Operator Case Study Problem

Missing Encounters Analysis

Presented by,

Md. Zami Al Zunaed Farabe

Index & Content

- 1. Problem Statement
- 2. Background and Datasets
- 3. Approach to Analysis (Missing Encounters Analysis)
- 4. Key Observations
- FeedBack & Resolution
- 6. Causes and Solutions for Missing Data
- 7. Business Impact

Problem Statement

Some encounters from the Client's EHR(Electronic Health Record) were not imported into our system.

Goal: Identify missing encounters, analyze trends, and provide actionable recommendations.

Business Impact: Missing encounters lead to revenue loss, compliance risks, and operational inefficiencies.

Background and Datasets

Encounters from EHR

Patient Name Provider Name Date of Service CPT Code Ava Johnson Liam Young 9/24/2024 97010 9/24/2024 Ava Johnson Liam Young 97140 Sebastian Miller 7/3/2024 Sophia King 97140 Carter Brown Charlotte Williams 9/9/2024 97014 9/9/2024 Olivia Davis Noah Lee 97140 Aiden King 8/27/2024 97110 Ava Martin Charlotte Williams 9/9/2024 Julian Thomas 97112 Sebastian Garcia Noah Lee 8/19/2024 97010 9/24/2024 Noah Taylor Julian Lee 97140 Liam Jackson Sebastian Miller 8/12/2024 97010 Sebastian Garcia Noah Lee 8/19/2024 97112 9/13/2024 Mia Anderson Aiden King 97110 Charlotte Williams 8/20/2024 Noah King 97112 15 Isabella Gonzalez 9/10/2024 97010 Aiden King

Stored Encounters

4	A	В	c	D		
1	Patient Name	Provider Name	from_date_range	cpt_codes		
2	Lucas Smith	Aiden King	7/3/2024	{97110,97112,97140,97010}		
3	Lucas Smith	Charlotte Williams	7/11/2024	{97112,97010,97140,97110}		
4	Lucas Smith	Charlotte Williams	7/17/2024	{97110,97140,97112,97010}		
5	Lucas Smith	Julian Lee	7/27/2024	{97140,97110,97112,97010}		
6	Lucas Smith	Aiden King	8/7/2024	{97010,97110,97112,97140}		
7	Lucas Smith	Julian Lee	8/15/2024	{97112,97140,97110,97010}		
8	Lucas Smith	Julian Lee	8/28/2024	{97140,97110,97112,97010}		
9	David Young	Elijah Johnson	7/9/2024	{97010,97140,97014}		
10	David Young	Elijah Johnson	7/11/2024	{97010,97014,97140}		
11	David Young	Elijah Johnson	7/17/2024	{97014,97010,97140}		
12	David Young	Elijah Johnson	7/25/2024	{97140,97010,97014}		
13	Aiden Thomas	Noah Lee	7/1/2024	{97010,97110,97140,97112}		
14	Aiden Thomas	Aiden King	7/3/2024	{97112,97010,97110,97140}		
15	Aiden Thomas	Noah Lee	7/8/2024	{97010,97110,97112,97014,97140}		
	The second secon		The state of the s			

Approach to Analysis

Step-1

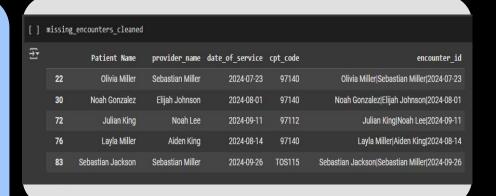
- Standardized and cleaned data. (Date formatting)
- Generate Unique id.

Step-2

 Identified missing encounters using unique identifiers.

Step-3

 Analyzed patterns in missing data (Provider, CPT Codes)



Steps Taken

Key Observations

Provider-Specific Trends

- Aiden King (95 missing encounters)
- Noah Lee (52 missing encounters)
- Sebastian Miller (37 missing encounters)

CPT Code Trends

- 97140 (67 instances)
 manual therapy techniques
- 97110 (**59** instances) therapeutic exercise
- 7010 (31 instances)
 Diagnostic Radiology

Invalid CPT Codes

- NORCM (47 instances)
- TOS115 (5 instances)
- SP90/sp90/SP\$90 (7 instances)
- SP (3 instance)

283 Total Missing Encounters

FeedBack & Resolution

Feedback

- Number of missing encounters.
- Probable issue in duplication removal process.

Patient Name	Provider Name	Date of Service	CPT Code	
Ava Johnson	Liam Young	9/24/2024	97010	
Ava Johnson	Liam Young	9/24/2024	97140	
Olivia Johnson	Aiden King	8/9/2024	97110	
Olivia Johnson	Aiden King	8/9/2024	97140	
Lucas Williams	Aiden King	7/22/2024	97110	
Lucas Williams	Aiden King	7/22/2024	97112	
Lucas Williams	Aiden King	7/22/2024	97140	

Provider-Specific Trends

- Aiden King (480 missing encounters)
- Noah Lee (218 missing encounters)
- Sebastian Miller (205 missing encounters)

CPT Code Trends

- 97140 (258 instances)
 manual therapy techniques
- 97110 (225 instances) therapeutic exercise
- 97112 (200 instances)
 Diagnostic Radiology

Invalid CPT Codes

- NORCM (206 instances)
- TOS115 (27 instances)
- SP90/sp90/SP\$90 (36 instances)
- SP (27 instance)

1356 Total Missing Encounters

Causes and Solutions for Missing Data

Data Formatting
Issues – Invalid
CPT codes or
inconsistent
naming
conventions.

Provider-Specifi c Errors – Certain providers may have workflow or data entry issues **System**Integration Gaps

-Issues with how the system imports encounters.

Documentation
Issues Inconsistent
formatting of the
same codes
indicates a lack of
standardization in

Cause #1

Cause #2

Cause #3

Cause #4

data entry

Probable Issues

Standardization of Data Entry – consistent naming conventions for CPT codes. Provider
Training &
Awareness –
providers with
high missing
encounters

Integration Gaps
– Issues with how
the system
imports
encounters.

System

Operational
Process
Improvements Conduct audits
and optimize
resources

Solution #1

Solution #2

Solution #3

Solution #4

Solutions & Recommendations

Business Impact of Solutions

Business Impact

- Reduced Revenue Loss Ensuring all billable encounters are captured.
- Improved Compliance Avoid errors that lead to regulatory risks.
- Operational Efficiency Automated validation and provider training minimize manual rework.
- Better Decision-Making Clear reporting on missing encounters for proactive actions.

Thank you