

Introduction: The following quality measure is designed for use as a hospital inpatient measure. It is meant to measure the quality of care provided to patients with acute pancreatitis admitted to an acute care hospital regardless of the providers taking care of the patient as a measure of the overall care the patient receives while hospitalized. While 100% adherence to this measure may not be achievable, the quality measure provides a framework for quality improvement and benchmarking at the hospital level.

Measure Set: Hospital Inpatient Acute Pancreatitis

Measure ID#:

Setting: Hospital Inpatient

Performance Measure Name: Cholecystectomy before discharge

Description: Percentage of patients aged 18 years and older with a diagnosis of acute biliary pancreatitis who undergo cholecystectomy during the same hospital admission.

Rationale: There are approximately 275,000 cases of acute pancreatitis per year, and nearly 110,000 are biliary in nature^{1,2}. In patients with acute biliary pancreatitis, there is a significantly increased risk for developing recurrent pancreatitis when cholecystectomy is delayed rather than performed at the time of initial presentation and hospitalization³. Several studies have demonstrated increased costs in patients with acute biliary pancreatitis who do not undergoing early cholecystectomy⁴. Analysis of early versus delayed cholecystectomy in acute biliary pancreatitis revealed that the same-admission cholecystectomy approach is cost effective⁵. Performing cholecystectomy during the index hospitalization is protective against the development of subsequent pancreatitis as well as attendant complications and costs. Compared to delayed cholecystectomy, when performed during the index hospitalization, early cholecystectomy results in a 12% reduction in complications and an 18% reduction in readmissions^{3,6}. By performing cholecystectomy during the index admission, this would result in nearly 20,000 fewer admissions and 13,200 fewer complications per year.

Type of Measure: Process

Improvement Noted as: An increase in rate

Numerator Statement: Hospitalized patients with acute biliary pancreatitis who undergo cholecystectomy during the same hospital admission.

Included populations: Not applicable

Excluded populations: None

Data Elements:

- ICD-10-PCS codes

Denominator Statement: Hospitalized patients with acute biliary pancreatitis

Included Populations: Principal discharge diagnosis of acute biliary pancreatitis

- Encounter dates MM-DD-YYYY through MM-DD-YYYY, AND
- Patients discharged from an acute care hospital for inpatient care, AND
- A principal discharge diagnosis related group (DRG) equal to 438, 439, or 440, AND
- An ICD-10-CM principal diagnosis code for acute biliary pancreatitis defined as ICD-10-CM equal to K85.1X

Excluded Populations:

- Patients less than 18 years of age
- Patients transferred from another healthcare facility
- Patients transferred to another acute inpatient care facility
- Patients discharged against medical advice (AMA)
- Patient deceased during hospitalization
- Patients undergoing alternative means of biliary decompression (cholecystostomy tube placement, etc)
- Patient refusal of cholecystectomy
- Prior history of cholecystectomy

Data Elements:

- Admission Date
- Admission Type
- Birthdate
- Discharge Date
- Discharge Status
- DRG discharge code
- ICD-10-CM other diagnosis codes
- ICD-10-CM principal diagnosis code
- ICD-10-PCS codes
- Reason for No Cholecystectomy

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical records. Some facilities may prefer to gather data concurrently by identifying patients in the population of interest. This approach provides opportunity for improvement at the point of care/service. However, complete documentation includes the ICD-10 and DRG codes, which requires retrospective data entry.

Data Accuracy: Variation may exist in the assignment of ICD-10 and DRG codes; therefore, coding practices may require evaluation to ensure consistency.

Measure Analysis Suggestions: None

Data Reported As: Aggregate rate generated from count data reported as a proportion.

Selected References:

1. Yadav, D and Lowenfels, AB. The epidemiology of pancreatitis and pancreatic cancer. *Gastroenterology* 2013;144:1152-1261.
2. Forsmark, CE, Vege, SS and Wilcox CM. Acute pancreatitis. *NEJM* 2016;375:1972-1981
3. Da Costa, DW, Bouwense, SA et al. Same-admission versus interval cholecystectomy for mild gallstone pancreatitis (PONCHO): a multicenter randomized controlled trial. *Lancet* 2015;386:1261-1268.
4. Ragnarsson T, Andersson R, et al. Acute biliary pancreatitis: focus on recurrence rate and costs when current guidelines are not complied. *Scan J Gastroenterol* 2017;52:264-269.
5. Da Costa, DW, Dijkstra, LM et al. Cost-effectiveness of same-admission versus interval cholecystectomy after mild gallstone pancreatitis in the PONCHO trial. *Br J Surg* 2016;103:1695-1703.
6. Van Ball, MC, Besselin, MG, et al. Timing of cholecystectomy after mild biliary pancreatitis: a systematic review. *Ann Surg* 2012;255:860-866.