Forensic Analysis of Professional Medical Charges

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Abstract

Title: Forensic Analysis of Professional Medical Charges
Background: Charge submission for clinical services is an essential but distracting service. Consequently, performance of this activity may be inconsistent between providers. A forensic analysis of the charge process can reveal systematic errors resulting in loss revenue opportunities.
Methods: A retrospective analysis of submitted professional charges using JMP 9.0 (Cary, NC). Data were imported into JMP from a native Excel database (.cvs limited) prior to examination for obvious inconsistencies using the JMP distribution platform. Data were nest sorted on patient, service date, CPT code and payment history. Additional database inconsistencies were identified using JMP programming scripts.
Results: Non-1st day code submitted on 1st day = 130
Billed 1st day charge after 1st day = 457
Gaps (epochs of missed days) = 138
Sum of missed days: 117 days
Estimated financial losses: >$250,000 in missed revenues (not charges)
Conclusion: Current medical billing practices result in systematic losses due to inconsistency of billings and inadequate or timely review of the submitted charge. Future electronic programs (EPIC) may improve both the efficiency and accuracy of the charge submission process.

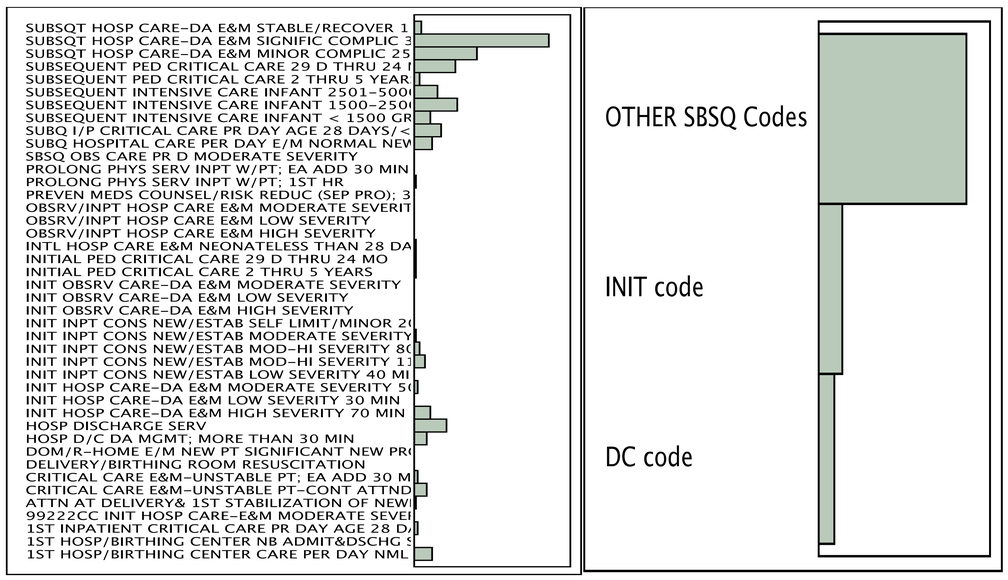
Background

Although practitioners are highly skilled in the art of medicine, most are unschooled in the arts of medical coding or business management. Not surprisingly, physician performance of around billing activities can be inconsistent between providers and even in the same provider. A systematic analysis of the charge process can reveal systematic errors resulting in loss revenue opportunities and suggest effective corrective remedies.

