



CASE STUDY | Reducing Insurance Claim Denials and Revenue Write-offs

How Mercy Medical Center ensured better payment of insurance claims and increased revenue by \$350,000 per year

The Challenge

Hospitals lose millions of dollars a year on insurance claims that don't get paid for a variety of reasons. Sometimes the patient's policy is expired, and other times the insurance company has incorrect information about the patient. Sometimes computer hardware or software malfunctions, causing claims to become lost. In still other cases, patients or physician offices provide incorrect information and this causes a claim to be rejected.

This was the issue facing Mercy Medical Center, a 917-bed, non-profit hospital system that employs more than 5,600 people in Des Moines, Iowa. Just one part of that system, outpatient services, was losing revenue on claims that were written off for good by insurance companies.

Mercy Registered Pharmacist Peggy O'Connor earned her Black Belt stripes by tackling this issue during her six sigma training. Her main question: Why were certain insurance claims denied and how could Mercy prevent this from happening?

The Process

Using various six sigma tools, O'Connor discovered that a very high percentage of insurance claims were denied due to incorrect patient demographic

information. Any hospital like Mercy has to deal with upwards of 100 different insurance providers, and they all have their own documentation requirements.

For instance, some providers want the patient's state of residence spelled-out while others want it abbreviated. There were a lot of different little requirements like this, or opportunities for error, according to O'Connor. "If you don't have the correct information that the carrier wants, they will deny the claim, and then you have to rework it."

When O'Connor audited the records of about 30 patients, she found that 63 percent of them had been "written off" due to errors, or failure to comply with insurance company requirements. When a claim is written off, it can never be paid because the window of time for correcting errors has expired. O'Connor says that these particular records had been "touched" by the rework process 486 times before they were finally disallowed.

That's a lot of rework with no result, and O'Connor's six sigma team knew what it had to do: figure out why so many claims were denied and then later had to be written off by the hospital. "The big problem at first was data," says O'Connor. "What type of data do I need, where is it and how do I get it?"

O'Connor says her teammates were key, and they led her to all kinds of claim data from different parts of the outpatient organization. The team used an affinity process to organize the data into key categories that then became the main branches of a fishbone diagram.



Summary

Organization

- ▶ Mercy Medical Center

Industry

- ▶ Health Care

Business Problem

- ▶ Loss suffered from insurance claim denials and subsequent revenue write-offs.

Methodology

- ▶ DMAIC

Solution

- ▶ New system for improving insurance claim processing.

Benefits/Results

- ▶ Cycle time reduction from 8 days to 3 hours

Key Tools Used

- ▶ Increased revenue by \$350,000
- ▶ Improved claim form accuracy by 20 percent
- ▶ Reduced hidden factory work by 62 percent

With this view, the team was able to create a Pareto chart and narrow the problem down to its primary cause: incorrect patient demographic information. That was it, that was the big discovery.

"Without the six sigma tools, we would never have been able to narrow down to the biggest cause of our problem. It was a big project, and I would have been lost."

*— Peggy O'Connor,
Black Belt and Registered*

While there were many different causes for claims getting stalled, reworked and eventually disallowed, the leverage was in the demographic information part of the claim form.

To confirm, O'Connor audited another 386 charts representing claims that had been denied but not written off. She found that 78.2 percent of the denials were due to the presence of incorrect demographic information, with almost half due to inaccurate insurance information. Employees there open the claims, flatten the contents, and even do an initial sort on the claims before delivering them to the preparers in the scanning department.

It all seems so smooth and obvious, but O'Connor assures it was not. "Without the six sigma tools, we would never have been able to narrow down to the biggest cause of our problem," she says. "It was a big project, and I would have been lost."

Once the team knew the main cause of pain, it used other six sigma tools to cure it. They used Design of Experiments (DOE) to pinpoint the leverage and benefits of a patient data software system that had been retired. Through the DOE, the team predicted it could save itself a lot of time and errors by bringing the system back into play, which it did. The system automatically loads proper patient information into the claim form system.

Also, the team enacted a failure mode and effects analysis (FMEA) to design a better process for preparing claims more accurately the first time. The FMEA resulted in a new training and career advancement program for all who are involved in the patient data collection and claim process. Now employee training is improved and standardized, and people are more motivated to do a good job.

Says O'Connor: "The FMEA was the hardest thing to do because it forces people to stop and think about what the problem really is, as well as what could go wrong in the future. But it's also the most beneficial because it shows how to improve a process from the very beginning of where the problem starts."

The Results

With its new process and training program in place, Mercy Medical Center has reduced outpatient claim denials and write-offs on the order of about \$350,000 per year, and the number of man hours required to fix claim errors has been reduced by 62 percent. Other parts of the medical center (inpatient and emergency room operations) are looking to replicate the system so they can prevent the loss of revenue in those areas, too.

Key Tools Used

Define

- ▶ Problem Statement
- ▶ Affinity Diagram
- ▶ Fishbone Diagram
- ▶ SIPOC Analysis
- ▶ Process Map

Measure

- ▶ Process Flow Diagram
- ▶ Fishbone Diagram
- ▶ Power & Sample Size
- ▶ Capability Analysis

Analyze

- ▶ FMEA
- ▶ Surveys
- ▶ Pareto Chart
- ▶ One-Way ANOVA

Improve

- ▶ DOE Planning Sheet
- ▶ DOE

Control

- ▶ Process Map
- ▶ Control Plan
- ▶ Statistical Process Control
- ▶ Mistake Proofing

BMGI

BMGI enables companies throughout the world to identify and solve their most important business problems, with a strong emphasis on sustainable results. During its long history, BMGI has developed solutions for a broad spectrum of businesses across many industries, driving the success of process-improvement, design and innovation initiatives. Just a few of BMGI's clients are General Dynamics, TNT Express, Avis Budget Group, China Chemical, Graphic Packaging, Siemens, Hitachi and Philips Electronics. For more information, please visit the BMGI website at www.bmgi.com

