

Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. List of Bowel Disorders and Related Procedures

1. List of bowel disorder diagnosis codes (ICD codes)

| ICD9 | | ICD10 | |
|--------|---|--------|--|
| 558.1 | Gastroenteritis and colitis due to radiation | K52.0 | Gastroenteritis and colitis due to radiation |
| 560.1 | Paralytic ileus | K56.0 | Paralytic ileus |
| 560.1 | Paralytic ileus | K56.7 | Ileus, unspecified |
| 565.1 | Anal fistula | K60.3 | Anal fistula |
| 565.1 | Anal fistula | K60.4 | Rectal fistula |
| 565.1 | Anal fistula | K60.5 | Anorectal fistula |
| 569.2 | Stenosis of rectum and anus | K62.4 | Stenosis of anus and rectum |
| 569.3 | Hemorrhage of rectum and anus | K62.5 | Hemorrhage of anus and rectum |
| 569.41 | Ulcer of anus and rectum | K62.6 | Ulcer of anus and rectum |
| 569.42 | Anal or rectal pain | K62.89 | Other specified diseases of anus and rectum |
| 569.49 | Other specified disorders of rectum and anus | K62.89 | Other specified diseases of anus and rectum |
| 578.1 | Blood in stool | K92.1 | Melena |
| 578.9 | Hemorrhage of gastrointestinal tract, unspecified | K92.2 | Gastrointestinal hemorrhage, unspecified |
| 787.6 | Incontinence of feces | | |
| 787.6 | Full incontinence of feces | R15.9 | Full incontinence of feces |
| 787.61 | Incomplete defecation | R15.0 | Incomplete defecation |
| 787.62 | Fecal smearing | R15.1 | Fecal smearing |
| 787.63 | Fecal urgency | R15.2 | Fecal urgency |

2. List of procedure codes related to bowel disorders (CPT codes)

| code | description |
|-------|--|
| 45110 | Proctectomy; complete, combined abdominoperineal, with colostomy |
| 45111 | Proctectomy; partial resection of rectum, transabdominal approach |
| 45112 | Proctectomy, combined abdominoperineal, pull-through procedure (eg, colo-anal anastomosis) |
| 45113 | Proctectomy, partial, with rectal mucosectomy, ileoanal anastomosis, creation of ileal reservoir (S or J), with or without loop ileostomy |
| 45114 | Proctectomy, partial, with anastomosis; abdominal and transsacral approach |
| 45116 | Proctectomy, partial, with anastomosis; transsacral approach only (Kraske type) |
| 45119 | Proctectomy, combined abdominoperineal pull-through procedure (eg, colo-anal anastomosis), with creation of colonic reservoir (eg, J-pouch), with diverting enterostomy when performed |
| 45123 | Proctectomy, partial, without anastomosis, perineal approach |
| 45150 | Division of stricture of rectum |
| 45303 | Proctosigmoidoscopy, rigid; with dilation (eg, balloon, guide wire, bougie) |
| 45317 | Proctosigmoidoscopy, rigid; with control of bleeding (eg, injection, bipolar cautery, unipolar cautery, laser, heater probe, stapler, plasma coagulator) |
| 45327 | Proctosigmoidoscopy, rigid; with transendoscopic stent placement (includes predilation) |
| 45334 | Sigmoidoscopy, flexible; with control of bleeding, any method |
| 45340 | Sigmoidoscopy, flexible; with transendoscopic balloon dilation |
| 45382 | Colonoscopy, flexible; with control of bleeding, any method |
| 45386 | Colonoscopy, flexible; with transendoscopic balloon dilation |
| 45387 | Colonoscopy, flexible, proximal to splenic flexure; with transendoscopic stent placement (includes predilation) |
| 45395 | Laparoscopy, surgical; proctectomy, complete, combined abdominoperineal, with colostomy |
| 45397 | Laparoscopy, surgical; proctectomy, combined abdominoperineal pull-through procedure (eg, colo-anal anastomosis), with creation of colonic reservoir (eg, J-pouch), with diverting enterostomy, when performed |
| 45500 | Proctoplasty; for stenosis |
| 45562 | Exploration, repair, and presacral drainage for rectal injury; |
| 45563 | Exploration, repair, and presacral drainage for rectal injury; with colostomy |
| 45800 | Closure of rectovesical fistula; |
| 45805 | Closure of rectovesical fistula; with colostomy |
| 45820 | Closure of rectourethral fistula; |

