### Supplementary appendix

Supplement to:

Mortality from Gastrointestinal Congenital Anomalies at 264 Hospitals in 74 Low-, Middle- and High-Income Countries: A Multicentre, International, Prospective Cohort Study

Mortality from Gastrointestinal Congenital Anomalies at 264 Hospitals in 74 Low-, Middle- and High-Income Countries: A Multicentre, International, Prospective Cohort Study

Global PaedSurg Research Collaboration

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### **Supplementary Methods 1: Sample size calculation**

A sample size calculation was undertaken using Stata/IC 15.0 based on Bonferroni correction for multiple testing, assuming 80% power and an overall type 1 error of 5% (Methods Table 1). This was calculated for the primary outcome of mortality in low- and middle-income countries (LMICs) compared to high-income countries (HICs) and also low, middle and high-income countries (LM&HICs) separately. Mortality estimations utilised in the calculation were based on pooled data from published studies of these conditions in LM&HICs respectively at the time of protocol development as referenced in the first column.

### Methods Table 1: Estimated mortality and sample sizes for low, middle and high-income countries and the mean number of cases per month per hospital globally

Condition	Mortality LIC (%, n)	Mortality MIC (%, n)	Mortality LMIC combined (%, n)	Mortality HIC (%, n)	Sample size for LIC	Sample size for MIC	Sample size for HIC	Sample size for LMIC vs HIC (per group)	Mean no. cases/ month/ hospital (L,M&HIC combined)
Oesophageal atresia 1-18	79·5% (62/78)	41·8% (623/1488)	43·7% (685/1566)	2·7% (6/221)	34	34	23	21	1.02
Congenital diaphragmatic hernia* 19-27	-	47·4% (130/274)	47·4% (130/274)	20·4% (201/982)	-	-	-	63	0.54
Intestinal atresia <sup>28-38</sup>	42·9% (42/98)	40·0% (97/241)	41·0% (139/339)	2·9% (12/407)	6014	6014	25	24	0.63
Gastroschisis <sup>1,39-54</sup>	83·1% (211/254)	42.6% (205/481)	56·6% (416/735)	3·7% (28/748)	29	29	24	15	0.82
Exomphalos <sup>1,55-66</sup>	25·5% (41/161)	31·9% (132/414)	30·1% (173/575)	12·7% (40/316)	1040	1040	196	115	0.63
Anorectal malformation <sup>1,39,17,67-76</sup>	26·3% (26/99)	17·5% (243/1391)	18·1% (269/1490)	3% (14/462)	460	460	90	85	1.34
Hirschsprung's Disease 77-80	19·1% (33/173)	16·8% (55/328)	17.6% (88/501)	2·3% (43/1897)	5802	5802	85	79	2.21

\*Representative data on the mortality from congenital diaphragmatic hernia in LICs is not currently available. HIC: High-income countries. IQR: Interquartile range. LMIC: Low- and middle-income countries. LIC: Low-income countries. MIC: Middle-income countries.

Based on the patient numbers included in the previously undertaken PaedSurg Africa study, which utilised a similar study design, the estimated sample sizes to detect a significant difference in mortality between LMICs and HICs in this study are achievable. During the PaedSurg Africa study, data was collected by 220 local investigators across 76 hospitals in 23-countries in sub-Saharan Africa (SSA) for the same study duration (7-months) and included 188 patients with anorectal malformation and 111 with gastroschisis. Since this study is global rather than limited to SSA we predicted that the patient numbers would exceed this.

Based on the limited data available from LMICs, it did not appear to be feasible to detect significant differences in mortality between LICs and MICs for intestinal atresia, exomphalos, anorectal malformation and Hirschsprung's disease; congenital diaphragmatic hernia was unknown since there was no reliable data from LICs. Hence, analysis was planned between HICs and LMICs unless sufficient data was collected to detect significant differences in mortality between LM&HICs, separately.

### Estimated study population

The mean number of cases presenting to a hospital per month for each study condition was estimated from published studies across all income settings; most institutions caring for patients with these conditions receive 1-2 news cases per month (Methods Table 1). Hence, each participating hospital was expected to have approximately 7-14 cases to include in the study per month.

We aimed to include a minimum of 365 months of data; 183 months from LMICs and 183 months from HICs. This was to ensure enough cases of exomphalos to determine a significant difference between LMICs and HICs; fewer months of data were required to determine significant differences in mortality for the other study conditions. This translated to data collection by 365 hospitals for 1-month each or data collection by 52 hospitals for 7-months each or a variant in between (i.e 100 hospitals for 3-4 months each). An up-to-date total of patient numbers was included on the study website (www.globalpaedsurg.com) so that local investigators could work together towards this target.

#### References

1. Farmer D, Sitkin N, Lofberg K, Donkor P, Ozgediz D. Surgical Interventions for Congenital Anomalies. In: Debas HT, Donkor P, Gawande A, Jamison DT, Kruk ME, Mock CN, eds. Essential Surgery: Disease Control Priorities, Third Edition (Volume 1). Washington (DC); 2015.

2. Roberts K, Karpelowsky J, Fitzgerald DA, Soundappan SS. Outcomes of oesophageal atresia and tracheo-oesophageal fistula repair. J Paediatr Child Health 2016; **52**(7): 694-8.

3. Yang YF, Dong R, Zheng C, et al. Outcomes of thoracoscopy versus thoracotomy for esophageal atresia with tracheoesophageal fistula repair: A PRISMA-compliant systematic review and meta-analysis. *Medicine (Baltimore)* 2016; **95**(30): e4428.

