Clean Claim Submission Analysis – Corrected Claims Report

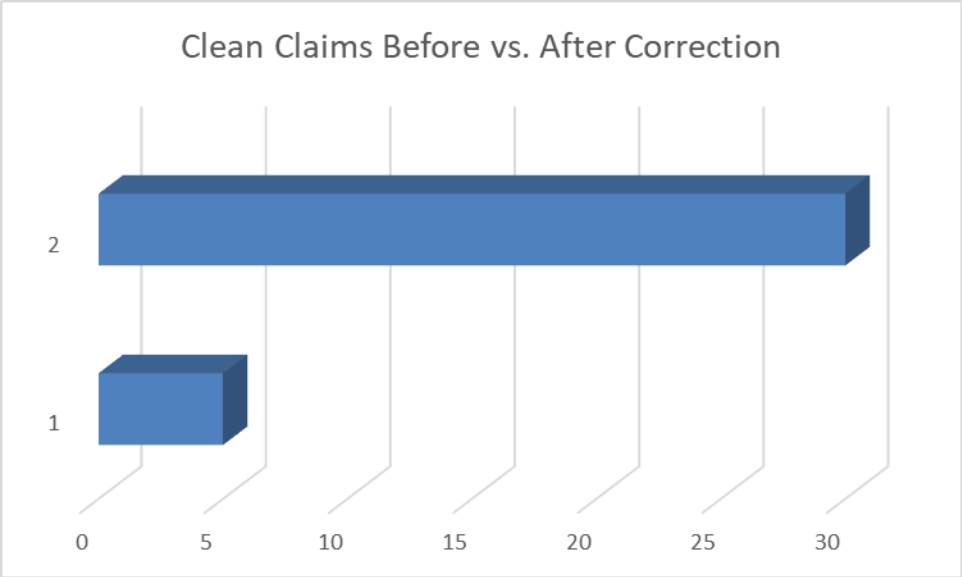
This project analyzed 30 mock hospital visits to evaluate common billing errors that prevent claims from being accepted by payers. Errors included missing or invalid CPT, ICD-10, and revenue codes, as well as missing modifiers and mismatched CPT/revenue combinations. The purpose was to demonstrate the process of identifying and correcting errors to improve the clean claim rate prior to clearinghouse submission.

Claims were flagged in Excel using formulas to detect errors such as missing ICD-10 codes, invalid CPT codes, invalid revenue codes, missing required modifiers, and CPT–revenue mismatches. A correction process was then applied using official CPT/ICD-10 code lists and CPT–revenue crosswalk rules. Corrected values were documented in a separate column with notes explaining the change.

Results

Metric	Before	After
Total Claims	30	30
Clean Claims	5 (16.7%)	30 (100%)
Improvement in Clean Claim Rate	-	+83.3%

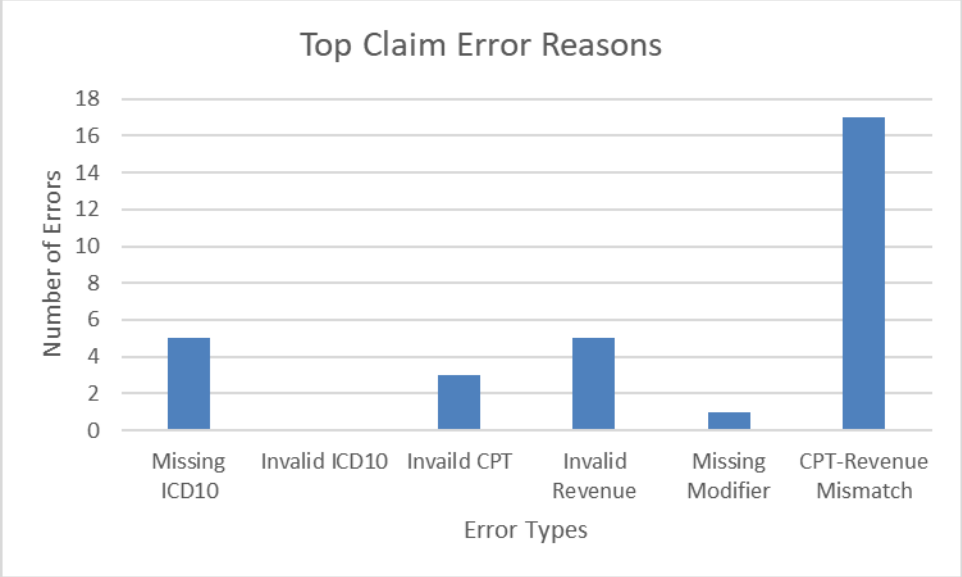
[Figure 1: Clean Claims Before vs After



Error Analysis

The majority of claim rejections were caused by invalid revenue codes and CPT–revenue mismatches, followed by missing or invalid CPT/ICD-10 codes. These errors represent gaps in coding accuracy and charge entry consistency. After corrections, all claims passed validation, showing that systematic review of revenue code assignments and CPT/ICD compliance can significantly improve clean claim rates.

Figure 2: Top Claim Error Reasons



Conclusion

The analysis demonstrated that proactive claim scrubbing and accurate code validation can improve clean claim rates dramatically. By identifying and correcting billing errors early, healthcare organizations can reduce denials, accelerate reimbursement, and improve revenue cycle efficiency.

Note on How I Found the Correct Values

When I corrected the CPT, ICD-10, and revenue codes in the dataset, I didn't just make random substitutions. In real billing, analysts use official references to back up each correction. For example, revenue codes are defined in the CMS UB-04 Data Specifications Manual from the National Uniform Billing Committee (NUBC). This is where you'll find that codes like 0300 represent Laboratory, 0320 is Radiology, and 0450 is Emergency Room services.

Hospitals also run claims through the Medicare Outpatient Code Editor (OCE) and Medicare Code Edits (MCE). These tools check if a CPT/HCPCS and revenue code combination is valid. For instance, if you billed CPT 71045 (Chest X-ray) with Rev Code 0450 (ER) instead of 0320 (Radiology), OCE would flag it as invalid.

For modifiers, the AMA CPT® Professional Edition explains when they are required. Imaging services like chest X-rays often need a modifier (26 for the physician's interpretation or TC for the technical component). CMS also issues guidance on these modifiers, and payer edit systems will reject claims if a required modifier is missing.

In practice, I would confirm corrections by looking at payer billing manuals or CMS coverage policies (LCDs/NCDs). Many health systems also provide internal crosswalks of CPT to revenue codes for staff training. On the free side, CMS.gov hosts HCPCS and CPT files, and you can search individual codes there to verify descriptions.

The cheat-sheet I used in this project is a simplified version of what a revenue integrity or billing team would maintain internally: a quick reference to prevent common errors and keep the clean claim rate high.