| | |
|-------|--|
| 45825 | Closure of rectourethral fistula; with colostomy |
| 45905 | Dilation of anal sphincter (separate procedure) under anesthesia other than local |
| 45910 | Dilation of rectal stricture (separate procedure) under anesthesia other than local |
| 46270 | Surgical treatment of anal fistula (fistulectomy/fistulotomy); subcutaneous |
| 46275 | Surgical treatment of anal fistula (fistulectomy/fistulotomy); intersphincteric |
| 46280 | Surgical treatment of anal fistula (fistulectomy/fistulotomy); transsphincteric, suprasphincteric, extrasphincteric or multiple, including placement of seton, when performed |
| 46285 | Surgical treatment of anal fistula (fistulectomy/fistulotomy); second stage |
| 46604 | Anoscopy; with dilation (eg, balloon, guide wire, bougie) |
| 46614 | Anoscopy; with control of bleeding (eg, injection, bipolar cautery, unipolar cautery, laser, heater probe, stapler, plasma coagulator) |
| 46700 | Anoplasty, plastic operation for stricture; adult |
| 99183 | Physician or other qualified health care professional attendance and supervision of hyperbaric oxygen therapy, per session |
| 44188 | Aparoscopic colostomy |
| 44320 | Open colostomy |
| 44340 | Revision of colostomy; simple (release of superficial scar) (separate procedure) |
| 44345 | Revision of colostomy; complicated (reconstruction in-depth) (separate procedure) |
| 44346 | Revision of colostomy; with repair of paracolostomy hernia (separate procedure) |
| 44620 | Closure of enterostomy, large or small intestine Closure of colostomy |
| 44625 | Closure of enterostomy, large or small intestine; with resection and anastomosis other than colorectal |
| 44626 | Closure of enterostomy, large or small intestine; with resection and colorectal anastomosis (eg, closure of Hartmann type procedure) |
| 90911 | Biofeedback training, perineal muscles, anorectal or urethral sphincter, including EMG and/or manometry |
| 90912 | Biofeedback training, perineal muscles, anorectal or urethral sphincter, including EMG and/or manometry, when performed; initial 15 minutes of one-on-one physician or other qualified health care professional contact with the patient |
| 90913 | Biofeedback training, perineal muscles, anorectal or urethral sphincter, including EMG and/or manometry, when performed; initial 15 minutes of one-on-one physician or other qualified health care professional contact with the patient |