4. Agarwala S, Bhatnagar V, Bajpai M, Gupta DK, Mitra DK. Factors contributing to poor results of treatment of esophageal atresia in developing countries. *Pediatr Surg Int* 1996; **11**(5-6): 312-5.

5. Fall M, Mbaye PA, Horace HJ, et al. Oesophageal atresia: Diagnosis and prognosis in Dakar, Senegal. Afr J Paediatr Surg 2015; 12(3): 187-90.

6. Nwosu JN, Onyekwulu FA. Oesophageal atresia and tracheooesophageal fistula: a 12 years experience in a developing nation. *Niger J Med* 2013; **22**(4): 295-8.

7. Osei-Nketiah S, Hesse AA, Appeadu-Mensah W, Glover-Addy H, Etwire VK, Sarpong P. Management of oesophageal atresia in a developing country: Is primary repair forbidden? *Afr J Paediatr Surg* 2016; **13**(3): 114-9.

8. Adebo OA. Oesophageal atresia and tracheo-oesophageal fistula: review of a 10-year personal experience. West Afr J Med 1990; 9(3): 164-9.

9. Anwar ul H, Ubaidullah, Akhter N, et al. Factors affecting survival in patients with oesophageal atresia and tracheo-oesophageal fistula. J Ayub Med Coll Abbottabad 2009; **21**(4): 129-33.

10. Randriamizao HMR, Rakotondrainibe A, Rahanitriniaina NMP, Rajaonera AT, Andriamanarivo ML. [Intraoperative management of esophageal atresia: small steps that cannot be ignored in Madagascar]. Pan Afr Med J 2017; 27: 9.

11. Singh A, Bajpai M, Bhatnagar V, Agarwala S, Srinivas M, Sharma N. Effect of number of associated anomalies on outcome in oesophageal atresia with or without tracheoesophageal fistula patient. *Afr J Paediatr Surg* 2013; **10**(4): 320-2.

12. Zhang Z, Huang Y, Su P, Wang D, Wang L. Experience in treating congenital esophageal atresia in China. J Pediatr Surg 2010; **45**(10): 2009-14.

13. Niramis R, Tangkhabuanbut P, Anuntkosol M, Buranakitjaroen V, Tongsin A, Mahatharadol V. Clinical outcomes of esophageal atresia: comparison between the Waterston and the Spitz classifications. *Ann Acad Med Singapore* 2013; **42**(6): 297-300.

14. Narasimman S, Nallusamy M, Hassan S. Review of oesophageal atresia and tracheoesophageal fistula in hospital sultanah bahiyah, alor star. Malaysia from january 2000 to december 2009. *Med J Malaysia* 2013; **68**(1): 48-51.

15. Bouguermouh D, Salem A. Esophageal atresia: a critical review of management at a single center in Algeria. *Dis Esophagus* 2015; **28**(3): 205-10.

16. Upadhyaya VD, Gangopadhyaya AN, Gupta DK, et al. Prognosis of congenital tracheoesophageal fistula with esophageal atresia on the basis of gap length. *Pediatr Surg Int* 2007; 23(8): 767-71.

17. Tefera E, Teka T, Derbew M. Neonatal gastrointestinal surgical emergencies: a 5- year review in a teaching hospital Addis Ababa, Ethiopia. *Ethiop Med J* 2007; **45**(3): 251-6.

18. Sharma AK, Shukla AK, Prabhakar G, Sarin YK, Sharma CS. Esophageal atresia: tragedies and triumphs over two decades in a developing country. *Int Surg* 1993; **78**(4): 311-4.

19. Long AM, Bunch KJ, Knight M, Kurinczuk JJ, Losty PD, Baps C. Early population-based outcomes of infants born with congenital diaphragmatic hernia. *Arch Dis Child Fetal Neonatal Ed* 2018.

Logan JW, Rice HE, Goldberg RN, Cotten CM. Congenital diaphragmatic hernia: a systematic review and summary of best-evidence practice strategies. *J Perinatol* 2007; 27(9): 535-49.
 Emam SM, Kamel KH. Influence of pulmonary hypertension on outcome of Egyptian patients with congenital diaphragmatic hernia: an

21. Emam SM, Kamel KH. Influence of pulmonary hypertension on outcome of Egyptian patients with congenital diaphragmatic hernia: an experience in low-resource settings. *J Egypt Soc Parasitol* 2012; **42**(2): 405-16.

Numanoglu A, Morrison C, Rode H. Prediction of outcome in congenital diaphragmatic hernia. *Pediatr Surg Int* 1998; 13(8): 564-8.
 Ozdogan T, Durakbasa C, Mutus M, Iscen M. Congenital diaphragmatic hernia: a 4-year experience in a single centre. *Afr J Paediatr Surg* 2010; 7(2): 105-6.

24. Garcia AM, Machicado S, Gracia G, Zarante IM. Risk factors for congenital diaphragmatic hernia in the Bogota birth defects surveillance and follow-up program, Colombia. *Pediatr Surg Int* 2016; **32**(3): 227-34.

25. Rohana J, Boo NY, Thambidorai CR. Early outcome of congenital diaphragmatic hernia in a Malaysian tertiary centre. *Singapore Med J* 2008; **49**(2): 142-4.

26. Dehdashtian M, Bashirnejad S, Malekian A, Aramesh MR, Aletayeb MH. Seasonality, Epidemiology and Outcome of Congenital Diaphragmatic Hernia in South West of Iran. *J Neonatal Surg* 2017; **6**(2): 28.

27. Bhat YR, Kumar V, Rao A. Congenital diaphragmatic hernia in a developing country. Singapore Med J 2008; 49(9): 715-8.

