Admission data			
Q1	Study ID (Generated by REDCap)		
Q2	Age at admission to study (yrs)		
Q3	Height (cm)		
Q4	Weight (Kg)		
Q5	Sex	Male Female	
Q6	Comorbidities	IHD Y/N CCF Y/N CVA Y/N Hemiplegia Y/N Leukaemia Y/N Lymphoma Y/N Mild Liver Disease Y/N Severe Liver Disease Y/N Connective Tissue Disease Y/N	Peptic Ulcer Disease Y/N PVD Y/N COPD Y/N Dementia Y/N DM (uncomplicated) Y/N DM (complicated) Y/N CKD Y/N Solid tumour Y/N Metastatic tumour Y/N AIDS Y/N
Q7	Source of referral (Select one)	Emergency Department General Practice Surgical Clinic admission Referral from inpatient team	
Q8	Where was the patient living prior to admission to the hospital?	Own Home/Sheltered Accommodation Residential Home Nursing Home	
Q9	Date admitted to hospital	_____	
Q10	Date first seen by a member of the surgical team (if different from above)	_____	
Q11	Date of last enteral intake prior to admission i.e. onset of vomiting	_____	
Q12	Initial management strategy	Conservative Operative (decision made within 24 hours of admission) Palliative	

Baseline physiology		
Please respond to the following questions using the lab results from the point closest to admission		
Q13	White Cell Count (x10^9/L):	_____
Q14	C-Reactive Protein (mg/L):	_____
Q15	Albumin (g/dL)	_____
Q16	Did the patient have an AKI at admission?	Yes No

Nutritional management			
Q17	Was the patient identified as being malnourished, or at risk of malnourishment at any point?	Yes No N/A	Date:
Q18	How was this identified?	Nutrition assessment tool Clinical judgement	Yes No N/A Yes No N/A
Q19	Was the patient reviewed by a dietitian or nutrition team at any point during admission?	Yes No	Date:
Q20	Were oral supplements (e.g. fortisips) started at any point during admission?	Yes No	Date:
Q21	Was NG or NJ feed started at any point during admission?	Yes No	Date:
Q22	Was TPN started at any point during the admission?	Yes No	Date:
Q23	If TPN was used at any point, when was it stopped? If not stopped before the end of the study, leave blank	Date:	

Line complications		
Q24	Was intravenous access established for nutrition?	Yes No
Q25	What type of line was initially used?	Peripheral cannula Peripherally inserted central catheter (PICC) Central venous catheter (CVC/Central line) Hickmann line
Q26	What date was this inserted?	Date:
Q27	Did the patient develop line sepsis related to this line?	Yes, confirmed Presumed No
Q28	Date line sepsis diagnosed	Date:

Diagnostic tests			
Q29	Abdominal X-ray performed	Yes No	Date:
Q30	CT scan performed	Yes No	Date:
Q31	Did the patient receive water-soluble contrast agent (gastrografin) apart from when undergoing a CT scan?	Yes No	Date:

Aetiology and management			
Q32	Aetiology	Congenital band adhesion Post-operative adhesions Right sided colon cancer Crohn's disease Disseminated intra-abdominal malignancy Incarcerated hernia - Groin Incarcerated hernia - Midline Incarcerated hernia - Incisional Incarcerated hernia - Parastomal Small bowel Volvulus Other_____	
Q33	Did the patient undergo an operation/procedure for SBO?	Yes No	Date:
Q34	What ASA grade was documented on their anaesthetic chart?		
Q35	Type of operation	Laparoscopic Lap converted to open Open (midline) Open (groin) Open (other)	
Q36	What intervention? (mark all that apply)	Division (single) band adhesion Yes No Adhesiolysis Yes No Hernia repair Yes No Small bowel resection Yes No Large bowel resection Yes No Formation jejunostomy Yes No Formation ileostomy Yes No Anastomosis of bowel Yes No Other _____	
Q37	Date resumed enteral nutrition	_____	