3. List of procedure codes related to bowel disorders (ICD codes)

| ICD9 | | ICD10 | |
|-------|---|---------|---|
| 48.5 | Abdominoperineal resection of the rectum, not otherwise specified | 0D1N0Z4 | Bypass Sigmoid Colon to Cutaneous, Open Approach |
| 48.5 | Abdominoperineal resection of the rectum, not otherwise specified | 0DTP0ZZ | Resection of Rectum, Open Approach |
| 48.5 | Abdominoperineal resection of the rectum, not otherwise specified | 0DTP4ZZ | Resection of Rectum, Percutaneous Endoscopic Approach |
| 48.5 | Abdominoperineal resection of the rectum, not otherwise specified | 0DTP7ZZ | Resection of Rectum, Via Natural or Artificial Opening |
| 48.5 | Abdominoperineal resection of the rectum, not otherwise specified | 0DTP8ZZ | Resection of Rectum, Via Natural or Artificial Opening Endoscopic |
| 48.51 | Laparoscopic abdominoperineal resection of the rectum | 0D1N0Z4 | Bypass Sigmoid Colon to Cutaneous, Open Approach |
| 48.51 | Laparoscopic abdominoperineal resection of the rectum | 0DTP4ZZ | Resection of Rectum, Percutaneous Endoscopic Approach |
| 48.52 | Open abdominoperineal resection of the rectum | 0D1N0Z4 | Bypass Sigmoid Colon to Cutaneous, Open Approach |
| 48.52 | Open abdominoperineal resection of the rectum | 0DTP0ZZ | Resection of Rectum, Open Approach |
| 48.59 | Other abdominoperineal resection of the rectum | 0D1N0Z4 | Bypass Sigmoid Colon to Cutaneous, Open Approach |
| 48.59 | Other abdominoperineal resection of the rectum | 0DTP7ZZ | Resection of Rectum, Via Natural or Artificial Opening |
| 48.59 | Other abdominoperineal resection of the rectum | 0DTP8ZZ | Resection of Rectum, Via Natural or Artificial Opening Endoscopic |
| 48.91 | Incision of rectal stricture | 0DNP0ZZ | Release Rectum, Open Approach |
| 48.91 | Incision of rectal stricture | 0DNP3ZZ | Release Rectum, Percutaneous Approach |
| 48.91 | Incision of rectal stricture | 0DNP4ZZ | Release Rectum, Percutaneous Endoscopic Approach |
| 48.91 | Incision of rectal stricture | 0DNP7ZZ | Release Rectum, Via Natural or Artificial Opening |
| 48.91 | Incision of rectal stricture | 0DNP8ZZ | Release Rectum, Via Natural or Artificial Opening Endoscopic |
| 48.93 | Repair of perirectal fistula | 0DQP0ZZ | Repair Rectum, Open Approach |
| 48.93 | Repair of perirectal fistula | 0DQP3ZZ | Repair Rectum, Percutaneous Approach |

| | | | |
|-------|------------------------------|---------|--|
| 48.93 | Repair of perirectal fistula | 0DQP4ZZ | Repair Rectum, Percutaneous Endoscopic Approach |
| 48.93 | Repair of perirectal fistula | 0DQP7ZZ | Repair Rectum, Via Natural or Artificial Opening |
| 48.93 | Repair of perirectal fistula | 0DQP8ZZ | Repair Rectum, Via Natural or Artificial Opening Endoscopic |
| 49.1 | Unknown | Unknown | Unknown |
| 49.11 | Anal fistulotomy | 0H89XZZ | Division of Perineum Skin, External Approach |
| 49.12 | Anal fistulectomy | 0DBQ0ZZ | Excision of Anus, Open Approach |
| 49.12 | Anal fistulectomy | 0DBQ3ZZ | Excision of Anus, Percutaneous Approach |
| 49.12 | Anal fistulectomy | 0DBQ4ZZ | Excision of Anus, Percutaneous Endoscopic Approach |
| 49.72 | Anal cerclage | 0DVQ0CZ | Restriction of Anus with Extraluminal Device, Open Approach |
| 49.72 | Anal cerclage | 0DVQ0DZ | Restriction of Anus with Intraluminal Device, Open Approach |
| 49.72 | Anal cerclage | 0DVQ0ZZ | Restriction of Anus, Open Approach |
| 49.72 | Anal cerclage | 0DVQ3CZ | Restriction of Anus with Extraluminal Device, Percutaneous Approach |
| 49.72 | Anal cerclage | 0DVQ3DZ | Restriction of Anus with Intraluminal Device, Percutaneous Approach |
| 49.72 | Anal cerclage | 0DVQ3ZZ | Restriction of Anus, Percutaneous Approach |
| 49.72 | Anal cerclage | 0DVQ4CZ | Restriction of Anus with Extraluminal Device, Percutaneous Endoscopic Approach |
| 49.72 | Anal cerclage | 0DVQ4DZ | Restriction of Anus with Intraluminal Device, Percutaneous Endoscopic Approach |
| 49.72 | Anal cerclage | 0DVQ4ZZ | Restriction of Anus, Percutaneous Endoscopic Approach |
| 49.72 | Anal cerclage | 0DVQ7DZ | Restriction of Anus with Intraluminal Device, Via Natural or Artificial Opening |
| 49.72 | Anal cerclage | 0DVQ7ZZ | Restriction of Anus, Via Natural or Artificial Opening |
| 49.72 | Anal cerclage | 0DVQ8DZ | Restriction of Anus with Intraluminal Device, Via Natural or Artificial Opening Endoscopic |
| 49.72 | Anal cerclage | 0DVQ8ZZ | Restriction of Anus, Via Natural or Artificial Opening Endoscopic |
| 49.72 | Anal cerclage | 0DVQXCZ | Restriction of Anus with Extraluminal Device, External Approach |
| 49.72 | Anal cerclage | 0DVQXDZ | Restriction of Anus with Intraluminal Device, External Approach |

