**Supplementary Appendix A** Hospital codes for specialist pediatric centers in England

<table>
<thead>
<tr>
<th>Code</th>
<th>Hospital name</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA7</td>
<td>University Hospitals Bristol NHS Foundation Trust</td>
</tr>
<tr>
<td>RBS</td>
<td>Alder Hey Children’s NHS Foundation Trust</td>
</tr>
<tr>
<td>RCU</td>
<td>Sheffield Children’s NHS Foundation Trust</td>
</tr>
<tr>
<td>RGT</td>
<td>Cambridge University Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>RHM</td>
<td>University Hospital Southampton NHS Foundation Trust</td>
</tr>
<tr>
<td>RJ1</td>
<td>Guy’s and St. Thomas’ NHS Foundation Trust</td>
</tr>
<tr>
<td>RJ7</td>
<td>St. George’s Healthcare NHS Trust</td>
</tr>
<tr>
<td>RJZ</td>
<td>King’s College Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>RM1</td>
<td>Norfolk and Norwich University Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>RNJ</td>
<td>Barts and the London NHS Trust</td>
</tr>
<tr>
<td>RP4</td>
<td>Great Ormond Street Hospital for Children NHS Foundation Trust</td>
</tr>
<tr>
<td>RQ3</td>
<td>Birmingham Children’s Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>RQM</td>
<td>Chelsea and Westminster Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>RR8</td>
<td>Leeds Teaching Hospitals NHS Trust</td>
</tr>
<tr>
<td>RTD</td>
<td>The Newcastle Upon Tyne Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>RTH</td>
<td>Oxford University Hospitals NHS Trust</td>
</tr>
<tr>
<td>RW3</td>
<td>Central Manchester University Hospitals NHS Foundation Trust</td>
</tr>
<tr>
<td>RWA</td>
<td>Hull and East Yorkshire Hospitals NHS Trust</td>
</tr>
<tr>
<td>RWE</td>
<td>University Hospitals of Leicester NHS Trust</td>
</tr>
<tr>
<td>RX1</td>
<td>Nottingham University Hospitals NHS Trust</td>
</tr>
<tr>
<td>RXH</td>
<td>Brighton and Sussex University Hospitals NHS Trust</td>
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</table>

**Supplementary Appendix B** Procedure codes for the repair of Hirschsprung’s disease—OPCS-4 codes

<table>
<thead>
<tr>
<th>OPCS-4 code</th>
<th>Description</th>
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<tbody>
<tr>
<td>First stage</td>
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</tr>
<tr>
<td>H15.1</td>
<td>Loop colostomy</td>
</tr>
<tr>
<td>H15.2</td>
<td>End colostomy</td>
</tr>
<tr>
<td>H15.3</td>
<td>Refashioning of colostomy</td>
</tr>
<tr>
<td>H15.8</td>
<td>Other specified other exteriorization of colon</td>
</tr>
<tr>
<td>H15.9</td>
<td>Unspecified other exteriorization of colon</td>
</tr>
<tr>
<td>G74.1</td>
<td>Creation of continent ileostomy</td>
</tr>
<tr>
<td>G74.2</td>
<td>Creation of temporary ileostomy</td>
</tr>
<tr>
<td>G74.3</td>
<td>Creation of defunctioning ileostomy</td>
</tr>
<tr>
<td>G74.8</td>
<td>Other specified creation of artificial opening into ileum</td>
</tr>
<tr>
<td>G74.9</td>
<td>Unspecified creation of artificial opening into ileum</td>
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<table>
<thead>
<tr>
<th>Second stage or primary repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>H41.1</td>
</tr>
<tr>
<td>H41.2</td>
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<tr>
<td>H41.4</td>
</tr>
<tr>
<td>H41.8</td>
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<td>H41.9</td>
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<table>
<thead>
<tr>
<th>Last stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>H15.4</td>
</tr>
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<td>G75.1</td>
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<tr>
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<td>G75.3</td>
</tr>
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<td>G75.4</td>
</tr>
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<td>G75.6</td>
</tr>
<tr>
<td>G75.8</td>
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<td>G75.9</td>
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Abbreviation: OPCS-4, Office of Population Censuses and Surveys Classification of Interventions and Procedures, fourth version.
### Supplementary Appendix C (Continued)