Care episode data		
Q38	In hospital death	Yes No
Q39	Date patient medically fit for discharge:	_____
Q40	Date patient discharged (or died if in hospital)	_____
Q41	Readmitted within 30-days post discharge	Yes No N/A
Q42	Discharge destination:	Own Home/Sheltered Accommodation Rehabilitation Unit Residential Home Nursing Home Hospice Still acute inpatient on 30/4/17 Deceased

Did the following complications of management occur whilst hospital inpatient?		
Q43a	UTI	Yes No
Q43b	Pneumonia	Yes No
Q43c	Cardiac	Yes No
Q43d	DVT/PE	Yes No
Q43e	Delirium	Yes No
Q43f	Superficial Surgical Site infection (SSI)	Yes No
Q43g	Intra-abdominal sepsis	Yes No
Q43h	Abdominal Wall dehiscence	Yes No
Q43i	Anastomotic leak	Yes No
Q43j	Radiological drain	Yes No
Q43k	Reoperation	Yes No
Q43l	Unplanned HDU/ITU admission	Yes No

Need to exclude patient from study		
Q44	Was the patient excluded from the audit as does not meet inclusion/exclusion criteria?	Yes No

Appendix D: Definitions

Admission data

Q1. This number is generated by REDCap when you begin entering data. Please keep a record locally which can be cross referenced with your local data.

Q2. Age in completed years on date of admission to hospital.

Q3. Height on admission in centimetres, rounded to the nearest centimetre. If height only available in feet and inches, please convert using an online calculator.

Q4. Weight on admission in kilograms, rounded to the nearest kilogram. If only available in stones and pounds, please convert using an online calculator.

Q5. Please indicate sex of patient.

Q6. These are comorbidities as defined by the Charlson Comorbidity Index. Each should be marked as present if there is any previous documented history of each diagnosis.

Myocardial infarct (MI)	History of medically documented myocardial infarction
Congestive heart failure (CCF)	Symptomatic congestive heart failure w/ response to specific treatment
Peripheral vascular disease (PVD)	Intermittent claudication, peripheral. Arterial bypass for insufficiency, gangrene, acute arterial insufficiency, untreated aneurysm (>=6cm)
Cerebrovascular disease (CVA) (except hemiplegia)	History of TIA, or CVA with no or minor sequelae
Dementia	Chronic cognitive deficit
Chronic pulmonary disease (COPD)	Symptomatic dyspnoea due to chronic respiratory conditions (including asthma)
Connective tissue disease	SLE, polymyositis, polymyalgia rheumatica, moderate to severe rheumatoid arthritis
Peptic ulcer disease	Patients who have required treatment for peptic ulcer disease
Mild liver disease	Cirrhosis without portal hypertension, chronic hepatitis
DM (uncomplicated)	Diabetes with medication (including insulin)
DM (complicated)	Retinopathy, neuropathy, nephropathy
Hemiplegia (or paraplegia)	Hemiplegia or paraplegia
Moderate or severe renal disease	Creatinine >265 umol/l, dialysis, transplantation, uremic syndrome
Solid tumour (non-metastatic)	Initially treated in the last 5 years exclude non-melanomatous skin cancers and in situ cervical carcinoma
Leukaemia	CML, CLL, AML, ALL, PV
Lymphoma, Multiple Myeloma...	Non-Hodgkin's Lymphoma, Hodgkin's, Waldenström, multiple myeloma
Moderate or severe liver disease	Cirrhosis with portal hypertension +/- variceal bleeding
Metastatic solid tumour	self-explanatory
AIDS	AIDS and AIDS-related complex Suggested: as defined in latest definition

Q7. Please indicate **only one** source of referral.
Via **Emergency Department** only applies if the patient was not referred to attend the hospital by the GP.
General Practice means direct acute referral to the hospital by the GP.
Surgical clinic admission means the patient was review by a doctor working in the trust and directly referred to be admitted to hospital.
Referral from inpatient team means the patient was already an inpatient within the trust and after admission has been referred to the general surgical team.

Q8. Please indicate where the patient was living prior to admission.

Own home/sheltered accommodation	Living in owned or rented accommodation, or in a warden-controlled complex
Residential home	Short or long term care facility, providing assistance with meals and self-care.
Nursing home	Short or long term care facility, providing care to people with complex medical needs

Q9. Date patient presented to hospital, regardless of whether or not this was directly under the surgical team.

