**Use of Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.**

**HYPOGLYCEMIC COMA**

**Manifestation of Poor Glycemic Control**

Hypoglycemia coma resulting from poor glycemic control within a hospital setting is now considered a hospital-acquired condition by Medicare & Medicaid, meaning that hospitals will not receive additional payment for cases when this condition is acquired during hospitalization.

"Severe hypoglycemia, a complication that partially drives under treatment of hyperglycemia, is avoidable with appropriate management."

From "Prevalence of Hyper- and Hypoglycemia Among Inpatients With Diabetes" by Wexler, MD, et al.

**More Detailed Cause Map**

Add detail as information becomes available.

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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**Solution:**

- **Increased risk of patient death (16 vs 9% when emergencies not present)**
- **Increased length of stay (14 vs 7 days)**
- **Increased treatment requirements**

**Possible Solutions:**

- Individualized insulin plan
- Frequent monitoring of blood glucose
- Immediate estimation of blood glucose level for all unconscious patients
- Ensure tracking of patient's nutritional intake
- Tighter procedures, controls involving drugs administered to diabetic patients

**Impact to the Goals**

- **Patient Safety**
  - Increased risk of patient death (16 vs 9% when emergencies not present)
- **Employee Impact**
  - Second victim
- **Compliance**
  - No pay hospital acquired condition
- **Organization**
  - Cost of hypoglycemic coma
- **Patient Services**
  - Increased length of stay (14 vs 7 days)
- **Labor, Time**
  - Increased treatment requirements

**Annualized Cost:** $7,755,172

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**Analysis**

**Basic Level Cause Map**

Start with simple Why questions.

**Patient Safety Goal Impact**

**Basic Cause-and-Effect**

Hypoglycemic coma results from uncontrolled hypoglycemia, which can sometimes result from overzealous insulin treatment. For this reason, it’s sometimes named as a cause of under treatment with insulin, although hypoglycemic coma is less prevalent (per CMS data) and avoidable.

**Solutions**

1. **Individualized insulin plan**
   - Failure to adjust insulin for other factors
2. **Frequent monitoring of blood glucose**
   - Overtreatment with insulin
3. **Immediate estimation of blood glucose level for all unconscious patients**
   - Drug-induced hypoglycemia
4. **Ensure tracking of patient’s nutritional intake**
   - Inadequate nutrition
5. **Tighter procedures, controls involving drugs administered to diabetic patients**
   - Inadequate control of diabetes