28. Burjonrappa S, Crete E, Bouchard S. Comparative outcomes in intestinal atresia: a clinical outcome and pathophysiology analysis. *Pediatr Surg Int* 2011; **27**(4): 437-42.

29. Gupta S, Gupta R, Ghosh S, et al. Intestinal Atresia: Experience at a Busy Center of North-West India. *J Neonatal Surg* 2016; **5**(4): 51. 30. Dalla Vecchia LK, Grosfeld JL, West KW, Rescorla FJ, Scherer LR, Engum SA. Intestinal atresia and stenosis: a 25-year experience with 277 cases. *Arch Surg* 1998; **133**(5): 490-6; discussion 6-7.

31. Chirdan LB, Uba AF, Pam SD. Intestinal atresia: management problems in a developing country. *Pediatr Surg Int* 2004; **20**(11-12): 834-7.

32. Cairo S, Kakembo N, Kisa P, et al. Disparity in access and outcomes for emergency neonatal surgery: intestinal atresia in Kampala, Uganda. *Pediatr Surg Int* 2017; **33**(8): 907-15.

33. Cox SG, Numanoglu A, Millar AJ, Rode H. Colonic atresia: spectrum of presentation and pitfalls in management. A review of 14 cases. *Pediatr Surg Int* 2005; **21**(10): 813-8.

34. Khan N, Bakht S, Zaheer N. A Minor Innovation in Constructing a Small Bowel Stoma in Neonates with Small Bowel Atresia to Reduce the Morbidity. *J Neonatal Surg* 2016; **5**(4): 45.

35. Ameh EA, Nmadu PT. Intestinal atresia and stenosis: a retrospective analysis of presentation, morbidity and mortality in Zaria, Nigeria. West Afr J Med 2000; 19(1): 39-42.

36. Barrack SM, Kyambi JM, Ndungu J, Wachira N, Anangwe G, Safwat S. Intestinal atresia and stenosis as seen and treated at Kenyatta National Hospital, Nairobi. *East Afr Med J* 1993; **70**(9): 558-64.

37. Ekwunife OH, Oguejiofor IC, Modekwe VI, Osuigwe AN. Jejuno-ileal atresia: a 2-year preliminary study on presentation and outcome. *Niger J Clin Pract* 2012; **15**(3): 354-7.

38. Krishna A, Murali MV, Ahuja S, Kaur N. Factors influencing survival in esophageal atresia. Indian Pediatr 1994; 31(1): 80-3.

39. PaedSurg Africa Research Collaboration. Paediatric Surgery across Sub-Saharan Africa: A Multi-Centre Prospective Cohort Study. https://clinicaltrials.gov/ct2/show/NCT03185637 (Accessed 31st May 2018).

40. Bradnock T, Marven S, Owen A, et al. Gastroschisis: one year outomes from national cohort study. BMJ 2011; 343(d6749).

41. Askarpour S, Ostadian N, Javaherizadeh H, Chabi S. Omphalocele, gastroschisis: epidemiology, survival, and mortality in Imam Khomeini hospital, Ahvaz-Iran. *Pol Przegl Chir* 2012; **84**(2): 82-5.

42. Sekabira J, Hadley GP. Gastroschisis: a third world perspective. Pediatr Surg Int 2009; 25(4): 327-9.

43. Wesonga AS, Fitzgerald TN, Kabuye R, et al. Gastroschisis in Uganda: Opportunities for improved survival. *J Pediatr Surg* 2016; **51**(11): 1772-7.

44. Apfeld JC, Wren SM, Macheka N, et al. Infant, maternal, and geographic factors influencing gastroschisis related mortality in Zimbabwe. *Surgery* 2015; **158**(6): 1475-80.

Allotey J, Davenport M, Njere I, et al. Benefit of preformed silos in the management of gastroschisis. *Pediatr Surg Int* 2007; 23: 1065-9.
 Ameh EA, Chirdan LB. Ruptured exomphalos and gastroschisis: a retrospective analysis of morbidity and mortality in Nigerian children. *Pediatr Surg Int* 2000; 16(1-2): 23-5.

47. Weil BR, Leys CM, Rescorla FJ. The jury is still out: changes in gastroschisis management over the last decade are associated with both benefits and shortcomings. *J Pediatr Surg* 2012; **47**(1): 119-24.

48. Lansdale N, Hill R, Gull-Zamir S, et al. Staged reduction of gastroschisis using preformed silos: practicalities and problems. *J Pediatr* Surg 2009; 44(11): 2126-9.

49. Ford K, Poenaru D, Moulot O, et al. Gastroschisis: Bellwether for neonatal surgery capacity in low resource settings? *J Pediatr Surg* 2016; **51**(8): 1262-7.

50. Du L, Pan WH, Cai W, Wang J, Wu YM, Shi CR. Delivery room surgery: an applicable therapeutic strategy for gastroschisis in developing countries. *World J Pediatr* 2014; **10**(1): 69-73.

51. Erdogan D, Azili MN, Cavusoglu YH, et al. 11-year experience with gastroschisis: factors affecting mortality and morbidity. *Iran J Pediatr* 2012; **22**(3): 339-43.

52. Manson J, Ameh E, Canvassar N, et al. Gastroschisis: a multi-centre comparison of management and outcome. *Afr J Paediatr Surg* 2012; **9**(1): 17-21.

53. Saranrittichai S. Gastroschisis: delivery and immediate repair in the operating room. J Med Assoc Thai 2008; 91(5): 686-92.

54. Abdur-Rahman LO, Abdulrasheed NA, Adeniran JO. Challenges and outcomes of management of anterior abdominal wall defects in a Nigerian tertiary hospital. *Afr J Paediatr Surg* 2011; **8**(2): 159-63.