Q10. Date first reviewed by any member of the surgical team. Only complete if different from Q9.

Q11. Please indicate the date the patient last tolerated enteral intake prior to admission (i.e. prior to the onset of vomiting).

Q12. Was the initial management strategy within the first 24hrs of diagnosis conservative (watch and wait, gastrografin etc.) or to list for operation (even if the operation was not performed in the first 24hrs), or palliative (symptomatic management only with no surgery intended at any point)?

Baseline physiology

Q13. Please give White Cell Count ($x10^9$/L) as measured at the closest point to or after admission. Please only use levels taken within the first 48 hours of admission and taken preoperatively.

Q14. Please give C-reactive protein (mg/L) as measured at the closest point to or after admission. Please only use levels taken within the first 48 hours of admission and taken preoperatively.

Q15. Albumin at admission (g/dL) – please use the first albumin level taken on admission to hospital. Please only use levels taken within the first 48 hours of admission and taken preoperatively. Please leave blank if no value available.

Q16. Please tick yes if there is evidence of one of; laboratory generated warning of kidney injury, blood creatinine level has risen from the baseline value by 26 µmol/L or more within 48 hours, blood creatinine level has risen by 50% or more within the past 7 days, patient is passing less than 0.5ml urine per kg per hour for more than 6 hours in the first 48 hours of admission.

Nutritional management

Q17. Please indicate if the patient was recognised as being either malnourished or at risk of malnourishment at any point during admission and the date this was documented. Only complete the date if the patient has assessment of their nutritional status.

Q18. How was the patient recognised as being at risk of malnutrition? If both methods used, please select nutritional assessment tool.

Q19. Please indicate if the patient has had a review by either a dietician or the nutrition team and the date upon which this first occurred.

Q20. Please indicate if oral supplements (fortisips, scandishakes, etc.) were used at any point during admission, and the date they were first started.

Q21. Please indicate if nasogastric or nasojejunal feeding was used at any point during admission, and the date it was first started.

Q22. Please indicate if parentereral nutrition was used at any point during admission, and the date it was first started.

Q23. If parenteral nutrition was used, please indicate the date it was terminated.

Line complications

Q24. Was intravenous access established for nutrition? Please indicate if a line was placed with the intention of providing parental nutrition to the patient.

Q25. What was the first type of line used? Please indicate.

Q26. What date was the line inserted?

Q27. Did the patient develop line sepsis related to this line?

Central Line Associated Blood Stream Infection (CLABSI) Definition

A central line associated blood stream infection is a laboratory-confirmed bloodstream infection (BSI) in a patient who had a central line within the 48 hour period before the development of the BSI and that is not related to an infection at another site.

The CLABSI must meet one of the following criteria:

Criterion 1

Patient has a recognised pathogen cultured from one or more blood cultures
and
Organism cultured from blood is not related to an infection at another site.
OR

Criterion 2

Patient has at least one of the following signs or symptoms: fever (>38°C), chills, or hypotension
and
signs and symptoms and positive laboratory results are not related to an infection at another site
and
Common skin contaminant is cultured from two or more blood cultures drawn on separate occasions.

Q28. Date line sepsis diagnosed according to meeting the criteria in Q27.

Diagnostic tests

Q29. Was an Abdominal X-ray performed prior to commencement of management, whether operative or conservative? If so, please give the date this was performed.

Q30. Was a CT scan of their abdomen performed prior to commencement of management, whether operative or palliative? If so, please give the date this was performed.

Q31. Was a water-soluble contrast agent (e.g. gastrografin) given to the patient apart from when undergoing a CT scan?

Aetiology and management

Q32. Aetiology of small bowel obstruction – the cause of the obstruction as defined by clinical information or radiological imaging in non-operative cases, or intraoperative findings in those patients who are taken to surgery.
Incarcerated hernia – midline refers to primary umbilical, paraumbilical or epigastric hernias only.
Incarcerated hernia – incisional includes midline hernias following operations.

Q33. Did the patient undergo an operation/procedure for SBO? This includes any operation, radiological or endoscopic procedure performed with the intention of resolving the symptoms, not purely for diagnosis. Please indicate the date this was performed.