| | | | |
|-------|---|---------|--|
| 49.72 | Anal cerclage | 0DVQXZZ | Restriction of Anus, External Approach |
| 49.73 | Closure of anal fistula | 0DQQ0ZZ | Repair Anus, Open Approach |
| 49.73 | Closure of anal fistula | 0DQQ3ZZ | Repair Anus, Percutaneous Approach |
| 49.73 | Closure of anal fistula | 0DQQ4ZZ | Repair Anus, Percutaneous Endoscopic Approach |
| 49.73 | Closure of anal fistula | 0DQQ7ZZ | Repair Anus, Via Natural or Artificial Opening |
| 49.73 | Closure of anal fistula | 0DQQ8ZZ | Repair Anus, Via Natural or Artificial Opening Endoscopic |
| 49.73 | Closure of anal fistula | 0DQQXZZ | Repair Anus, External Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQ80ZZ | Repair Small Intestine, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQ83ZZ | Repair Small Intestine, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQ84ZZ | Repair Small Intestine, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQ87ZZ | Repair Small Intestine, Via Natural or Artificial Opening |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQ88ZZ | Repair Small Intestine, Via Natural or Artificial Opening Endoscopic |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQB0ZZ | Repair Ileum, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQB3ZZ | Repair Ileum, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQB4ZZ | Repair Ileum, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQB7ZZ | Repair Ileum, Via Natural or Artificial Opening |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQB8ZZ | Repair Ileum, Via Natural or Artificial Opening Endoscopic |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQE0ZZ | Repair Large Intestine, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQE3ZZ | Repair Large Intestine, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQE4ZZ | Repair Large Intestine, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQE7ZZ | Repair Large Intestine, Via Natural or Artificial Opening |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQE8ZZ | Repair Large Intestine, Via Natural or Artificial Opening Endoscopic |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQN0ZZ | Repair Sigmoid Colon, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQN3ZZ | Repair Sigmoid Colon, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQN4ZZ | Repair Sigmoid Colon, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQN7ZZ | Repair Sigmoid Colon, Via Natural or Artificial Opening |