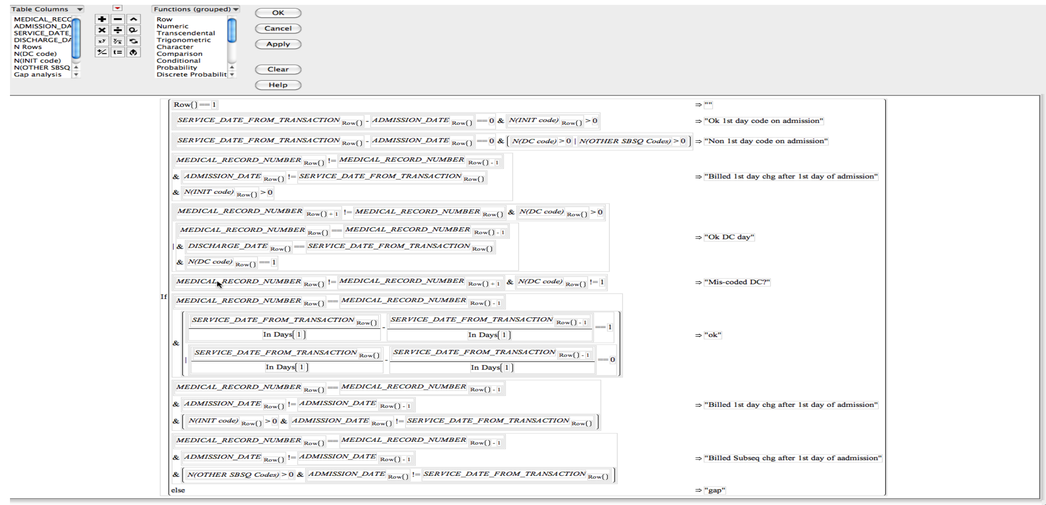
Methods

A retrospective analysis of submitted professional charges was performed using JMP 9.0 (Cary, NC). Comma delimited (.cvs) data files were imported into JMP from Excel in order to avoid import limitations. Data were nest-sorted in the following order: patient; service dates; CPT codes; and payments' history. Total number of patients examined in this study: 1,994; total number of billing days: 16,117; total charge events: 18,558; and total billing days: 16,117.
After importing the data, the data elements were further reduced and data structures analyzed using JMP programming formulae.

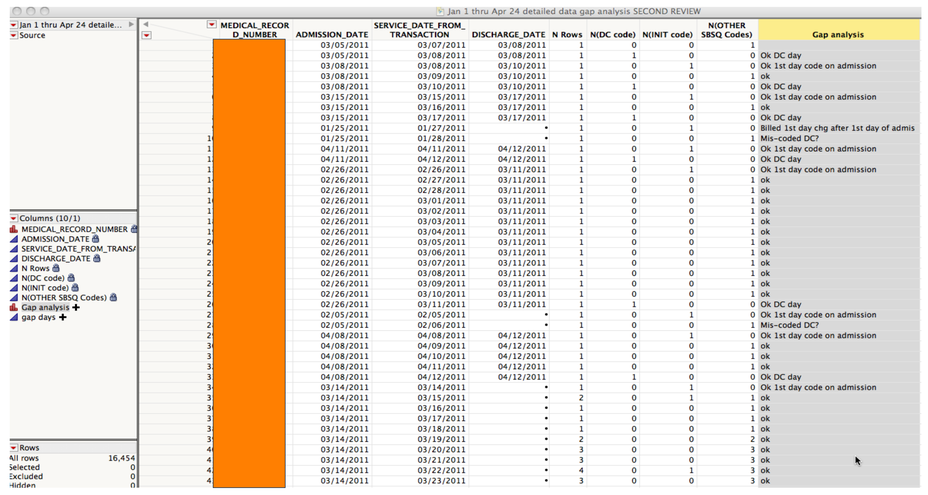
Reduction of the data space:



Writing the Code to Search for Missing Charges (Gaps)



Gap Analysis



Findings

- 1st day admission code submitted on 1st day: 1235 times
- Non-1st day code submitted on admit day: 130 times
- Billed 1st day charge after 1st day of admission: 457 times
- Billed Subsequent chg after 1st day of admission: 253 times
- Possible miscoded DC day: 380 times
- Gaps (epochs of missed days): 138 times
  - Gap length = 1 day 61 times
  - Gap length = 2 days 20 times
  - Gap length = 3 days 17 times
  - More than 3 day gap length 30 times

  Note: long gaps can be due to failure to capture admits/DC properly
  Estimated losses in NICU alone: greater than $250,000/year

Conclusions

Current medical billing practices may result in large financial losses due to inconsistency of billings and inadequate or timely review of submitted charges. Future electronic programs (EPIC) may improve both the efficiency and accuracy of the charge submission process but vigilance remains the best defense.

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