55. Sakonidou S, Ali K, Farmer I, Hickey A, Greenough A. Mortality and short-term morbidity in infants with exomphalos. *Pediatr Int* 2018.

56. Hsu CC, Lin SP, Chen CH, et al. Omphalocele and gastroschisis in Taiwan. Eur J Pediatr 2002; 161(10): 552-5.

57. Conner P, Vejde JH, Burgos CM. Accuracy and impact of prenatal diagnosis in infants with omphalocele. *Pediatr Surg Int* 2018. 58. Kouame BD, Dick RK, Ouattara O, et al. [Therapeutic approaches for omphalocele in developing countries: experience of Central University Hospital of Yopougon, Abidjan, Cote d'Ivoire]. *Bull Soc Pathol Exot* 2003; **96**(4): 302-5.

59. Osifo OD, Ovueni ME, Evbuomwan I. Omphalocele management using goal-oriented classification in African centre with limited resources. *J Trop Pediatr* 2011; **57**(4): 286-8.

60. Kong JY, Yeo KT, Abdel-Latif ME, et al. Outcomes of infants with abdominal wall defects over 18 years. *J Pediatr Surg* 2016; **51**(10): 1644-9.

61. Groves R, Sunderajan L, Khan AR, Parikh D, Brain J, Samuel M. Congenital anomalies are commonly associated with exomphalos minor. *J Pediatr Surg* 2006; **41**(2): 358-61.

62. Na Q, Liu C, Cui H, Zhang Z, Yin S, Li Q. Immediate repair compared with delayed repair of congenital omphalocele: short-term neonatal outcomes in China. J Int Med Res 2011; **39**(6): 2344-51.

63. Tarca E, Aprodu S. Past and present in omphalocele treatment in Romania. Chirurgia (Bucur) 2014; 109(4): 507-13.

64. Kante L, Togo A, Diakite I, et al. [Omphalocele in general and pediatric surgery in Gabriel Toure]. Mali Med 2010; 25(3): 23-6.

65. Ngom G, Fall I, Sankale AA, et al. [Evaluation of the management of omphalocele at Dakar]. Dakar Med 2004; 49(3): 203-6.

66. Sabetay C, Plesea E, Ferschin A, Sabetay E, Stoica A, Singer I. [Follow-up evaluation of omphalocele treatment in children. The experience of the department of Pediatric Surgery and Orthopedics No.1 University Hospital Craiova]. *Chirurgia (Bucur)* 2001; **96**(2): 177-85.

67. Rintala RJ, Pakarinen MP. Imperforate anus: long- and short-term outcome. Semin Pediatr Surg 2008; 17(2): 79-89.

68. Haider N, Fisher R. Mortality and morbidity associated with late diagnosis of anorectal malformations in children. *Surgeon* 2007; **5**(6): 327-30.

69. Ekenze SO, Ibeziako SN, Ezomike UO. Trends in neonatal intestinal obstruction in a developing country, 1996-2005. *World J Surg* 2007; **31**(12): 2405-9; discussion 10-1.

70. Chirdan LB, Uba FA, Ameh EA, Mshelbwala PM. Colostomy for high anorectal malformation: an evaluation of morbidity and mortality in a developing country. *Pediatr Surg Int* 2008; **24**(4): 407-10.

71. Chowdhary SK, Chalapathi G, Narasimhan KL, et al. An audit of neonatal colostomy for high anorectal malformation: the developing world perspective. *Pediatr Surg Int* 2004; **20**(2): 111-3.

72. Govender S, Wiersma R. Delayed diagnosis of anorectal malformations (ARM): causes and consequences in a resource-constrained environment. *Pediatr Surg Int* 2016; **32**(4): 369-75.

73. Ameh EA, Chirdan LB. Neonatal intestinal obstruction in Zaria, Nigeria. East Afr Med J 2000; 77(9): 510-3.

74. Mirza B, Ijaz L, Saleem M, Sharif M, Sheikh A. Anorectal malformations in neonates. *Afr J Paediatr Surg* 2011; 8(2): 151-4.
75. Lukong CS, Ameh EA, Mshelbwala PM, et al. Management of anorectal malformation: Changing trend over two decades in Zaria, Nigeria. *Afr J Paediatr Surg* 2011; 8(1): 19-22.

76. Archibong AE, Idika IM. Results of treatment in children with anorectal malformations in Calabar, Nigeria. S Afr J Surg 2004; **42**(3): 88-90.

77. Bradnock TJ, Knight M, Kenny S, Nair M, Walker GM, British Association of Paediatric Surgeons Congenital Anomalies Surveillance S. Hirschsprung's disease in the UK and Ireland: incidence and anomalies. *Arch Dis Child* 2017; **102**(8): 722-7.

78. Liem NT, Hau BD. One-stage operation for Hirschsprung's disease: experience with 192 cases. Asian J Surg 2008; 31(4): 216-9.

79. Pini Prato A, Rossi V, Avanzini S, Mattioli G, Disma N, Jasonni V. Hirschsprung's disease: what about mortality? *Pediatr Surg Int* 2011; **27**(5): 473-8.

80. Taguchi T, Obata S, Ieiri S. Current status of Hirschsprung's disease: based on a nationwide survey of Japan. *Pediatr Surg Int* 2017; **33**(4): 497-504.