| | | | |
|-------|---|---------|--|
| 57.83 | Repair of fistula involving bladder and intestine | 0DQN8ZZ | Repair Sigmoid Colon, Via Natural or Artificial Opening Endoscopic |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQP0ZZ | Repair Rectum, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQP3ZZ | Repair Rectum, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQP4ZZ | Repair Rectum, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQP7ZZ | Repair Rectum, Via Natural or Artificial Opening |
| 57.83 | Repair of fistula involving bladder and intestine | 0DQP8ZZ | Repair Rectum, Via Natural or Artificial Opening Endoscopic |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQB0ZZ | Repair Bladder, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQB3ZZ | Repair Bladder, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQB4ZZ | Repair Bladder, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQB7ZZ | Repair Bladder, Via Natural or Artificial Opening |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQB8ZZ | Repair Bladder, Via Natural or Artificial Opening Endoscopic |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQD0ZZ | Repair Urethra, Open Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQD3ZZ | Repair Urethra, Percutaneous Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQD4ZZ | Repair Urethra, Percutaneous Endoscopic Approach |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQD7ZZ | Repair Urethra, Via Natural or Artificial Opening |
| 57.83 | Repair of fistula involving bladder and intestine | 0TQD8ZZ | Repair Urethra, Via Natural or Artificial Opening Endoscopic |
| 93.95 | Hyperbaric oxygenation | 5A05121 | Extracorporeal Hyperbaric Oxygenation, Intermittent |
| 93.95 | Hyperbaric oxygenation | 5A05221 | Extracorporeal Hyperbaric Oxygenation, Continuous |
| 96.22 | Dilation of rectum | 0D7P7ZZ | Dilation of Rectum, Via Natural or Artificial Opening |
| 96.22 | Dilation of rectum | 0D7P8ZZ | Dilation of Rectum, Via Natural or Artificial Opening Endoscopic |
| 96.23 | Dilation of anal sphincter | 0D7Q7ZZ | Dilation of Anus, Via Natural or Artificial Opening |
| 96.23 | Dilation of anal sphincter | 0D7Q8ZZ | Dilation of Anus, Via Natural or Artificial Opening Endoscopic |

ICD-9/10-CM, International Classification of Diseases, 9th/10th Edition, Clinical Modification;

eTable 2. Cumulative Incidence of Gastrointestinal Problems and Procedures at 4 Years Post Radiation Therapy Compared to the General Population

| | Cumulative Incidence (%) | | | PHS vs General | | | No PHS vs General | | | PHS vs No PHS | | |
|--------------------------------------|--------------------------|--------|--------|----------------|--------------|---------|-------------------|--------------|---------|---------------|--------------|---------|
| | General population | PHS | No PHS | HR | CI | P Value | HR | CI | P Value | HR | CI | P Value |
| GI problems (Diagnosis OR Procedure) | 10.31% | 12.41% | 17.07% | 1.00 | (0.96, 1.05) | 0.822 | 1.35 | (1.32, 1.37) | <0.001 | 0.75 | (0.72, 0.77) | <0.001 |
| Severe GI problems (Procedure) | 0.73% | 1.08% | 1.99% | 1.11 | (0.96, 1.29) | 0.153 | 1.92 | (1.79, 2.06) | <0.001 | 0.58 | (0.51, 0.66) | <0.001 |

Radiotherapy patients (PHS (n=25,211) and No PHS (n=245,289)) were compared with an age-matched general population who were not diagnosed with prostate cancer nor did undergo radiotherapy (n=85,821) who has the similar average age as PHS/no PHS group. Data for the general population are from Medicare 5% and MarketScan, and the proportion of people from each dataset correspond to the ratio found in PHS/no PHS datasets. Cumulative rates are based on Cox proportional hazards regression, controlling for baseline bowel diagnosis and secondary cancer diagnosis.

PHS, polyethylene glycol-based hydrogel spacer; CI, confidence interval; HR, hazard ratio

eTable 3. Adjusted 4-year Cumulative Incidence of Bowel Disorders and Related Procedures After Radiation Therapy, by NPI procedure volume quartile

| | NPI procedure volume quartile | | | | | | |
|---|-------------------------------|--------|--------|---------|-------------------------|-------------------------|-------------------------|
| Cumulative incidence | Lowest | Lower | Higher | Highest | HR1 (CI) | HR2 (CI) | HR3 (CI) |
| Adjusted* (n=63,802) | | | | | | | |
| Bowel disorders (Diagnosis OR Procedure) | 18.70% | 15.02% | 15.01% | 11.57% | 0.89 (0.84, 0.94) | 0.92 (0.87, 0.97) | 0.79 (0.74, 0.83) |
| Procedures related to bowel disorders (Diagnosis AND Procedure) | 1.62% | 1.48% | 1.48% | 1.22% | 0.98 (0.84, 1.14) | 1.08 (0.92, 1.25) | 0.86 (0.73, 1.02) |

