and financial burdens on the United States population. This study aims to analyze trends in emergency room visits, admission rates, length of stay, and hospital charges for CD and UC based on a national sample from 1993-2014.

**METHODS:** Hospitalization and emergency department data for CD and UC were obtained from the National Inpatient Sample (NIS) and Nationwide Emergency Department Sample (NEDS) of the Healthcare Cost and Utilization Project (HCUP). The NIS contains data from more than 7 million hospital stays each year and is the largest publicly available database of all-payer inpatient health care in the United States. The NEDS is its counterpart for the emergency department, containing data from approximately 31 million ED visits each year. Extracted data concerned principal discharge diagnoses of Crohn’s disease (ICD-9 555.x) and ulcerative colitis (ICD-9 556.x) in adults. Statistical significance of the difference in emergency department visits, hospital discharges, length of stay, hospital charges, and in-hospital mortality over the years was determined by chi square test for trends.

**RESULTS:** From 2006-2014, emergency department (ED) visits have increased for both phenotypes ($P < 0.005$). Admissions from the ED to the same hospital also increased for both CD ($P < 0.012$) and UC ($P < 0.006$), as did discharges from the ED ($P < 0.005$) for both, with the increase in ED visits. From 1993-2014, the number of hospitalizations with a primary discharge diagnosis of CD or UC increased from 35,576 to 61,805 patients and from 23,106 to 37,365 patients respectively ($P < 0.001$). However, when comparing data from 2006 to 2014 (a era when anti-tumor necrosis factor agents were approved by the Food and Drug Administration and widely available for both CD and UC), the rates of hospitalizations did not change significantly. In this same time period, admission rates for IBD decreased significantly in the states of Illinois ($P = 0.0147$) and Vermont ($P = 0.008$). Mean charges per hospital stay, adjusted for inflation, dramatically increased from $29,970.30 in 1993 to $38,223.50 in 2014 for CD and from $24,701.20 to $45,464.70 for UC ($P < 0.001$). Meanwhile, mean length of stay decreased from 8 to 5 days for CD and from 9 to 5 days for UC ($P < 0.001$). Additionally, hospital mortality decreased from a rate of 0.65 to 0.21 for CD and from 1.42 to 0.37 ($P < 0.001$).

**CONCLUSION(S):** Over the course of more than a decade there has been a significant increase in the number of ED visits and inpatient admissions for IBD, along with an increase in cost. However, significant decreases in length of stay and in-hospital mortality may reflect improved care and advancements in the treatment of IBD. Further studies on strategies that prevent complications prompting ED visits and hospital admissions are warranted.

**P098**

Worsening Colitis and Congestive Heart Failure Related to Mesalamine Use  
Eula Tetengui1, Muaaz Masood1, Humberto Sifuentes2.

**BACKGROUND:** Five-amino salicylic acid derivatives are generally well-tolerated agents commonly used to treat ulcerative colitis. Severe reactions are rare. We present a case of paradoxical worsening of ulcerative colitis and acute heart failure in a young woman on mesalamine therapy.

**CASE:** A 37-year-old white female with a history of severe gastritis and recently diagnosed mild to moderate extensive ulcerative colitis (UC) had been on oral mesalamine for 1 month. She endorsed worsening symptoms, with 10-12 watery bowel movements daily along with 3-4 episodes of hematochezia and generalized abdominal cramps. Lack of response to prednisone prompted admission.

**HISTORY:** She was a 37-year-old female with a history of acne and diverticulosis. She presented to the medical intensive care unit complaining of severe abdominal pain, diarrhea, shortness of breath, and palpitations. She initiated mesalamine therapy 1 month prior. Her medical history included asthma, severe acne, and chronic gastroenteritis. Her social history was noncontributory. She was a 30-pack/year smoker for 20 years. She denied use of any illicit substances.

**PHYSICAL EXAM:** Vital signs were stable. Physical examination revealed a well-developed, well-nourished, normotensive, normothermic female in no acute distress. There was no evidence of peripheral edema, rales, wheezes, or mucous membranes. Her abdomen was soft, nontender, and nonrigid with normal bowel sounds.

**IMAGING:** An electrocardiogram showed sinus tachycardia and QT prolongation. An echocardiogram showed decreased left ventricular systolic function with an ejection fraction of 35-40%. A computed tomography angiogram of the chest showed a large pelvic venous blush. Laboratory workup showed a creatinine of 1.4 mg/dL, BUN of 96 mg/dL, and potassium of 5.6 mmol/L. Complete blood count showed hemoglobin of 8.3 g/dL, and white blood cell count of 13,500 cells/mm³. Her liver function tests were normal. Urinalysis showed a trace of protein and 3+ blood. Electrolytes were normal except for potassium, which was supratherapeutic.

