denied Amount	Commercial	Medicare /Medi-cal	Other Payors	Total Denied Count
Additional Documentation Needed	\$ 1,208	\$ 13,284	\$ 8,218	\$ 22,710	2	14	12	28
Non-Covered	\$ 696	\$ 10,690	\$ 5,975	\$ 17,361	1	20	5	26
Coordination of Benefits	\$ 1,102	\$ 1,632	\$ 13,127	\$ 15,861	2	11	7	20
Informational		\$ 9,557	\$ 2,907	\$ 12,464		7	2	9
Other		\$ 1,696	\$ 2,274	\$ 3,970		3	5	8
Bundled		\$ 2,284	\$ -	\$ 2,284		4	0	4
Unmapped Code	\$ 506	\$ 3,903	\$ 2,339	\$ 6,748	1	2	1	4
Other Reason Codes (a)	\$ 3,975	\$ 5,945	\$ 6,748	\$ 16,668	4	5	4	13
Total Amount	\$ 7,487	\$ 48,991	\$ 41,588	\$ 98,066	10	66	36	112

CPT Code Description	CPT	Transaction Count	Denied Amount	% of Denied Amount	Prior Payment Statistics	Potential Payments
SCE Overnight Sleep Study	95810	18	\$42,102	43%	22%	\$9,334
SCE Overnight Sleep Study	95811	6	\$16,426	17%	22%	\$3,621
HB SLEEP STD AIRFLOW HRT RATE&O2 SAT EFFORT UNATT	95806	21	\$15,113	15%	40%	\$6,020
HB OFFICE OUTPATIENT NEW 45 MINUTES	99204	27	\$8,395	9%	29%	\$2,433
HB OFFICE OUTPATIENT VISIT 25 MINUTES	99214	22	\$5,712	6%	27%	\$1,517
Other Reason Codes (a)	Other	18	\$10,318	11%	----	----
Total Count /Amount		112	\$98,066	100%		\$22,926

(a) Other Reason Code Categories include Past Timely Filing, Duplicate, Eligibility/Registration, Authorization, Coding, and Medical Necessity/Level of Care.

**Audit and Management Advisory Services
Sleep Center (Report 2018-18)
Attachment B - Overnight Sleep Staffing Analysis
April 2018 - May 2018**

Findings / Month	April	May	Total
Number of Open Nights	29	27	56
# of Night that Completed Overnight Sleep Study Patient Count <= 5	25	22	47
# of Night that Completed Overnight Sleep Study Patient Count > 5	4	5	9
# of Night that Total Patient Count (Completed, Cancelled, No Show) < 7	6	13	19
Minimum Staffed (Patient Count = 5, with 2 technicians)	8	11	19
Increase in Staffing per Staffing Policy (Patient Count >5, with 3 technicians)	2	3	5
Nights with Excess Capacity (Patient Count < 5, with 2 technicians) (a)	10	9	19
Possible Overstaffed per Policy (Completed Patient Count) <=5, with 3 technicians) (a)	9	4	13

(a) No show or cancellation could impact some of these measurements.

April 2018	Overnight Sleep Study			Total Patient Count	# of Technicians
	Completed	Cancelled	No Show		
1	4	3	1	8	2
2	4	2	1	7	2
3	6	3		9	3
4	5	3		8	3
5	5	1	2	8	3
6	5	3		8	2
7	4	2	1	7	2
8	4	2	1	7	2
9	3	3	1	7	2
10	5	4		9	3
11	5	3		8	3
12	5	1	1	7	3
13	4	4		8	2
14	6 (e)	1	1	2	2
15	4	1	1	6	2
16	5	3		8	3
17	4	4	1	9	3
18	6	1		7	3
19	5	2		7	2
20	5	2		7	2
21	5	1		6	2
22	5	1		6	2
23	4	1		5	2
24	4	3	1	8	3
25	5	5		10	3
26	0 (b)	8		8	2
27	5			5	2
28	6 (e)	3	2	5	2
29	3	1	2	6	2
30	3	1	1	5	2
Totals	134	72	17	223	
%	60%	32%	8%	100%	

(b) no operation

(e) Included 24-hour study patients.

May 2018	Overnight Sleep Study			Total Patient Count	# of Technicians
	Completed	Cancelled	No Show		
1	4	3	1	8	3
2	5	3		8	3
3	5	4		9	2
4	5			5	2
5	6			6	3
6	5			5	2
7	0 (c)	5		5	2
8	0 (c)	5		5	3
9	0 (c)	5		5	2
10	5	3		8	2
11	5	4		9	2
12	5			5	2
13	4	3		7	2
14	6 (e)	1		1	2
15	5	1	1	7	3
16	4	1		5	2
17	3	1	1	5	2
18	3	1	1	5	2
19	7			7	3
20	5	2		7	2
21	4	2		6	2
22	5	1		6	2
23	5			5	2
24	4	1		5	2
25	4	5		9	2
26	8	2	1	11	3
27	4		1	5	2
28	0 (d)			0	0
29	5	4		9	3
30	6	3		9	3
31	3			3	2
Totals	130	60	6	196	
%	66%	31%	3%	100%	

(c) Staff strike

(d) Holiday