# Supplementary Table 1: Characteristics, perioperative care, surgical interventions, and outcomes for patients with oesophageal atresia

Variable	Total (n=560)	HIC (n=141)	MIC (n=412)	LIC (n=7)	P value
Patient Characteristics:					
Median gestational age at birth (IQR), weeks	37 (4)	37 (4)	37 (2)	38 (2)	0.621
Median age at presentation (IQR), hours	19 (46)	5 (20)	24 (68)	144 (200)	<0.001
Sex:					
Male	314 (56.1%)	91 (64.5%)	223 (54.1%)	0 (0.0%)	<0.001
Female	242 (43.2%)	50 (35.5%)	186 (45.1%)	6 (85.7%)	-
Ambiguous	4 (0.7%)	0 (0.0%)	3 (0.7%)	1 (14.3%)	-
Median weight at presentation (IQR), kg	2.5 (0.9)	2.5(1.0)	2.5(0.8)	$2 \cdot 2 (1 \cdot 2)$	0.778
Does the patient have another anomaly in addition to the study condition?	268 (47 00/)	70 (40 69/)	105 (47 20/)	2 (42 00/)	0.963
Yes: Cardiovascular	268(47.9%)	70 (49·6%) 11 (7·8%)	195 (47·3%) 32 (7·8%)	3(42.9%)	0.862
Yes: Respiratory	44 (7·9%)		( )	1(14.3%)	0·817 0·337
Yes: Gastrointestinal Yes: Neurological	72 (12·9%) 28 (5·0%)	22 (15·6%) 13 (9·2%)	50 (12·1%) 15 (3·6%)	0 (0·0%) 0 (0·0%)	0·337 0·027
Yes: Genito-urinary	70 (12·5%)	28 (19.9%)	42 (10.2%)	0 (0.0%)	0.007
Yes: Musculoskeletal	62(11.1%)	28 (19 976) 24 (17·0%)	38 (9.2%)	0 (0.0%)	0.025
Yes: Down syndrome	9 (1.6%)	3 (2.1%)	6 (1.5%)	0 (0.0%)	0.813
Yes: Beckwith Wiedemann syndrome	0 (0.0%)	0(0.0%)	0 (0.0%)	0 (0.0%)	0 015
Yes: Cystic fibrosis	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	0.835
Yes: Chromosomal	20(3.6%)	10(7.1%)	10(2.4%)	0 (0.0%)	0·032
Yes: Other	40 (7.1%)	14 (9.9%)	$26(6\cdot3\%)$	0 (0.0%)	0.032
No	198 (35.4%)	45 (31.9%)	149 (36.2%)	4 (57.1%)	0.316
Median distance from patient's home to hospital (IQR), km*	30 (95)	17 (92)	31 (106)	92 (165)	0.026
Type of delivery:	30 (73)	17 (52)	51 (100)	<i>J2</i> (105)	0 020
Vaginal (spontaneous)	222 (39.6%)	53 (37.6%)	163 (39.6%)	6 (85.7%)	0.002
Vaginal (induced)	32 (5.7%)	15 (10.6%)	17 (4.1%)	0 (0.0%)	- 0 002
Caesarean section (elective)	145 (25.9%)	22 (15.6%)	123 (29.9%)	0 (0.0%)	-
Caesarean section (urgent/non-elective)	157 (28.0%)	51 (36.2%)	105 (25.5%)	1 (14.3%)	-
Unknown	3 (0.5%)	0 (0.0%)	3 (0.7%)	0 (0.0%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
Was the patient septic on arrival to your hospital?	1 (0 2/0)	0 (0 0/0)	1 (0 2/0)	0 (0 070)	
Yes	124 (22.1%)	10 (7.1%)	110 (26.7%)	4 (57.1%)	<0.001
No	436 (77.9%)	131 (92.9%)	302 (73.3%)	3 (42.9%)	
Was the patient hypovolaemic on arrival to your hospital?		101 ()2 ) / ()	002 (10 010)	5 (12 ) / 6)	
Yes	77 (13.8%)	12 (8.5%)	64 (15.5%)	1 (14.3%)	0.112
No	483 (86.3%)	129 (91.5%)	348 (84.5%)	6 (85.7%)	-
Was the patient hypothermic on arrival to your hospital?	(00 000)		()	• (•• •••)	
Yes	69 (12·3%)	5 (3.5%)	60 (14.6%)	4 (57.1%)	<0.001
No	490 (87.5%)	136 (96.5%)	351 (85.2%)	3 (42.9%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
American Society of Anaesthesiologists (ASA) Score at the time of primary interve		. ,		. ,	
1. Healthy person	55 (9.8%)	11 (7.8%)	44 (10.7%)	0 (0.0%)	<0.001
2. Mild systemic disease	168 (30.0%)	32 (22.7%)	136 (33.0%)	0 (0.0%)	-
3. Severe systemic disease	166 (29.6%)	58 (41.1%)	105 (25.5%)	3 (42.9%)	-
4. Severe systemic disease that is a constant threat to life	100 (17.9%)	32 (22.7%)	66 (16.0%)	2 (28.6%)	-
5. A moribund patient who is not expected to survive without the operation	31 (5.5%)	2 (1.4%)	29 (7.0%)	0 (0.0%)	-
Not applicable - no intervention	37 (6.6%)	4 (2.8%)	31 (7.5%)	2 (28.6%)	-
Missing	3 (0.5%)	2 (1.4%)	1 (0.2%)	0 (0.0%)	-
What study condition does the patient have?					
Oseenhannel eternia	5(0(100.00/)	141	412 (100 00/)	7 (100,00/)	
Oesophageal atresia	560 (100.0%)	(100.0%)	412 (100.0%)	7 (100.0%)	-
Congenital diaphragmatic hernia	1 (0.2%)	1 (0.7%)	0 (0.0%)	0 (0.0%)	0.226
Intestinal atresia	18 (3.2%)	7 (5.0%)	11 (2.7%)	0 (0.0%)	0.365
Gastroschisis	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Exomphalos/Omphalocele	3 (0.5%)	1 (0.7%)	2 (0.5%)	0 (0.0%)	0.934
Anorectal malformation	53 (9.5%)	10 (7.1%)	42 (10.2%)	1 (14.3%)	0.204
Hirschsprung's Disease	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Type of OA +/- TOF (Gross classification)					
Without a fistula	47 (8.4%)	14 (9.9%)	33 (8.0%)	0 (0.0%)	0.147
Proximal TOF, distal OA	10 (1.8%)	4 (2.8%)	5 (1.2%)	1 (14.3%)	-
Distal TOF with proximal OA	476 (85.0%)	114 (80.9%)	356 (86.4%)	6 (85.7%)	-
Proximal and distal TOF	8 (1.4%)	4 (2.8%)	4 (1.0%	0 (0.0%)	-
H-type TOF without OA	19 (3.4%)	5 (3.6%)	14 (3.4%)	0 (0.0%)	-
Long or short gap?					
Long	111 (19.8%)	26 (18.4%)	85 (20.6%)	0 (0.0%)	<0.001
Short	375 (67.0%)	99 (70·2%)	275 (66.8%)	1 (14.3%)	-
Unknown	74 (13.2%)	16 (11.4%)	52 (12.6%)	6 (85.7%)	-
Pneumonia at presentation?					
Yes: diagnosed clinically	100 (17.9%)	3 (2.1%)	91 (22.1%)	6 (85.7%)	<0.001
Yes: diagnosed radiologically	86 (15.4%)	3 (2.1%)	83 (20.1%)	0 (0.0%)	-
Yes: other means of diagnosis	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
No: patient born in the study centre	123 (22.0%)	47 (33.3%)	76 (18.4%)	0 (0.0%)	-
No: patient born outside the study centre but no evidence of pneumonia on arrival	251 (44.8%)	88 (62.4%)	162 (39.3%)		