HR1: comparison between lowest and lower, HR2: comparison between lowest and higher, HR3: comparison between lowest and highest

CI, confidence interval; HR, hazard ratio

eTable 4. Adjusted 4-year Cumulative Incidence of Bowel Disorders and Related Procedures After Radiation Therapy, without Premier Data

| | PHS (Cumulative Incidence) | No PHS (Cumulative Incidence) | HR | 95% CI | P Value |
|---|----------------------------------|-------------------------------------|------|--------------|---------|
| Adjusted Cumulative Incidence* (n=236,002) | | | | | |
| Bowel disorders (Diagnosis OR Procedure) | 13.28% | 17.91% | 0.75 | (0.72, 0.78) | <0.001 |
| Procedures related to bowel disorders (Diagnosis AND Procedure) | 1.01% | 1.85% | 0.54 | (0.47, 0.63) | <0.001 |

PHS, polyethylene glycol-based hydrogel spacer

eTable 5. Race Distribution within Patients from the Medicare or Premier Datasets by Use of a Polyethylene Glycol-Based Hydrogel Spacer

| | No PHS | PHS | P Value | Standardized mean difference |
|-------|-----------------|----------------|---------|------------------------------|
| Black | 28,317 (12.6%) | 2,228 (9.3%) | <0.001 | 0.015 |
| White | 181,943 (80.6%) | 19,740 (82.7%) | | |
| Other | 15,385 (6.8%) | 1,905 (8.0%) | | |

*Other race includes all other races than Black and White.

eTable 6. Adjusted 4-year Cumulative Incidence of Bowel Disorders and Related Procedures After Radiation Therapy adjusted for Race, without MarketScan Data

| | PHS (Cumulative Incidence) | No PHS (Cumulative Incidence) | HR | 95% CI | P Value |
|---|----------------------------------|-------------------------------------|------|--------------|---------|
| Cumulative incidence | | | | | |
| Age | | | | | |
| Bowel disorders (Diagnosis OR Procedure) | | | | | |
| Age below 65 | 11.05% | 7.69% | 0.83 | (0.72, 0.94) | 0.005 |
| Age 65-69 | 14.88% | 9.75% | 0.78 | (0.72, 0.84) | <0.001 |
| Age 70-74 | 17.56% | 11.99% | 0.73 | (0.67, 0.78) | <0.001 |
| Age 75-79 | 18.43% | 12.99% | 0.72 | (0.68, 0.76) | <0.001 |
| Age 80 and above | 19.52% | 17.60% | 0.77 | (0.68, 0.87) | <0.001 |
| | | | | | |
| Procedures related to bowel disorders (Diagnosis AND Procedure) | | | | | |
| Age below 65 | 1.12% | 0.01% | 0.77 | (0.50, 1.16) | 0.211 |
| Age 65-69 | 1.43% | 0.11% | 0.52 | (0.39, 0.70) | <0.001 |
| Age 70-74 | 2.08% | - | 0.51 | (0.39, 0.65) | <0.001 |
| Age 75-79 | 2.05% | - | 0.48 | (0.39, 0.58) | <0.001 |
| Age 80 and above | 1.19% | 0.15% | 0.69 | (0.47, 1.00) | 0.053 |
| | | | | | |
| Race | | | | | |
| Bowel disorders (Diagnosis OR Procedure) | | | | | |
| White | 16.84% | 12.48% | 0.74 | (0.70, 0.77) | <0.001 |
| Black | 16.41% | 9.59% | 0.72 | (0.62, 0.82) | <0.001 |
| Other race | 13.98% | 8.92% | 0.84 | (0.72, 0.99) | 0.034 |
| Procedures related to bowel disorders (Diagnosis AND Procedure) | | | | | |
| White | 1.74% | 0.99% | 0.52 | (0.44, 0.60) | <0.001 |
| Black | 1.45% | 0.00% | 0.41 | (0.23, 0.73) | 0.003 |
| Other race | 1.42% | 0.00% | 0.71 | (0.43, 1.16) | 0.17 |