**CLINICAL COURSE:** She was treated with intravenous fluid resuscitation, continuous inotropic support with dobutamine, and diuretics. She improved significantly after discontinuing mesalamine and starting intravenous magnesium sulfate and potassium chloride. However, she had a recurrent episode of atrial fibrillation with heart rate of 140 bpm. Her potassium levels remained high despite intravenous potassium chloride. She received an emergency transcatheter aortic valve replacement and was discharged to a long-term acute care facility with home dialysis.

**DISCUSSION:** This case illustrates the importance of considering mesalamine as a potential cause of heart failure in patients with IBD. The paradoxical worsening of IBD symptoms in the setting of heart failure is rare. This case highlights the importance of recognizing life-threatening adverse effects of IBD medications and the need for early intervention to prevent further complications.

**CONCLUSION:** This case report provides valuable insights into the potential for mesalamine-induced heart failure in patients with IBD. Further studies are needed to better understand the mechanisms underlying this phenomenon and to develop strategies for preventing and managing such complications.

**P100**

Using Data Aggregation to Determine Thematic Knowledge Transfer and Lasting Performance Changes in Multiple Continuing Education Activities on IBD  
Whitney Fahl1, Jan Perez2, Shawn Traydak3, Greg Salinas2, Tara Gross1.

**BACKGROUND:** It is well understood and there is no consistency in the presence of in-person continuing education interventions. Further it allows educators opportunities to understand the continuing need of new educational activities. Using aggregation methodology, we were able to both leverage multiple educational interventions and combine each of these areas, showing effectiveness of the education. Hedges’ g effect sizes were run on all pre-post data to better compare the effect of educational activities. The most effective changes seen in recognizing key risks (g = 0.75) and clinical trial results (g = 0.71) while more modest effects were seen in establishing goals of treatment (g = 0.40) and selecting treatment (g = 0.59). Some of this modest effect seen in establishing goals can be attributed to a high baseline level of knowledge (a pre-score of 70.8%). However, looking at the scores of learners compared to a control group of similar clinicians that did not attend the education, robust effects can be seen even 30 days after the activity. Assessment of risk had an effect of 0.67 while establishing goals (g = 0.81) and treatment choice (g = 0.85) had even higher effects.

**CONCLUSION(S):** Aggregating the outcomes of multiple educational activities allows us to understand the effect by theme, providing opportunities to inform key stakeholders of the value of educational interventions. Further it allows educators opportunities to understand the continuing need of the community that has not attended these activities, and focus future interventions on improving areas where they are needed most.

**P101**

Prevalence of Neoplasms and Their Relationship With the Treatment in Mexican Population With IBD in a Tertiary Care Hospital  
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**BACKGROUND:** Inflammatory bowel disease (IBD) is a group of chronic inflammatory illnesses with a relapsing and remitting course often complicated by flares requiring hospital visits and/or surgeries. Numerous studies have outlined the role of a clinical pharmacist within IBD. The primary role of the clinical pharmacist in the published literature includes ensuring safe and effective use of biologics and immunomodulators through patient education and close monitoring of recommended laboratory tests. Further, the studies demonstrate the effectiveness of a clinical pharmacist in increasing adherence to medication therapy and in reducing the number of clinic visits. However, there has yet to be a study that ties such interventions to clinical or economic outcomes that demonstrate the potential long-term impact of a clinical pharmacist in IBD management. At Kaiser Permanente San Diego Medical Center, a pilot clinic was started in September 2018 where a clinical pharmacist was integrated within the IBD clinic. The primary role of the clinical pharmacist included patient education, baseline laboratory testing and vaccinations prior to initiating patients on biologics and immunomodulators, therapeutic drug monitoring and routine laboratory testing prior to refillings medications.

**METHODS:** The study is a descriptive, retrospective study conducted from October 1, 2018 to February 1, 2019. The study methods consisted of establishment of a Pharmacy & Therapeutics (P&T) approved protocol, which will define an approved workflow for the clinical pharmacist within the Gastroenterology clinic. Baseline and post-implementation data were collected for analysis. The purpose is to determine the role of a pharmacist in IBD management & can they make an impact on quality and cost of care. One full-time equivalent pharmacist’s interventions were classified and quantified during this time frame.

**RESULTS:** The pharmacist’s workflow begins with the IBD pharmacist receiving the referral from the gastroenterologist. IBD Pharmacist conducts full patient work up, including medication reconciliation to make interventions and contacts. IBD Pharmacist collaborates with gastroenterologist as needed to discuss complex treatment cases. Of 1,243 patient encounters reviewed, 1,090 interventions were classified. Laboratory results were the leading intervention for 32% of all interventions followed by Medication adherence 26%, therapeutic drug monitoring 10%, and new medication initiation 8%. One full-time equivalent pharmacist’s interventions were classified and quantified during this time frame.

**DISCUSSION:** Pharmacists have an important role in the management of IBD. The results of this study suggest that pharmacists can make a significant impact on the quality and cost of care for patients with IBD, offering an opportunity for increased patient engagement and improved outcomes.