Yes: diagnosed clinically Yes: diagnosed on bronchoscopy	34 (6·1%) 38 (6·8%)	11 (7·8%) 21 (14·9%)	23 (5·6%) 17 (4·3%)	0 (0·0%) 0 (0·0%)	0·505 <b>&lt;0·00</b>
Yes: diagnosed on CT	0 (0.0%)	0(0.0%)	0 (0.0%)	0 (0.0%)	
Yes: diagnosed on bronchogram	2 (0.4%)	1 (0.7%)	1 (1.0%)	0 (0.0%)	0.716
Yes: other method of diagnosis	0 (0.0%)	0 (0.0%)	0 (0.0%)	0(0.0%)	-
No Care prior to presentation at the paediatric surgery centre:	486 (87.0%)	108 (76.6%)	371 (90.0%)	7 (100.0%)	<0.00
Antenatal ultrasound undertaken?					
Yes: study condition diagnosed	65 (11.6%)	20 (14.2%)	45 (10.9%)	0 (0.0%)	<0.00
Yes: problem identified but study condition not diagnosed	126 (22.5%)	52 (36.9%)	73 (17.7%)	1 (14.3%)	-
Yes: no problem identified	289 (51.6%)	58 (41.1%)	226 (54.9%)	5 (71.4%)	-
No	79(14.1%)	11 (7.8%)	67 (16·3%)	1(14.3%)	-
Missing Aedian gestational age of study condition diagnosis if diagnosis was antenatal	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
IQR), weeks	29 (8)	29.5 (11)	29 (6)	-	0.293
Adde of transport to hospital:					
Ambulance	314 (56.1%)	85 (60.3%)	225 (54.6%)	4 (57.1%)	<0.00
Other transport provided by the health service Patient's own transport	39 (7·0%) 73 (13·0%)	10(7.1%)	28(6.8%)	1(14.3%)	-
Born within the hospital	133 (23.8%)	2 (1·4%) 44 (31·2%)	69 (16·8%) 89 (21·6%)	2 (28·6%) 0 (0·0%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
f outborn, where did the patient present from?	(, ,				
Home	17 (4.0%)	1 (1.0%)	15 (4.7%)	1 (14.3%)	0.01
Community Clinic/General Practice	66 (15·5%)	5 (5·2%)	59 (18·3%)	2(28.6%)	-
District Hospital From another country	338 (79·3%) 1 (0·2%)	90 (92·8%) 0 (0·0%)	244 (75·8%) 1 (0·3%)	4 (57·1%) 0 (0·0%)	-
From a different speciality within the hospital	1(0.2%) 1(0.2\%)	1 (1.0%)	0 (0.0%)	0 (0.0%)	-
Unknown	3 (0.7%)	0 (0.0%)	3 (0.9%)	0 (0.0%)	-
Perioperative care at the paediatric surgery centre:					
f septic, were appropriate antibiotics administered?					
Yes within 1 hour of arrival	100(80.6%)	7 (70.0%)	91 (82·7%)	2(50.0%)	0.40
Yes within the first day of arrival No	23 (18·5%) 1 (0·8%)	3 (30·0%) 0 (0·0%)	18 (16·4%) 1 (0·9%)	2 (50·0%) 0 (0·0%)	-
f hypovolaemic, was an intravenous fluid bolus given?	1 (0 070)	0 (0 070)	1 (0 970)	0 (0 070)	
Yes within 1 hour of arrival	56 (72.7%)	5 (41.7%)	51 (79.7%)	0 (0.0%)	<0.00
Yes within the first day of arrival	19 (24.7%)	7 (58·3%)	12 (18.8%)	0 (0.0%)	-
No formanda and a state of the	2 (2.6%)	0 (0.0%)	1 (1.6%)	1 (100.0%)	-
f hypovolaemic, how much intravenous fluid was given? 10 - 20mls/kg	57 (76.0%)	8 (66.7%)	49 (77.8%)	0 (0.0%)	0.40
Above 20mls/kg	18 (24.0%)	4 (33.3%)	14 (22.2%)	0 (0.0%)	- 0
