



SAMPLE: EPIC SmartForm for IBD Patients

Title: Inflammatory Bowel Disease (IBD) Assessment

Form ID: IBD-SF-01

N.B. SmartElements and .phrases can be concurrently developed or existing ones can be imported to enrich this form.

Population Identification:

a. Crohn's Disease [SNOMED: 34000006] - ICD-10: K50 Note that there are more specific ICD-10 codes for different segments of the gastrointestinal tract affected by Crohn's

Disease. For example:

- K50.0: Crohn's disease of the small intestine
- K50.1: Crohn's disease of the large intestine
- K50.8: Other Crohn's disease (e.g., both small and large intestine)
- K50.9: Crohn's disease, unspecified

b. Ulcerative Colitis [SNOMED: 64766004] - ICD-10: K51 Similar to Crohn's Disease, there are more specific ICD-10 codes for different extents and severity of Ulcerative Colitis. For example:

- K51.0: Ulcerative (chronic) enterocolitis
- K51.2: Ulcerative (chronic) proctitis
- K51.8: Other ulcerative colitis
- K51.9: Ulcerative colitis, unspecified

c. Indeterminate Colitis [SNOMED: 5562005] - ICD-10: K52.3 Indeterminate colitis falls under the category of noninfective, unspecified colitis.

HOPi:

1. Symptoms Present (select all that apply): a. Abdominal pain [SNOMED: 21522001] b. Diarrhea [SNOMED: 62315008] c. Blood in stool [SNOMED: 24964005] d. Fatigue [SNOMED: 84229001] e. Weight loss [SNOMED: 262285001] f. Joint pain [SNOMED: 57676002] g. Fever [SNOMED: 43724002]
2. Current Medication (select all that apply): a. Aminosalicylates [SNOMED: 373285004] b. Corticosteroids [SNOMED: 372739002] c. Immunomodulators [SNOMED: 373278005] d. Biologic agents [SNOMED: 410018008] e. Antibiotics [SNOMED: 373216004] f. Not currently on medication [SNOMED: 16024521000119107]
3. IBD-related Surgery (select all that apply): a. Colectomy [SNOMED: 80146002] b. Ileostomy [SNOMED: 430193006] c. Colostomy [SNOMED: 17393001] d. Bowel resection [SNOMED: 81343009] e. No IBD-related surgery [SNOMED: 16024461000119104]
4. Current Disease Activity: a. In remission [SNOMED: 413322009] b. Mild [SNOMED: 255029002] c. Moderate [SNOMED: 6736007] d. Severe [SNOMED: 24484000]
5. Patient-reported Quality of Life: a. Excellent [SNOMED: 255134003] b. Good [SNOMED: 709144007] c. Fair [SNOMED: 709145006] d. Poor [SNOMED: 709146005]

Physician Assessment:

6. Physical Examination Findings (select all that apply): i. Abdominal tenderness [SNOMED: 247348003] ii. Abdominal mass [SNOMED: 271645001] iii. Perianal disease [SNOMED: 69924003] iv. Oral ulcers [SNOMED: 70253001] v. Erythema Nodosum [SNOMED: 41302007] vi. Pyoderma Gangrenosum [SNOMED: 193059001] vii. No significant findings [SNOMED: 16024461000119104]
7. Laboratory Results: i. C-reactive Protein (CRP) level (mg/L) [SNOMED: 34714000]: _____ ii. Erythrocyte Sedimentation Rate (ESR) (mm/h) [SNOMED: 409902004]: _____ iii. Hemoglobin level (g/dL) [SNOMED: 70327006]: _____ iv. White Blood Cell (WBC) count ($\times 10^9/L$) [SNOMED: 303599005]: _____ v. Platelet count ($\times 10^9/L$) [SNOMED: 66948001]: _____ vi. Fecal Calprotectin level ($\mu g/g$) [SNOMED: 70296005]: _____
8. Imaging Results (select all that apply): i. Colonoscopy [SNOMED: 73761001]: 1. Normal [SNOMED: 260245000] 2. Inflammation [SNOMED: 47201007] 3. Ulcers [SNOMED: 235595009] 4. Strictures [SNOMED: 253895002] ii. MRI Enterography [SNOMED: 44423004]: 1. Normal [SNOMED: 260245000] 2. Inflammation [SNOMED: 47201007] 3. Fistula [SNOMED: 41497008] 4. Abscess [SNOMED: 128477000] iii. No imaging performed [SNOMED: 16024531000119106]
9. Physician's Diagnosis: a. Crohn's Disease [SNOMED: 34000006] b. Ulcerative Colitis [SNOMED: 64766004] c. Indeterminate Colitis [SNOMED: 5562005]
10. Physician's Treatment Plan (select all that apply): a. Continue current medication [SNOMED: 16024541000119100] b. Adjust medication dosage [SNOMED: 16024551000119103] c. Change medication [SNOMED: 16024561000119109] d. Initiate new medication [SNOMED: 16024571000119108] e. Recommend lifestyle modifications [SNOMED: 16024581000119107] f. Refer for surgical evaluation [SNOMED: 129381000119108] g. Plan for follow-up visit [SNOMED: 225358003]

