

User Guide for SPARC Summary At Index Date Function

Crohn’s and Colitis Foundation

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Overview

Sparc_summary_at_index.R is a script that reads in SPARC data from IBD Plexus. It finds the medications the participant is exposed to up until the index date from Smartform, lists other Smartform data fields, and lists the encounter id or hist id at a specific ("index") date.

Requirements

- R Version 4.0.2 or above
- The following R packages are required and can be installed using `install.packages("package name")`
 - reshape2
 - tidyverse
 - lubridate
 - DT
 - readxl
 - openxlsx
- `datadir` = the directory where the unzipped SPARC site data from IBD Plexus is saved
 - .csv and .txt format are acceptable
 - If multiple extracts are saved in the same folder, the most recent files will be selected
- `Index_info` = a data frame with `DEIDENTIFIED_MASTER_PATIENT_ID` and a variable named `index_date`.
 - The default `index_date` is the `DATE_OF_CONSENT`
- `Filename` = the name of the output file.
 - Must be in .xlsx format
 - The default is `SPARC_SITE_SUMMARY.xlsx`
- `Index_range` = the number of days to look out from index date.
 - The default is 14 days
 - For example, to see Smartform values and scores within +/- 30 days of enrollment, the `index_range` = "30".
- `Emr_codes` = the codes to search through in the extract
 - Default is an empty vector
 - Usually an ICD10 code
 - For example, to search for Ankylosing spondylitis of multiple sites in spine and Ankylosing spondylitis of unspecified sites in spine, `emr_codes` = `c("M45.0", "M45.9")`.

Output Table

The output file “SPARC_SUMMARY.xlsx” includes the following columns. If more than the DEIDENTIFIED_MASTER_PATIENT_ID and index_date is in the index_info data.frame, those columns will be included as well. Unless otherwise specified, the closest value to the index date is used if there are multiple reported values within the index range.

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
DEIDENTIFIED_MASTER_PATIENT_ID	N	Demographics	ECRF_SPARC		DEIDENTIFIED_MASTER_PATIENT_ID	
DATE_OF_CONSENT	N	Demographics	ECRF_SPARC		DATE_OF_CONSENT	
DATE_OF_CONSENT_WITHDRAWN	N	Demographics	ECRF_SPARC		DATE_OF_CONSENT_WITHDRAWN	
BIRTH_YEAR	N	Demographics	ECRF_SPARC		BIRTH_YEAR	
GENDER	N	Demographics	ECRF_SPARC		GENDER	
INDEX_DATE	Y					A date of interest specified by the user.
DIAGNOSIS	N	Diagnosis	SF_SPARC > ECRF_SPARC	DIAG_CONCEPT_NAME equals Crohn's Disease, Ulcerative Colitis or IBD Unclassified. For SF only,	DIAG_CONCEPT_NAME	Chose diagnosis reported closest to index date from SF first, then ECRF. Use ECRF_QORUS if consented to both studies.
DIAGNOSIS_DATE	N	Diagnosis	SF_SPARC	DIAG_CONCEPT_NAME equals Crohn's Disease, Ulcerative Colitis, IBD Unclassified or Inflammatory Bowel Disease.	DIAGNOSIS_DATE	
ETHNICITY	N	Demographics	EMR/ECRF		ETHNICITY	
RACE	N	Demographics	EMR/ECRF		RACE	
CROHN'S DISEASE PHENOTYPE	N	Observations	SF_SPARC	For Crohn's Disease patients only. OBS_TEST_CONCEPT_NAME equals “Crohn's Disease Phenotype”.	DESCRIPTIVE_SYMPTEST_RESULTS	Inflammatory, non-penetrating, non-stricturing phenotype can be pulled backward. All phenotypes can be

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
						pulled forward to the next reported phenotype.
PHENOTYPE - ANAL STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - DUODENAL STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - ESOPHAGEAL STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - GASTRIC STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - ILEAL STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - JEJUNAL STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - LEFT COLONIC STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - RECTAL STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - RIGHT COLONIC STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - TRANSVERSE COLONIC STRICTURE	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
IBD MANIFESTATIONS - ABDOMINAL ABSCESS, FISTULA, OR OTHER PENETRATING COMPLICATION	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
PHENOTYPE - ENTEROCUTANEOUS FISTULA	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - ENTEROENTERIC FISTULA	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - ENTEROVESICAL FISTULA	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - INTRA-ABDOMINAL ABCESS	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
PHENOTYPE - OTHER FISTULA	N	Observations	SF_SPARC	For Crohn's Disease patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
EXTENT OF MACROSCOPIC ULCERATIVE COLITIS	N	Observations	SF_SPARC	For Ulcerative Colitis patients only. OBS_TEST_CONCEPT_NAME equals "Extent of Macroscopic Ulcerative Colitis"	DESCRIPTIVE_SYMP_T EST_RESULTS	Ulcerative proctitis (rectum only) can be pulled backward. All phenotypes can be pulled forward to the next reported phenotype.
EXTENT OF MACROSCOPIC IBD UNCLASSIFIED	N	Observations	SF_SPARC	For IBD unclassified patients only. OBS_TEST_CONCEPT_NAME equals "Extent of Macroscopic IBD Unclassified"	DESCRIPTIVE_SYMP_T EST_RESULTS	Ulcerative proctitis (rectum only) can be pulled backward. All phenotypes can be pulled forward to the next reported phenotype.
HISTORY OF HOSPITALIZATION FOR SEVERE ULCERATIVE COLITIS	N	Observations	SF_SPARC	For Ulcerative Colitis patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	
HISTORY OF HOSPITALIZATION FOR SEVERE IBD UNCLASSIFIED	N	Observations	SF_SPARC	For IBD Unclassified patients only.	DESCRIPTIVE_SYMP_T EST_RESULTS	