f hypothermic, was the patient warmed on arrival to your hospital to within a norm					
Yes	64 (92.8%)	5 (100.0%)	55 (91.7%)	4 (100.0%)	0.66
No	5 (7·2%)	0 (0.0%)	5 (8.3%)	0 (0.0%)	-
Did the patient receive central venous access? Yes: umbilical catheter	74 (13.2%)	30 (21.3%)	44 (10.7%)	0 (0.0%)	0.00
Yes: peripherally inserted central catheter (PICC)	179 (32.0%)	60 (42·6%)	119 (28.9%)	0 (0.0%)	0.00
Yes: percutaneously inserted central line with ultrasound guidance	92 (16.4%)	42 (29.8%)	50 (12.1%)	0 (0.0%)	<0.00
Yes: surgically placed central line (open insertion)	60 (10.7%)	2 (1.4%)	58 (14.1%)	0 (0.0%)	<0.00
No	195 (34.8%)	23 (16·3%)	165 (40.1%)	7 (100%)	<0.0(
Aedian total duration of antibiotics following primary ntervention (IQR), days	7 (12)	5 (6)	10 (11)	0 (3)	<0.00
Did the patient receive a blood transfusion?					
Yes: not cross-matched.	11 (2.0%)	3 (2.1%)	8 (1.9%)	0 (0.0%)	<0.00
Yes: cross-matched.	246 (43.9%)	36 (25.5%)	208 (50.5%)	2 (28.6%)	-
No: not required.	295(52.7%)	100(70.9%)	190(46.1%)	5(71.4%)	-
No: it was required but not available. Missing	7 (1·3%) 1 (0·2%)	1 (0·7%) 1 (0·7%)	6 (1·5%) 0 (0·0%)	0 (0·0%) 0 (0·0%)	-
Did the patient require ventilation?	1 (0 270)	1 (0 770)	0 (0 070)	0 (0 070)	-
Yes and it was given	475 (84.8%)	137 (97.2%)	338 (82.0%)	0 (0.0%)	<0.00
Yes, but it was not available	14 (2.5%)	0 (0.0%)	10 (2.4%)	4 (57.1%)	-
No	71 (12.7%)	4 (2.8 %)	64 (15·5 %)	3 (42.9%)	-
Aedian time patient remained on ventilation if given (IQR), days Aedian time to first enteral feed (post-primary intervention) (IQR), days	5 (6) 6 (6)	5 (5) 5 (5)	5 (7) 6 (6)	10 (0)	0·57 0·06
Aedian time to full enteral feeds (post-primary intervention) (IQR), days	12 (11)	12 (12)	12 (11)	-	0.00
Addian time to first oral feed post-operatively (IQR), days	7 (6)	8 (5)	7 (6)	-	0.65
Aedian time to full oral feeds (IQR), days	14 (12)	15 (21)	14 (10)	-	0.03
Did the patient require parenteral nutrition?	200 (71 10/2	100 (0.6 50/)	0.74 (17 0.04)	0 (0 00()	
Yes and it was given	398 (71.1%)	122 (86.5%)	276(67.0%)	0 (0.0%)	<0.00
Yes and it was sometimes available, but less than required Yes, but it was not available	14 (2·5%) 23 (4·1%)	$0 (0.0\%) \\ 0 (0.0\%)$	14(3.4%) 19(4.6\%)	0 (0.0%)	-
No	125 (22.3%)	0 (0·0%) 19 (13·5%)	19 (4·6%) 103 (25·0%)	4 (57·1%) 3 (42·9%)	-
Median time patient received parenteral nutrition if received (IQR), days	12 (10)	12 (13)	12 (9)	-	0.46
f the patient had a primary oesophageal anastomosis, was a post-operative oesopha	gogram undertaken	?			
Yes	272 (71.2%)	93 (84·5%)	179 (65.8%)	0 (0.0%)	<0.00
No	110 (28.8%)	17 (15.5%)	93 (34·2%)	0 (0.0%)	-

