March 21, 2016

DR. RONALD MCLAWHON
Director of Clinical Laboratories
7320

***Subject:*** ***Pathology Billing Review***
***Project 2014-15***

The final audit report for *Pathology Billing Review*, Audit Report 2015-14, is attached. We would like to thank all members of the department for their cooperation and assistance during the audit.

Because we were able to reach agreement regarding corrective actions to be taken 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 corrective actions. At that time, we may need to perform additional audit procedures to validate that actions have been taken prior to closing the audit findings.

UC wide policy requires that all draft audit reports, both printed and electronic, be destroyed after the final report is issued. Because draft reports can contain sensitive information, please either return these documents to AMAS personnel or destroy them at the conclusion of the audit. We also request that draft reports not be photocopied or otherwise redistributed.

David Meier
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Attachment

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AUDIT & MANAGEMENT ADVISORY SERVICES

# Pathology Billing Review
March 2016

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Project Number: 2015-14

*Pathology Billing Review*
*Project 2015-14*

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Attachment A – Process Flowchart

## I. Executive Summary

Audit & Management Advisory Services (AMAS) has completed a review of Pathology Billing as part of the approved audit plan for Fiscal Year 2014-15. The objective of our review was to determine whether controls and processes related to billing for pathology services provided reasonable assurance that orders are appropriately documented, performed and billed based on the order.

We concluded that, in general, controls and processes related to pathology services provided reasonable assurance that orders were appropriately documented, and performed and billed based on the order; and that pathology service billings were appropriately supported by documented orders, results and reports.

Concurrent with this review, AMAS completed a review of the Epic Charge Router. This review concluded that data sent from ancillary systems including PowerPath[1] through various interfaces was, in general, received by the Charge Router, with only minor differences noted. As part of this review, Health System Information Services will be engaging ancillary system administrators in efforts to review and resolve discrepancies between data sent from ancillary systems and received in Epic. Clinical Laboratory personnel will be included in these efforts as appropriate.

Opportunities for improvement were noted with respect to the following findings:

- Deficiencies in the aging PowerPath system impacted efficiency of business processes, requiring manual interventions and workarounds by UCSDH personnel.

- Current laboratory business processes did not ensure that a diagnosis code was included with charges submitting for billing. Missing diagnosis codes can delay downstream billing and collection processes.

- Charges were not billed completely for three of 46 cases tested. The incomplete billings appeared to result from errors in the transmission of data from Epic to PowerPath.

- Records at Hillcrest were not organized to allow easy access to orders.

Additional detail on these findings, as well as management corrective actions, are included in the body of this report.

[1] Sunquest PowerPath Laboratory Information System version 9.4

## II. Background

Audit & Management Advisory Services (AMAS) has completed a review of Pathology Billing as part of the approved audit plan for Fiscal Year 2014-15. This report summarizes the results of our review.

The Anatomic Pathology Laboratory (AP) within the UC San Diego Health (UCSDH) Clinical Laboratories provides surgical pathology, cytopathology, and autopsy pathology services at the UCSDH. In Fiscal Year 2014-2015, UCSDH billed for 91,390 anatomic pathology procedures for revenues of $23.6 million and $23.5 million for professional services and technical services, respectively.

The revenue stream for AP is initiated when the sample is received in the laboratory with physician order, which must clearly outline what procedures need to be performed. At this point the sample is accessioned, or formally received by the laboratory. The hospital laboratory technician (HLT) enters the order data into PowerPath, AP's primary laboratory information system, including the appropriate Specimen Type for the procedure to be performed. The Specimen Type is mapped to a Service Code in PowerPath, which is then mapped to a CPT[2] code in Epic for billing purposes. Diagnosis codes may be included, however they are not required for the order to be processed. Sometimes, the ordering physician may not have the diagnosis code because the test was requested to obtain a diagnosis. In these cases, the HLT accessioning the specimen leaves this field empty, and Pathologists are required to add a missing diagnosis code (or change a diagnosis code) based on test results.