Q34. If the patient underwent an operation, please record the American Society of Anaesthesiology (ASA) grading of the patient.

Q35. State whether the procedure started as a laparoscopic procedure, open from start to finish, or laparoscopic converted to open during the procedure (including lap assisted).
In the case of hernia, please indicate whether this was a groin approach or not.

Q36. Please indicate if each of the procedures that was carried out as part of the intervention.

Q37. Please indicate the date the patient first resumed any oral intake (fluids or otherwise) following resolution of their SBO.

Care episode date

Q38. In hospital death **–** Patient dies prior to discharge from acute hospital.

Q39. Please record the date the patient medically fit for discharge (i.e. documentation of ‘medically fit for discharge’, ‘await social’, or similar statements).

Q40. Please record the date the patient left the acute service.

Q41. Please indicate if the patient was readmitted within 30 days of discharge.

Q42. Please indicate discharge destination.

Own home/sheltered accommodation	Living in owned or rented accommodation, or in a warden-controlled complex
Rehabilitation unit	Physiotherapist or occupational therapist led unit aimed at returning patient to independent living
Residential home	Short or long term care facility, providing assistance with meals and self-care.
Nursing home	Short or long term care facility, providing care to people with complex medical needs
Hospice	End of life care facility
Still acute inpatient on 30/4/17	Please select this if the patient has not yet been discharged.

Q43. In hospital complications

UTI – Patient has at least one of the following signs or symptoms:
fever (>38.0°C); suprapubic tenderness; costovertebral angle pain or tenderness; urinary urgency; urinary frequency; dysuria
AND Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of ≥105 CFU/ml.

Pneumonia must meet one of the criteria
1. Rales or dullness to percussion on physical examination of chest and any of the following:
new onset of purulent sputum or change in character of sputum;
organism isolated from blood culture;
isolation of pathogen from specimen obtained by transtracheal aspirate, bronchial brushing or biopsy.

2. Chest radiographic examination shows new or progressive infiltrate, consolidation, cavitation or pleural effusion and any of the following:
new onset of purulent sputum or change in character of sputum;
organism isolated from blood culture;
isolation of pathogen from specimen obtained by transtracheal aspirate, bronchial brushing or biopsy;
isolation of virus or detection of viral antigen in respiratory secretions;
diagnostic single antibody titre (IgM) or four-fold increase in paired serum samples (IgG) for pathogen.

Cardiac - all complications newly diagnosed whilst inpatient (e.g. AF, MI, etc).

DVT/PE – Radiologically confirmed whilst inpatient.

Delirium – acute confusional state with change from the patient's normal cognitive baseline.

Superficial SSI - 1) Purulent drainage from the incision; OR (2) At least two of: pain or tenderness; localised swelling; redness; heat; fever; AND incision opened deliberately to manage infection or the clinician diagnoses a SSI; OR (3) Wound organisms AND pus cells from aspirate/ swab.

Deep (intra-abdominal) SSI (1) A clinical diagnosis of wound infection with dehiscence of mass closure or any layer below fat/scarpa's fascia; (2) A clinical diagnosis of intra-abdominal collection (fever/abdominal pain) with operative/radiological evidence of a collection.

Abdominal Wall Dehiscence – full thickness dehiscence of laparotomy wound whilst inpatient.

Anastomotic leakage - A clinical diagnosis will require symptoms related to leakage (gas, pus or faecal discharge from the drainage site, peritonitis or discharge of pus from the rectum). In the event of a clinically suspicious leak (fever or abdominal pain) the diagnosis can be established by operative or radiological diagnosis. When an anastomosis is defunctioned the presence or absence of a leak will be established by contrast radiology.

Radiological drain – any additional procedure after operation, including imaging guided aspiration of collection or placement of a drain.

Reoperation – any return to theatre for a general surgical cause whilst inpatient.

Unplanned HDU/ITU admission - any unplanned episodes even if unrelated to primary presentation.

Exclusion

Q44. If the patient needs to be excluded from the audit as they do not meet the inclusion criteria or have met one of the exclusion criteria, please indicate this here, and stop any further data collection