PHS, polyethylene glycol-based hydrogel spacer

eTable 7. Baseline Characteristics for Percentage PHS

| % PHS | No./total No. (%) | P value | Standardized mean difference |
|--------------------|----------------------|---------|------------------------------|
| SBRT only | 2743/11 553 (23.7) | <.001 | NA |
| IMRT only | 12 755/155 755 (8.2) | | |
| Proton only | 723/2535 (28.5) | | |
| Brachytherapy only | 1211/13 943 (8.7) | | |
| 3D CRT only | 114/26 975 (0.4) | | |
| Combination | 7621/51 743 (14.7) | | |

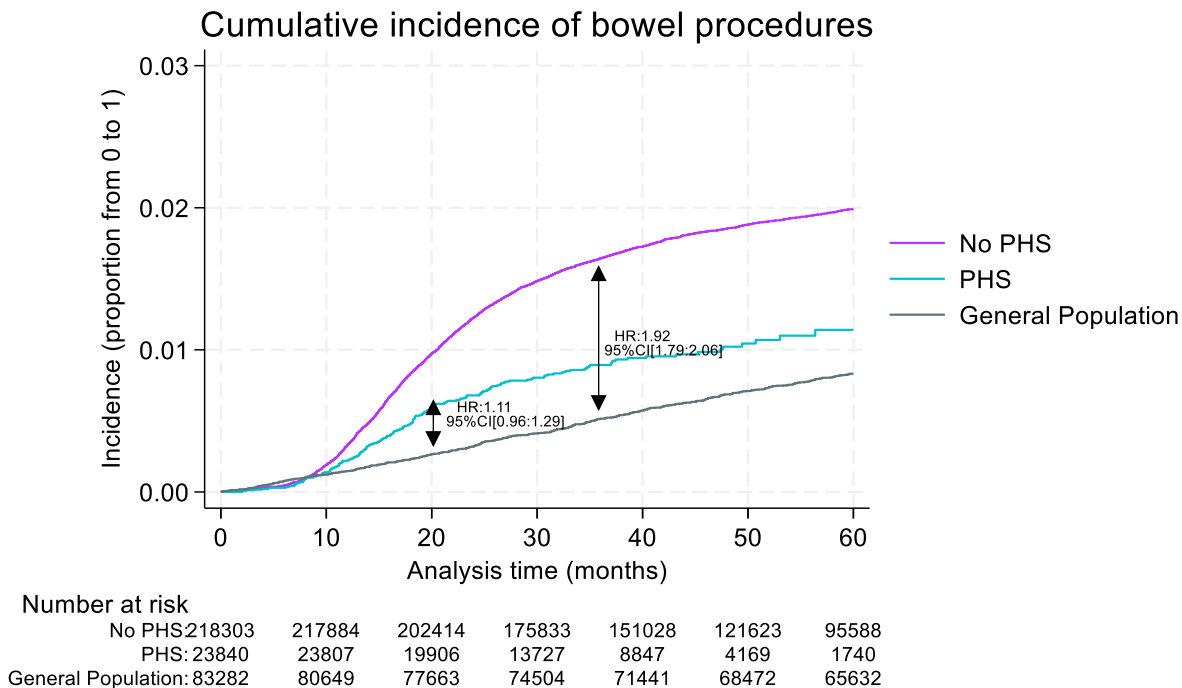
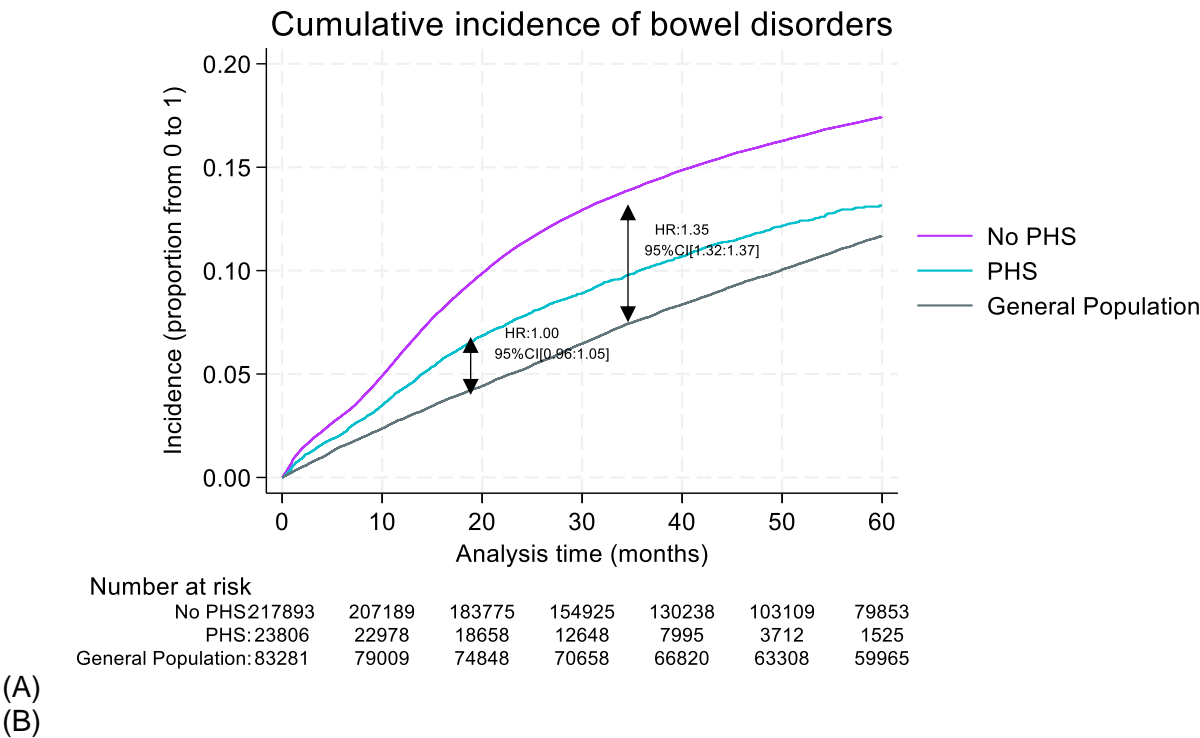
3D CRT, 3-dimensional conformal radiation therapy; IMRT, intensity modulated radiotherapy; NA, not applicable; PHS, polyethylene glycol-based hydrogel spacer; SBRT, stereotactic body radiation therapy.

eTable 8. Number of Bowel Diagnosis Codes at 4 Years

| | PHS | No PHS | P Value |
|---|-------------|-------------|---------|
| Number of bowel diagnosis codes, mean (SD) | 0.13 (0.46) | 0.22 (0.62) | <0.001 |
| Number of bowel diagnosis codes among those with at least one diagnosis code, mean (SD) | 1.37 (0.72) | 1.50 (0.82) | <0.001 |

SD, standard deviation; PHS, polyethylene glycol-based hydrogel spacer

eFigure 1. Comparison of Cumulative Incidence of Bowel Disorders (A) and Related Procedures (B) with General Population



Note: Analysis time is months since the radiotherapy among No PHS / PHS patients. Analysis time among the age-matched general population is months from the time they reached the average age of prostate cancer patients.

eFigure 2. Hazard Ratio of Bowel Disorders and Related Procedures for PHS vs. No PHS, Stratified by Type of Radiation Therapy