Additional Questions for Research Purposes:

11. Age at IBD Diagnosis: i. Under 16 years old [SNOMED: 255398004] ii. 16-40 years old [SNOMED: 255399007] iii. 41-60 years old [SNOMED: 255400008] iv. Over 60 years old [SNOMED: 255401007]
12. Family History of IBD (select all that apply): i. First-degree relative with IBD [SNOMED: 416471007] ii. Second-degree relative with IBD [SNOMED: 416472000] iii. No known family history of IBD [SNOMED: 16024471000119101]
13. Smoking History: i. Never smoked [SNOMED: 266919005] ii. Former smoker [SNOMED: 8517006] iii. Current smoker [SNOMED: 77176002]
14. Dietary Habits (select all that apply): i. High-fiber diet [SNOMED: 1061741000000106] ii. Low-fiber diet [SNOMED: 1061751000000101] iii. Vegetarian [SNOMED: 1061761000000109] iv. Vegan [SNOMED: 1061771000000108] v. Gluten-free [SNOMED: 1061781000000100] vi. Dairy-free [SNOMED: 1061791000000103] vii. Other specific diet [SNOMED: 1061801000000105]
15. Exercise Habits: i. No regular exercise [SNOMED: 16024701000119100] ii. 1-2 times per week [SNOMED: 16024711000119108] iii. 3-4 times per week [SNOMED: 16024721000119105] iv. 5 or more times per week [SNOMED: 16024731000119106]
16. Sleep Habits: i. Less than 6 hours per night [SNOMED: 30989003] ii. 6-8 hours per night [SNOMED: 309884007] iii. More than 8 hours per night [SNOMED: 309885008]

17. Psychosocial Factors: i. Perceived stress level (1-10 scale) [SNOMED: 249911009]: _____ ii. History of anxiety disorder [SNOMED: 48694002]: Yes [SNOMED: 373066001] / No [SNOMED: 260413007] iii. History of depression [SNOMED: 35489007]: Yes [SNOMED: 373066001] / No [SNOMED: 260413007]
18. Extra-intestinal manifestations: i. Arthritis [SNOMED: 3723001]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] ii. Uveitis [SNOMED: 195967001]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] iii. Primary sclerosing cholangitis [SNOMED: 235856003]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] iv. Ankylosing spondylitis [SNOMED: 19602006]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007]
19. Other medical conditions: i. Irritable Bowel Syndrome (IBS) [SNOMED: 10743008]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] ii. Celiac disease [SNOMED: 396331005]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] iii. Type 1 Diabetes [SNOMED: 46635009]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] iv. Type 2 Diabetes [SNOMED: 44054006]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007]
20. Gastrointestinal complications: i. Bowel obstruction [SNOMED: 81060008]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007] ii. Toxic megacolon [SNOMED: 197353002]: Absent [SNOMED: 260373001] / Present [SNOMED: 260372007]

NOTES:

Genetic factors: The identification of numerous genetic loci associated with IBD susceptibility has provided insights into the pathogenesis of the disease and helped researchers identify potential therapeutic targets.

Microbiome: The composition and function of the gut microbiome have been shown to play a crucial role in the development and progression of IBD. Research focusing on the relationship between the gut microbiome and IBD has led to novel therapeutic approaches, such as fecal microbiota transplantation and the use of probiotics.

Immune system dysregulation: Studies have highlighted the role of an imbalanced immune response in IBD development, particularly the involvement of T cells, cytokines, and other immune mediators. This has led to the development of targeted immunotherapies, such as anti-TNF agents and integrin inhibitors.

Environmental factors: Researchers have identified various environmental factors that may influence IBD risk, including diet, smoking, stress, and infections. A better understanding of these factors can help inform preventative strategies and lifestyle modifications for patients with IBD.

Disease progression and complications: Identifying factors that contribute to disease progression, such as strictures, fistulas, and colorectal cancer, is essential for risk stratification, early intervention, and effective disease management.

Biomarkers: The discovery and validation of biomarkers for IBD, such as fecal calprotectin and C-reactive protein, have improved diagnostic accuracy and enabled more precise monitoring of disease activity.

Patient-reported outcomes: Assessing the impact of IBD on patients' quality of life, mental health, and work productivity can help inform personalized treatment plans and improve overall disease management.

Treatment response and personalized medicine: Research into factors influencing treatment response, such as genetics, immune profiles, and disease severity, can aid in the development of personalized treatment strategies for IBD patients.

New therapeutic targets and drug development: Ongoing research into the molecular mechanisms underlying IBD has led to the identification of novel therapeutic targets, resulting in the development of new treatment options for patients with IBD.

Prevention strategies: Investigating potential primary and secondary prevention strategies, such as early interventions, vaccinations, or prebiotics, may help reduce the incidence and severity of IBD in susceptible populations.