The laboratory receives orders in a variety of formats. In most cases, orders are generated by providers in Epic and samples are delivered with an Epic-generated order to AP. Pathology staff may receive non-standard versions of orders because some orders come from clinics that do not attach the finalized Epic order to the sample. In this case, the HLTs will use the visit number (CSN) to accession the sample. In cases where samples originate outside of UCSDH, there may not be a CSN. In this case, the HLT will create an encounter in Epic to generate a CSN to accession the sample.

Samples undergo several steps after accession. First, a gross inspection is performed to obtain and record the physical attributes of the specimen. The samples are then blocked, bathed in formalin, and embedded in hot wax for preservation. The samples are sliced and stained for analysis, labeled, and finally examined by a pathologist who reviews the slides to identify diseases, if any. All observations are dictated for transcription. A detailed flowchart of this process, is included in ***Attachment A***.

Generally, pathology services include a technical component (reflecting the preparation of the sample) and a professional (physician fee) component. One exception would be if

[2] CPT—Current Procedural Terminology, is the most commonly used medical nomenclature for reporting medical, surgical and diagnostic procedures. CPT was developed by, and is a registered trademark of, the American Medical Association.

a slide was received from an external entity and UCSD pathologist(s) reviewed the slides. There would be no technical component because the work to prepare the slide has already been done by the providing entity, however a professional fee would be appropriate for the interpretation of the sample. Another example is for slides prepared for research. Samples used in research cases could be ones that have previously been ordered and tested for clinical purposes, and billed to the patients or patients' insurers as appropriate based on the clinical event. When additional slides are prepared for research, the case must be re-accessioned first to create a new case. In these situations, there is a technical charge for re-accessioning the case, and this charge is billed through Epic to the research bulk account. However, there is no professional fee generated as part of this process.

Every case status must be marked "final" in PowerPath in order for it to be billed. If, after a case has been finalized, additional testing is required, the case status needs to be changed to show that the case needs additional work. The case status can only be changed by a pathologist or a transcriptionist. If the case has already been billed, the case is taken out of Final status, the additional stains are added, and only those additional stains are billed. However, if a case is over 30 days old, the case must be re-accessioned, with a new accession number.

Every day, between 2 PM and 3 PM, two billing files, one containing professional charges and one containing technical charges for cases finalized up to that point, are uploaded via file transfer protocol (FTP) through interface engines to Epic for billing. Management advised that following the implementation of Epic, miscoding of a billing rule related to the flow of professional charges resulted in lag of professional fee billings. This issue has since been resolved.

## III. Audit Objective, Scope, and Procedures

The objective of our review was to determine whether controls and processes related to billing for pathology services provided reasonable assurance that orders are appropriately documented, performed and billed based on the order. In order to achieve our objectives we completed the following:

- Reviewed policies, plans, procedures, laws, regulations and contracts having significant impact on operations, including pertinent parts of the *Code of Federal Regulations* (CFR) and *Clinical Laboratory Improvement Amendments* (CLIA);
- Met with Laboratory personnel, including management, information technology, laboratory technicians, transcriptionists, records administrations, and billing staff;
- Consulted with Revenue Integrity and Health System Compliance regarding billing processes;
- Reviewed the UCSDH Clinical Laboratories' organization chart;
- Conducted walkthroughs of the processes in the Gross laboratory, Cytopathology, Transcription room, Archives, and Billing;
- Prepared detailed process flowcharts (***Attachment A***);

- Reviewed revenue reports for hospital billing (HB) and professional billing (PB)
- Evaluated information technology upgrades; and
- Conducted a detailed review of a sample of 46 cases to evaluate whether services performed were properly billed; and
- Conducted a detailed review of a sample of 28 cases to evaluate whether orders, testing results and pathology reports supported the charges billed.

Concurrent with this review, AMAS performed a review of the Epic Charge Router (2015-15). As part of that review, the flow of charges from PowerPath to Epic billing systems through the interface engines and Charge Router were tested.