<table>
<thead>
<tr>
<th>OPCS-4 codes</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>H19.1</td>
<td>Open biopsy of lesion of colon</td>
</tr>
<tr>
<td>H27.1</td>
<td>Endoscopic dilation of sigmoid colon using rigid sigmoidoscope</td>
</tr>
<tr>
<td>H33.2</td>
<td>Proctectomy and anastomosis of colon to anus</td>
</tr>
<tr>
<td>H33.3</td>
<td>Anterior resection of rectum and anastomosis of colon to rectum using staples</td>
</tr>
<tr>
<td>H33.4</td>
<td>Anterior resection of rectum and anastomosis NEC</td>
</tr>
<tr>
<td>H33.9</td>
<td>Unspecified excision of rectum</td>
</tr>
<tr>
<td>H40.4</td>
<td>Transspincteric anastomosis of colon to anus</td>
</tr>
<tr>
<td>H40.8</td>
<td>Other specified operations on rectum through anal sphincter</td>
</tr>
<tr>
<td>H41.1</td>
<td>Rectosigmoidectomy and peranal anastomosis</td>
</tr>
<tr>
<td>H41.2</td>
<td>Peranal excision of lesion of rectum</td>
</tr>
<tr>
<td>H41.4</td>
<td>Peranal mucosal proctectomy and endoanal anastomosis</td>
</tr>
<tr>
<td>H41.8</td>
<td>Other specified other operations on rectum through anus</td>
</tr>
<tr>
<td>H44.4</td>
<td>Examination of rectum under anesthetic</td>
</tr>
<tr>
<td>H46.8</td>
<td>Other specified other operations on rectum</td>
</tr>
<tr>
<td>H48.8</td>
<td>Other specified excision of lesion of anus</td>
</tr>
<tr>
<td>H50.4</td>
<td>Reanastomosis of rectum to anal canal for correction of congenital atresia of rectum</td>
</tr>
<tr>
<td>H50.9</td>
<td>Unspecified repair of anus</td>
</tr>
<tr>
<td>H54.1</td>
<td>Anorectal stretch</td>
</tr>
<tr>
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<td>Other specified dilation of anal sphincter</td>
</tr>
<tr>
<td>H54.9</td>
<td>Unspecified dilation of anal sphincter</td>
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<tr>
<td>H55.8</td>
<td>Other specified other operations on perianal region</td>
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<tr>
<td>H56.8</td>
<td>Other specified other operations on anus</td>
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<tr>
<td>H62.3</td>
<td>Dilation of bowel NEC</td>
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<tr>
<td>H62.8</td>
<td>Other specified other operations on bowel</td>
</tr>
<tr>
<td>H66.8</td>
<td>Other specified therapeutic operations on ileoanal pouch</td>
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### Supplementary Appendix C

<table>
<thead>
<tr>
<th>OPCS-4 codes</th>
<th>Description</th>
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<tbody>
<tr>
<td>H15.1</td>
<td>Loop colostomy</td>
</tr>
<tr>
<td>H15.2</td>
<td>End colostomy</td>
</tr>
<tr>
<td>H15.3</td>
<td>Refashioning of colostomy</td>
</tr>
<tr>
<td>H15.9</td>
<td>Unspecified other exteriorization of colon</td>
</tr>
</tbody>
</table>

Abbreviations: HD, Hirschsprung’s disease; HFQ, however further qualified; NEC, necrotizing enterocolitis; OPCS-4, Office of Population Censuses and Surveys Classification of Interventions and Procedures, fourth version.
### Supplementary Appendix D  Trends of admission for Hirschsprung’s disease cases

<table>
<thead>
<tr>
<th>Year of admission</th>
<th>Hirschsprung’s disease</th>
<th>All patients ($N = 1,333$)</th>
<th>Primary repair ($N = 874$)</th>
<th>Multiple staged ($N = 263$)</th>
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<tbody>
<tr>
<td>2003</td>
<td></td>
<td>83 (6.2)</td>
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<td>13 (4.9)</td>
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<tr>
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<tr>
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<tr>
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<td></td>
<td>105 (7.9)</td>
<td>62 (7.1)</td>
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<tr>
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<tr>
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<td>100 (7.5)</td>
<td>68 (7.8)</td>
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<tr>
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<td>19 (7.2)</td>
</tr>
</tbody>
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