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
ANAL PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
DUODENAL PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
ESOPHAGEAL PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
GASTRIC PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
ILEAL PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
JEJUNAL PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
LEFT COLONIC PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
RECTAL PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
RIGHT COLONIC PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
TRANSVERSE COLONIC PHENOTYPE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	Involved sites since disease onset for Crohn's Disease
PERIANAL FISTULA	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
ANAL CANAL STRICTURE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
ANAL CANAL ULCER	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
ANAL FISSURE	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
LARGE SKIN TAGS	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
PERIANAL ABCESS	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
PERIANAL FISTULA - COMPLEX FISTULA	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
RECTOVAGINAL FISTULA	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	History of Perianal Disease for Crohn's Disease
NUMBER OF IBD SURGERIES	N	Procedures	SF_SPARC	PROC_CONCEPT_NAM E = IBD Surgeries	PHYSICIAN_NOTES_PR OC_AVAIL	If 0 surgeries reported greater than the index range after the index date, then pulled back.
YEAR OF FIRST IBD SURGERY	N	Procedures	SF_SPARC	PROC_CONCEPT_NAM E = IBD Surgeries	PROC_START_DATE	Year the same as or before the index date
YEAR OF MOST RECENT IBD SURGERY	N	Procedures	SF_SPARC	PROC_CONCEPT_NAM E = IBD Surgeries	PROC_END_DATE	Year the same as or before the index date
GASTRODUODENAL SURGERY	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PR OC_AVAIL	
ESOPHAGEAL SURGERY	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PR OC_AVAIL	
SMALL BOWEL RESECTION	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PR OC_AVAIL	
SMALL BOWEL RESECTION - DUODENUM	N	Procedures	SF_SPARC		PROC_STATUS_CONC EPT_CODE	
SMALL BOWEL RESECTION - ILEUM	N	Procedures	SF_SPARC		PROC_STATUS_CONC EPT_CODE	
SMALL BOWEL RESECTION - JEJUNUM	N	Procedures	SF_SPARC		PROC_STATUS_CONC EPT_CODE	

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
COLON RESECTION	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PROC_AVAIL	
COLON RESECTION - CECUM	N	Procedures	SF_SPARC		PROC_STATUS_CONCEPT_CODE	
COLON RESECTION - RECTUM	N	Procedures	SF_SPARC		PROC_STATUS_CONCEPT_CODE	
COLON RESECTION - SIGMOID	N	Procedures	SF_SPARC		PROC_STATUS_CONCEPT_CODE	
COMPLETE COLECTOMY	N	Procedures	SF_SPARC	PROC_CONCEPT_NAME = Complete Colectomy	PROC_STATUS_CONCEPT_CODE	
YEAR OF COMPLETE COLECTOMY	N	Procedures	SF_SPARC	PROC_CONCEPT_NAME = Complete Colectomy	PROC_START_DATE	
INDICATION FOR TOTAL COLECTOMY	N	Procedures	SF_SPARC	PROC_CONCEPT_NAME = Complete Colectomy	INDICATION	
ILEOSTOMY/COLOSTOMY	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PROC_AVAIL and PROC_STATUS_CONCEPT_NAME	
J-POUCH	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PROC_AVAIL and PROC_STATUS_CONCEPT_NAME	
STRICTUROPLASTY	N	Procedures	SF_SPARC		PHYSICIAN_NOTES_PROC_AVAIL and PROC_STATUS_CONCEPT_NAME	
PHYSIOLOGICAL SHORT GUT SYNDROME	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCEPT_NAME	
TOBACCO USE WITHIN LAST 3 MONTHS	N	Observations	SF_SPARC		DESCRIPTIVE_SYMPTEST_RESULTS	
TOBACCO USE WITHIN LAST 7 DAYS	N	Observations	SF_SPARC		DESCRIPTIVE_SYMPTEST_RESULTS	

Column Header	Derived Variable (Y/N)	DDM Table	DDM Data Source	Other DDM Filters	DDM Variable	Notes
ORAL NARCOTIC INTAKE WITHIN LAST 30 DAYS	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	
ORAL NARCOTIC INTAKE WITHIN LAST 7 DAYS	N	Observations	SF_SPARC		DESCRIPTIVE_SYMP_T EST_RESULTS	
APHTHOUS ULCER	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
ERYTHEMA NODOSUM	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
IBD - ASSOCIATED ARTHROPATHY	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
IRITIS/UVEITIS	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
PRIMARY SCLEROSING CHOLANGITIS	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
PYODERMA GANGRENOSUM	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
THROMBOTIC COMPLICATIONS	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Extraintestinal Manifestation
INTESTINAL DYSPLASIA	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Cancer History
MALIGNANT NEOPLASM OF COLON, UNSPECIFIED	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Cancer History
PERSONAL HISTORY OF CERVICAL DYSPLASIA	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Cancer History
SKIN CANCER	N	Diagnosis	SF_SPARC		DIAG_STATUS_CONCE PT_NAME	Cancer History
MEDICATION_SF	N	Prescriptions	SF_SPARC		MEDICATION_ADMINI STRATED	Never can be pulled back & Ever pulled forward