## IV. Conclusion

Based on the work performed, we concluded that, in general, controls and processes related to pathology services provided reasonable assurance that orders were appropriately documented, and performed and billed based on the order; and that pathology service billings were appropriately supported by documented orders, results and reports. However, improvement in the areas of review for diagnosis codes, completeness of billing, and record keeping would enhance controls and processes.

At the initiation of the review, we were informed that the current AP laboratory information system, PowerPath, would be upgraded to ensure compliance with ICD-10[3], the newly-implemented federal diagnosis coding structure, and to accommodate the volume expected with the opening of the new Jacobs Medical Center (JMC) in 2016. Since that time, a decision has been made to forgo the upgrade, and instead pursue full replacement of the system. This process is expected to take up to eighteen months, once it is initiated. A Request For Proposal process and the lengthy implementation schedule has left AP with a system that is not ICD-10 compliant. This has required a workaround, with the assistance of the Revenue Integrity team, to manually add diagnosis codes to laboratory charges so that they may be billed. In addition, the antiquated versions of word processing and transcription software integrated in the aging PowerPath system result in a slow reporting process. Process efficiencies and data transfers could be enhanced with a new or upgraded laboratory information system.

Concurrent with this review, AMAS completed a review of the Epic Charge Router. This review concluded that data sent from ancillary systems including PowerPath through various interfaces was, in general, received by the Charge Router, with only minor differences noted. As part of this review, Health System Information Services will be engaging ancillary system administrators in efforts to review and resolve discrepancies between data sent from ancillary systems and received in Epic. Clinical Laboratory personnel will be included in these efforts as appropriate.

[3] ICD-10 - International Classification of Diseases, revision 10 became effective on October 1, 2015. The primary change as it applies to PowerPath, is that the field for diagnosis codes in the latest revision may be up to seven characters long, whereas prior revisions were up to five characters in length.

Opportunities for improvement related to information systems, billing, and record retention are discussed further in the remainder of this report.

## V. Observations and Management Corrective Actions

### A. Laboratory Information System

**The AP Laboratory Information System did not meet AP business and clinical needs, and was not ICD-10 Compliant. Deficiencies in the aging PowerPath system impacted efficiency of business processes, requiring manual interventions and workarounds by UCSDH personnel.**

The aging AP Laboratory Information System did not appear to meet the unit's business or clinical needs. Management indicated that its past attempts to initiate efforts with prior Health System Information Systems leadership to replace or upgrade outdated systems were unsuccessful. Management continues to evaluate options for pursuing replacement or upgrade, however pressing business needs and the upcoming opening of the Jacobs Medical Center (JMC) have delayed this process.

The current PowerPath system is not ICD-10 Compliant. As a result, Laboratory and Revenue Cycle leadership have agreed on a temporary solution to ensure accurate coding and billing. In the interim, Medical Group certified coders will perform coding for Laboratory procedures based on the physician's documentation. This data will then be extracted and used by Health Information Systems staff to code technical fees manually.

We noted the impact of the aging PowerPath system extended beyond the non-compliance with ICD-10 and resulting workarounds for coding by the Revenue Cycle team. Other specific issues of concern we noted include:

- Obsolescence of the application[4], operating system, word processing, and transcription software, support for which ended in July 2015.
- Interface with Epic – Order information must be manually entered in PowerPath from orders printed from Epic and attached to samples. The only times that Epic and PowerPath interface are through the transfer of Admission Discharge Transfer data and FTPs to transfer professional and technical charges to Epic for billing;
- Reporting – Clinical Laboratory IT cannot easily run ad hoc reports out of PowerPath without assistance from the vendor; and
- Process inefficiencies – the phases of grossing, blocking, slicing, mounting on slides, and staining are manual processes where the sample can be separated from its identifying label. IT upgrades with automated labelling could greatly reduce relabeling and processing time for samples.

[4] Current PowerPath version is 9.4; version 10.1 is available.

