

Increasing the Percentage of Heart Failure Patients Who Receive Heart Failure Discharge Instruction from 45.3% to at Least 90%



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About the Organization

- A not-for-profit healthcare system
- Client of Juran Health Care



The Project Team

- Chief nursing officer (project champion)
- Director, clinical outcomes management (project team leader)
- Clinical coordinator, respiratory therapy
- Clinical coordinator, nursing unit
- Professional practice coordinator
- Management engineer

The Problem

- A not-for-profit healthcare system found that adherence to clinical quality observed metrics for inpatient heart failure discharge instruction was consistently below national standards.
- For fiscal year 2006, the average rate of compliance was 45.3%.
- Noncompliance could result in penalties with reimbursements from the Centers for Medicare and Medicaid Services (CMS), additional costs because of the potential of harm events, and a decrease in patient satisfaction.



Project Goal

Increase observed rate of compliance for inpatients receiving heart failure discharge instruction from 45.3 to at least 90% by January 2008.

Heart failure discharge instruction included written instructions or educational materials addressing a patient's activity level, diet, discharge medications, potential follow-up appointments, weight monitoring, and what to do if symptoms worsened.



Root Cause Analysis

The Juran-coached team chose the Six Sigma DMAIC (define, measure, analyze, improve, control) approach and identified the following potential failures:

- No heart failure discharge form available
- Inadequate discharge planning
- Multiple discharge forms and types
- No single, definitive process owner
- Lack of standardized process
- Physicians discarding heart failure discharge instructions
- Medication reconciliation incomplete at time of discharge
- No accountability or ownership for process compliance



Addressing Root Causes

Using Juran's Pareto Analysis, the project team identified the vital factors contributing to the problem:

- The nursing unit discharging the patient
- The specific type of pre-printed physician heart failure discharge instruction
- The hospital employees' knowledge level of the six discharge instruction elements:
 1. A patient's activity level
 2. His/her diet
 3. His/her discharge medications
 4. Any potential follow-up appointments
 5. His/her weight monitoring
 6. What a patient should do if symptoms worsened
- Having all six discharge instructions on the various pre-printed physician cardiac forms



Addressing Root Causes

To counter these vital Xs, the team developed strategies that would improve the process:

- Standardizing the discharge process across all nursing units
- Standardizing the most effective type of discharge instruction
- Improving the knowledge level of heart failure discharge instruction elements unit-by-unit with one-on-one training
- Standardizing and simplifying the heart failure discharge instruction process

Results

- Based on a three-month pilot, the project was able to reach its goal of a 90% compliance rate with heart failure discharge instruction.
- A control plan was developed to monitor the observed rate of compliance and use of the heart failure discharge form on a monthly basis.

