An Educational Initiative and Institutional Pathway to Guide Multidisciplinary Management of Gallstone Disease: A Quality Improvement Project

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Background/Objectives

- Gallstone disease constitutes a significant health problem in the United States and is a leading cause for gastrointestinal-related hospital admissions both nationally and at our institution.[1,2]
- A substantial variation in practice exists at our institution for care of patients with gallstone disease.
- This variation may lead to prolonged length of stay (LOS), unnecessary imaging, delays to procedures, patient distress, and other undesirable outcomes.
- **GOAL**: Standardize care of patients with gallstone disease at our institution.
- **AIM**: Create a shared understanding among departments regarding management via provider education and creation of a multidisciplinary evidence-based guideline for gallstone disease.

Methods

- A multidisciplinary taskforce composed of general surgery (GS), gastroenterology, emergency medicine (EM), and internal medicine (IM) department members.
- **Key Drivers**: Provider education and creation of a pathway guiding workup and management of patients.
- Creation of the guidelines was supported by a literature review and planned implementation will be via Plan-Do-Study-Act cycles, with data monitored at the three-month interval.
- A pre- and post-presentation questionnaire was developed to collect demographics and assess both knowledge and current understanding of institutional management of gallstone disease.
- Key domains assessed included perception of training adequacy, fund of knowledge, and institution practice patterns.
- The Wilcoxon signed-rank test was used to assess differences in pre- and post-presentation performance.
- IRB approval: Non-research designation.

Attitudes towards institutional benign biliary disease:

1. Have you ever experienced confusion among services at BAMC when caring for a patient with benign biliary disease (e.g., symptomatic cholelithiasis, acute cholecystitis, cholangitis, gallstone pancreatitis)?
2. Do you feel as though your program provides you with adequate training to make informed decisions about patients with benign biliary disorders?

Survey Information:

5 "Institutional Practice" Questions (who admits, etc.)

Ex. A 50yo patient presents to the ER with RUQ abdominal pain. They are found to have a TBili of 5 and US shows CBD dilatation to 15mm with stones and sludge within the gallbladder. CBC and vitals are normal. What is the most likely diagnosis?

5 "Knowledge" Questions (basic workup, diagnosis, etc.)

Ex. A 40 year old woman with hx obesity and HTN presents w/ RUQ pain and is noted to have a 10mm stone in the CBD. What service(s) should the ER consult for admission?

Figure 1. Questionnaire provided to participants.

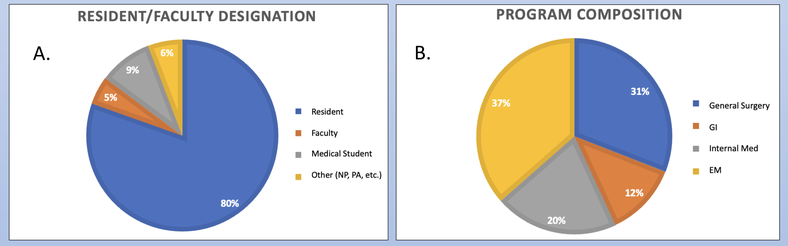


Figure 2. (A) Trainee and/or faculty designation of survey participants, and (B) Program composition of survey participants.

References:

1. Wadhwa V, Jobanputra Y, Garg SK, Patwardhan S, Mehta D, Sanaka MR. Nationwide trends of hospital admissions for acute cholecystitis in the United States. Gastroenterol Rep (Oxf). 2017 Feb;5(1):36-42. doi: 10.1093/gastro/gow015. Epub 2016 May 11. PMID: 27174434; PMCID: PMC5444253.
2. McDermott, K. W., & Roemer, M. (2021). Most frequent principal diagnoses for inpatient stays in US hospitals, 2018.

Results

- Guidelines were presented to individual departments from August to November 2024 via an educational presentation reviewing management of benign biliary disease and discussing the proposed institutional algorithm.
- A pre- and post-presentation questionnaire was distributed to conference attendees.
- A total of **189 responses** were collected (pre: 57%; 80% resident/fellow; 30% GS, 35% EM, 14% IM).
- Attendees (77%) stated that they receive adequate training to make informed decisions for patients with biliary disorders.
- Yet **84% reported experiencing confusion** among services when caring for these patients.
- Fund of knowledge scores improved after the conference presentation (pre: 53%/post: 67%). Institutional practice scores improved (pre: 31%/post: 52%).
- A Wilcoxon signed-rank test indicated that **overall scores were significantly higher after the presentation** (43% vs. 61%, z = 2.88, p = 0.002).

Conclusions

- Gallstone disease remains a common criterion for inpatient admission at our institution. Effective care of these patients requires a multidisciplinary approach.
- Management can be streamlined with quality improvement initiatives to improve fund of knowledge and facilitate a shared institutional understanding of workup and treatment.
- Future inquiries will be directed towards assessing patient outcomes after guideline rollout, including LOS, time to surgery, and patient satisfaction.

Disclosures: The views expressed in this poster reflect the results of research conducted by the author(s) and do not necessarily reflect the official policy or position of the Defense Health Agency, Department of Defense, nor the U.S. Government.