Additionally, testing volume is expected to increase with late 2016 opening of JMC. The timeline for installing a new system, which requires requests for proposals and vendor bids, would be twelve to eighteen months once that process is initiated. However, we understand this process may not be initiated until after the opening of JMC. In the interim, the deficiencies of PowerPath will continue to impact processes.

**Management Corrective Action:**

Management will develop a plan to address the inadequacies of the PowerPath laboratory information system until a replacement or upgraded system is implemented.

## B. Review for Diagnosis Code

**Current laboratory business processes did not ensure that a diagnosis code was included with charges submitting for billing. Missing diagnosis codes can delay downstream billing and collection processes.**

A current diagnosis is required for billing. If there is no diagnosis with the order, then the pathologist must enter it after review of the sample. The pathologist may also correct an incorrect diagnosis code. For a charge to be billed, the lead biller, an HLT who is not a certified coder, enters the accession number in PowerPath to access the record and reviews each charge in the case for certain criteria, such as special stains and new rules for prostate screenings; however, she does not review to ensure that the diagnosis is coded. Additionally, she does not have the ability to add missing diagnosis codes. On the lower left hand corner for each test is a check box with the notation "OK to transfer charges" which when checked pushes the charge through for FTP to Epic. With this process, charges were submitted from PowerPath to Epic without verifying that all the required elements for billing were present.

As previously discussed, some orders do not initially contain a diagnosis code, usually if the purpose of the pathology test is to determine a diagnosis. Cytopathology is one area identified with a significant number of incoming orders with missing ICD-9 codes. We were advised that Cytopathology received 604 of 1,939 (31%) non-gynecological cases without ICD-9 codes for the period September 30, 2014 to March 15, 2015. The risk of a missing diagnosis code may be higher in this area. In our detailed testing, we noted that all charges in Epic, whether submitted with a diagnosis code or not, ultimately had diagnosis codes added. Charges with missing diagnosis codes end up in an Epic work queue for manual follow-up, which requires additional time spent by Laboratory and/or Revenue Cycle staff to ensure elements required for billing are present. This delays the downstream revenue cycle processes of billing and collection.

As discussed above, an interim solution has been developed for coding of Laboratory procedures by Medical Group coders. The diagnosis code is now being added to each order as part of that process. In the future, as part of a long-term solution for an upgraded or replaced AP Laboratory Information System, management will consider additional workflow and system controls to ensure the diagnosis code is added at the appropriate point in the process, such as when the case is finalized.

**Management Corrective Action:**

As an interim solution due to the lack of an ICD-10 Compliant system, Medical Group certified coders are responsible for coding Laboratory procedures, and are adding the diagnosis code to each order prior to billing.

## C. Incomplete Billing

**Charges were not billed completely for three of 46 cases tested. The incomplete billings appeared to result from errors in the transmission of data from Epic to PowerPath.**

During the review, management expressed concerns that revenues for Pathology professional services did not appear to be accurate. The Laboratory Compliance Officer stated that while she had not noted charges going out of PowerPath that were different from amounts going in to Epic, it was possible that management was seeing timing differences. One reason cited for the apparent lack of confidence in revenue data is that there was no professional coder to enter and evaluate charges, and provide physician feedback. As noted above, an HLT is reviewing some codes prior to submission for billing. Although she is reviewing for codes, she is not a certified professional coder and may not have the technical knowledge needed to fully evaluate for coding accuracy, completeness, and compliance. This position has been considered over the last year. As previously discussed, AP is currently relying on contracted coders hired by the Medical Group and non-coders in Health Information Systems to code for laboratory services using the new diagnosis code structure (ICD-10) since PowerPath cannot accommodate these codes. Management may evaluate hiring a certified coder to ensure that charges are complete and accurate, once the AP information system has been upgraded.

To evaluate management's concern regarding charge capture, we performed detailed testing to verify whether charges for finalized cases from PowerPath were billed in Epic. We judgmentally selected 46 cases, which included 241 individual charges, to test whether charges were billed appropriately. We found that 98.3% (237 of 241) of expected charges were billed. However, for three of the 46 cases tested, four missing charges were noted. The Assistant Director of

Revenue Integrity verified that the professional charges had not posted, and Revenue Integrity staff corrected the billings in October 2015.