Ongoing Improvement

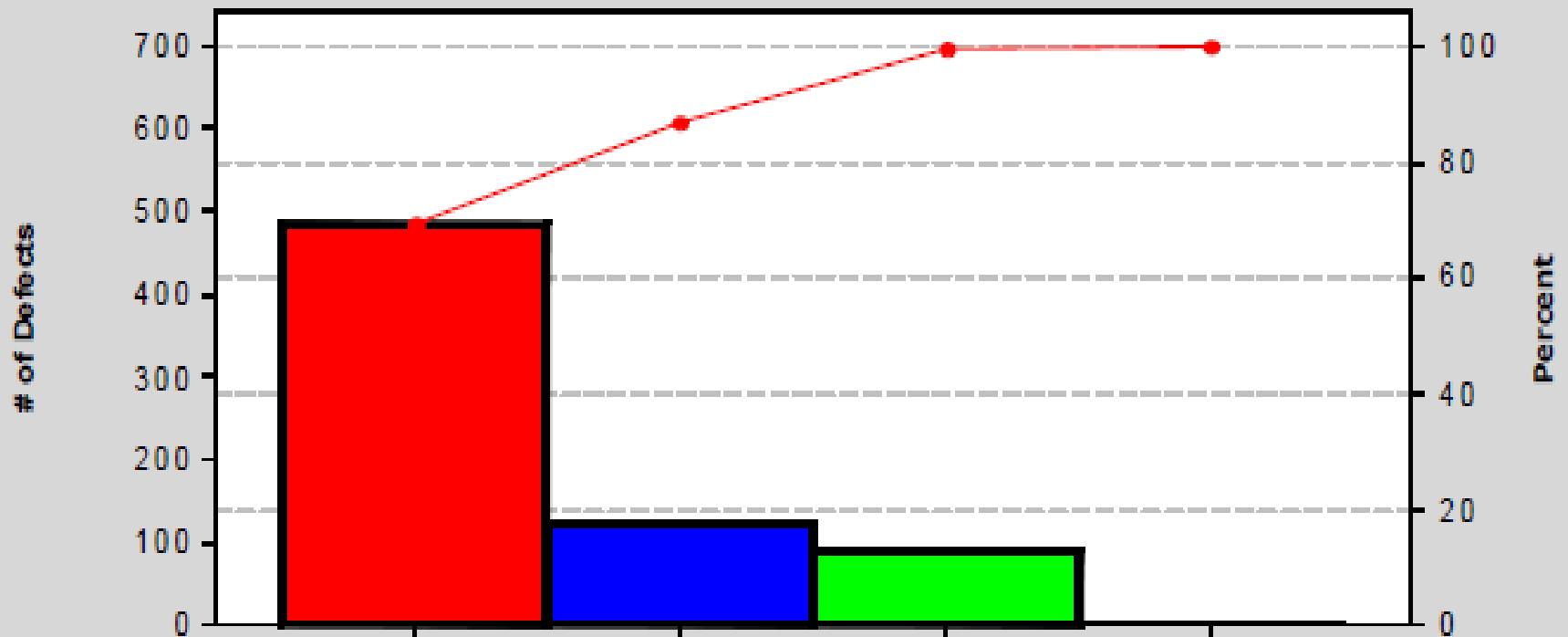
- The implementation of standardization in each segment of the process bred improvements for the overall process.
- Included in the standardization of processes were the discharge of patients in nursing units, finding the most effective type of discharge instruction, improving the overall knowledge of staff through training of heart to failure instruction, and, finally, simplifying the heart failure discharge instruction process.

Critical-to-Quality (CTQ) Matrix

| Customer | Voice of Customer | Key Issues | CTQ | Y |
|----------------------------------|---|--|---|--|
| Nurse | "Don't have a process for heart failure discharge instructions" | Variability of discharge instructions | Having a defined process for heart failure discharge instructions | Compliance to a standardized discharge process |
| Patient | "Informs me that I can leave at 9:30 am but I couldn't get the discharge paperwork until 12:00 pm. I kept asking everyone that came by" | Adequate ancillary support | <ul style="list-style-type: none"> Continuum of care Demand match labor Communication among caregivers | Adequate staffing levels |
| Unit Secretary/Ancillary Support | "If we remember, we place them on the chart" | Variability of discharge instructions | <ul style="list-style-type: none"> Communication among caregivers | Compliance to a standardized discharge process |
| Physicians/OM | <p>"No clear diagnosis of heart failure on admission"</p> <p>"No cardiac education offered seven days a week"</p> | Unclear diagnosis can cause omissions or unanticipated discharge | <ul style="list-style-type: none"> Evidence based practice Diagnosis trigger Discharge planning Accuracy of discharge education | Compliance to a standardized discharge process |

Pareto Analysis

Pareto Chart of Heart Failure Categories for FY 2006



| | HF-1 | HF-2 | HF-3 | HF-4 |
|---------|------|------|------|-------|
| Defects | 485 | 122 | 89 | 4 |
| Percent | 69.3 | 17.4 | 12.7 | 0.6 |
| Cum % | 69.3 | 86.7 | 99.4 | 100.0 |

HF-1 = Discharge Instructions HF-2 = Eval of LVs HF-3 = ACEI or ARB for LV HF-4 = Smoking Cessation

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