**Summary of Charges Billed versus Expected**

| Testing Location | Gross Room | | Cytopathology | | Total | | |
|---|---|---|---|---|---|---|---|
| Number of Cases Reviewed | 23 | | 23 | | 46 | | |
| | **Expected** | **Billed** | **Expected** | **Billed** | **Expected** | **Billed** | **Missing Charges** |
| Number of Hospital Charges Tested | 81 | 81 | 39 | 39 | 120 | 120 | 0 |
| Number of Professional Charges Tested | 83 | 83 | 38 | 34 | 121 | 117 | 4 |
| Total Charges | 164 | 164 | 77 | 73 | 241 | 237 | 4 |

We analyzed the root cause for the four professional charges not billed and learned these charges had not been posted due to an error in transmitting codes between Epic and PowerPath. The Clinical Laboratory IT Programmer Analyst informed that there is an electronic Admission and Discharge Transfer (ADT) code (a string of characters that includes encounter information for the patient, i.e. CSN) that transfers data in real time from Epic to all downstream information systems, including PowerPath, upon patient registration. In that string, sometimes Epic mistakenly auto- populated an un-editable field with a character that, when the data is transferred to PowerPath, caused the charge to attempt to bill to an invalid bulk number (9982349). Clinical Laboratory IT thought that this was a PowerPath issue, but it is actually initiated during the patient registration process in Epic. The current solution is for Clinical Laboratory IT to negate this field before the charge transfers. However, in some cases, such as the four charges (3 patients) we were reviewing, the error was not identified and corrected.

**Management Corrective Actions:**

Clinical Laboratory IT has worked with PowerPath and Epic to resolve the issue of the errant character to enable the un-editable character to be editable so that, going forward, all charges can flow to Epic accurately.

To review past charges, Clinical Laboratory will run a report of all cases charged to the invalid bulk numbers and evaluate whether the charges were billed correctly.

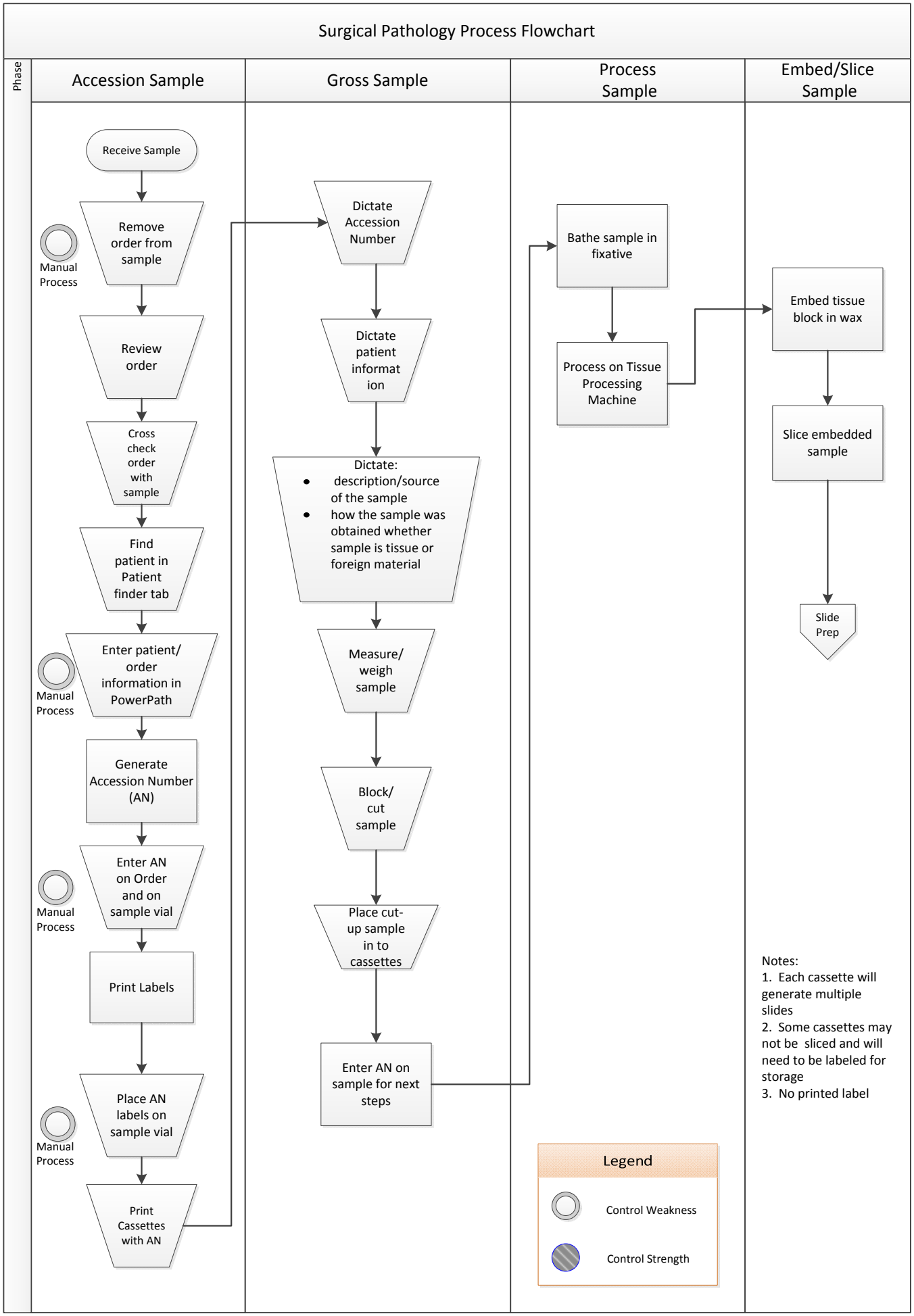
## D. Records Management

**Records at Hillcrest were not organized to allow easy access to orders.**

We noted that it took significant effort to obtain physical orders from the Hillcrest location because they were not filed numerically. Orders are assigned an accession number and then filed in groups of 100 per folder, but not in numerical order. In two instances, we could not locate the orders in the folders that they should have been. In these instances the supervisor was able to locate the orders in Epic. However, AP sometimes receives non-Epic orders, and locating the paper order would be necessary to support the test ordered. One of the challenges has been that the unit is short-staffed and documents are not being filed properly. Federal regulations (42 CFR 493.1241) require that all billed charges be supported by an order. If a non-Epic order cannot be located, an external reviewer would conclude the service was not supported. Non-compliance could lead to denied charges and sanctions.

**Management Corrective Action:**

Clinical Laboratory will evaluate solutions for electronic scanning of orders to ease the tasks of storing and retrieving paper orders.


Surgical Pathology Process Flowchart
Phase
Accession Sample
Gross Sample
Process Sample
Embed/Slice Sample
Receive Sample
Remove order from sample
Manual Process
Review order
Cross check order with sample
Find patient in Patient finder tab
Enter patient/ order information in PowerPath
Manual Process
Generate Accession Number (AN)
Enter AN on Order and on sample vial
Manual Process
Print Labels
Place AN labels on sample vial
Manual Process
Print Cassettes with AN
Dictate Accession Number
Dictate patient informat ion
Dictate:
description/source of the sample
how the sample was obtained whether sample is tissue or foreign material
Measure/ weigh sample
Block/ cut sample
Place cut-up sample in to cassettes
Enter AN on sample for next steps
Bathe sample in fixative
Process on Tissue Processing Machine
Embed tissue block in wax
Slice embedded sample
Slide Prep
Notes:
1. Each cassette will generate multiple slides
2. Some cassettes may not be sliced and will need to be labeled for storage
3. No printed label
Legend
Control Weakness
Control Strength

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***Project 2015-14***

***Attachment A***