Routine Clinically indicated	234 (86·0%) 38 (14·0%)	85 (91·4%) 8 (8·6%)	149 (83·2%) 30 (16·8%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \end{array}$	0·066 -
Aedian number of days until post-operative oesophagogram undertaken, if	7 (3)	7 (3)	7 (2)	-	0.335
ndertaken (IQR) Result of post-operative oesophagogram:					
Leak	52 (19.2%)	14 (15.1%)	38 (21.3%)	0 (0.0%)	0.212
No leak	219 (80.8%)	79 (84·9%)	140 (78.7%)	0 (0.0%)	- 0 212
or patients diagnosed with a leak radiologically, was it associated with clinical symp		(01)		• (• • • • •)	
Yes	35 (68.6%)	11 (78.6%)	24 (64.9%)	0 (0.0%)	0.346
No	16 (31.4%)	3 (21.4%)	13 (35.1%)	0 (0.0%)	-
urgical intervention:					
rimary intervention:	295 (69.90/)	110 (78.0%)	275 (68.6%)	0 (0.0%)	<0.00
Oesophageal anastomosis TOF ligation	385 (68·8%) 341 (60·9%)	110 (78·0%) 106 (75·2%)	275 (68·6%) 235 (57·0%)	0 (0.0%)	<0.00 <0.00
Gastrostomy	108 (19.3%)	21 (14.9%)	84 (20.4%)	3 (42.9%)	0.102
Palliative care	50 (8.9%)	4 (2.8%)	42 (10.2%)	4 (57.1%)	<0.00
Oesophagostomy	42 (7.5%)	3 (2.1%)	39 (9.5%)	0 (0.0%)	0.013
Ligation of the distal oesophagus	16 (2.9%)	0 (0.0%)	16 (3.9%)	0 (0.0%)	0.052
Foker technique	4 (0.7%)	1 (1.0%)	3 (1.0%)	0 (0.0%)	0.975
Fundoplication	0 (0.0%)	0 (0.0%)	0 (0.0%)	0(0.0%)	-
Gastro-oesophageal disconnection	0(0.0%)	0 (0.0%)	0 (0.0%)	0(0.0%)	-
Other Iedian time from arrival at your hospital to primary intervention (IOR), hours	10 (1·8%) 35 (54)	3 (2·1%) 23 (19)	7 (7·7%) 48 (68)	0 (0·0%) 96 (96)	0·887 <b>&lt;0·00</b>
urgical approach?	55 (54)	25 (17)	-0 (00)	70 (90)	~0.00
Thoracotomy muscle cutting	212 (40.4%)	37 (27.0%)	175 (45.6%)	0 (0.0%)	<0.00
Thoracotomy muscle splitting	147 (28.0%)	48 (35.0%)	98 (25.5%)	1 (25.0%)	-
Thoracoscopy	92 (17.5%)	39 (28.5%)	53 (13.8%)	0 (0.0%)	-
Laparotomy	29 (5.5%)	6 (4.4%)	21 (5.5%)	2 (50.0%)	-
Limited local incision	14 (2.7%)	2 (1.5%)	12 (3.1%)	0 (0.0%)	-
Laparoscopy	3 (0.6%)	1 (0.7%)	2 (0.5%)	0 (0.0%)	-
Cervical approach	2(0.4%)	1(0.7%)	1(0.3%)	0(0.0%)	-
Not applicable/no intervention	20(3.8%)	1(0.7%)	18 (4.7%)	1(25.0%)	-
Other Unknown	1 (0·2%) 5 (1·0%)	0 (0·0%) 2 (1·5%)	1 (0·3%) 3 (0·8%)	0 (0.0%)	-
Chronown Sthoracoscopic/ laparoscopic, was the operation converted to open?	5 (1.0%)	2 (1.3%)	3 (0.8%)	0 (0.0%)	-
Yes	10 (10.6%)	5 (12.5%)	5 (9.3%)	0 (0.0%)	0.61
No	84 (89.4%)	35 (87.5%)	49 (90.7%)	0 (0.0%)	-
What type of anaesthesia was used for the primary intervention?	0. (0,)			. ( )	
General anaesthesia with endotracheal tube	506 (90.4%)	136 (96.5%)	368 (89.3%)	2 (28.6%)	<0.00
Ketamine anaesthesia	2 (0.4%)	0 (0.0%)	1 (0.2%)	1 (14.3%)	-
General anaesthesia with laryngeal airway	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
Local anaesthesia only	1 (0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
No anaesthesia, just analgesia	1 (0.2%)	1 (0.7%)	0 (0.0%)	0 (0.0%)	-
Spinal/caudal anaesthesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
No anaesthesia, no analgesia Not ambianha, no anargena an primary intervention undertaken	0 (0.0%)	0 (0.0%)	0 (0.0%)	0(0.0%)	-
Not applicable: no surgery or primary intervention undertaken. /ho undertook the anaesthetic for the primary intervention?	49 (8.8%)	4 (2.8%)	41 (10.0%)	4 (57·1%)	-
Anaesthetic doctor	506 (90.4%)	136 (96.5%)	368 (89.3%)	2 (28.6%)	<0.00
Surgeon	2 (0.4%)	0 (0.0%)	2 (0.5%)	0 (0.0%)	
Anaesthetic nurse	1(0.2%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	-
Medical officer	1 (0.2%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	-
Other healthcare professional	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
No anaesthetic undertaken	50 (8.9%)	5 (3.6%)	41 (10.0%)	4 (57.1%)	-
/ho undertook the primary intervention?	F00 (00 F0);	104 (05 00)	252 (02 22)	0.000	·
Paediatric surgeon (or junior with paediatric surgeon assisting/in the room)	508 (90·7%)	134 (95.0%)	372 (90.3%)	2(28.6%)	<0.0
General surgeon (or junior with general surgeon assisting/in the room)	4(0.7%)	3(2.1%)	1(0.2%)	0(0.0%)	-
Trainee surgeon (without a paediatric or general surgeon assisting or in the room) Junior doctor, medical officer or other (without a paediatric or general surgeon	1 (0.2%)	0 (0.0%)	0 (0.0%)	1 (14·3%)	-
assisting/in the room)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Not applicable - no surgery or primary intervention undertaken.	47 (8.4%)	4 (2.8%)	39 (9.5%)	4 (57.1%)	-
<i>Vas</i> a Surgical Safety Checklist used at the time of primary intervention?	., (0 770)	1 (2 070)	57 (7 570)	. (37 170)	-
Yes	423 (75.5%)	131 (92.9%)	290 (70.4%)	2 (28.6%)	<0.0
No: but it was available	49 (8.8%)	4 (2.8%)	43 (10.4%)	2 (28.6%)	-
No: it was not available	41 (7.3%)	2 (1.4%)	39 (9.5%)	0 (0.0%)	-
Not applicable: a conservative primary intervention was undertaken	5 (0.9%)	0 (0.0%)	5 (1.2%)	0 (0.0%)	-
Not applicable: no surgery or primary intervention undertaken	42 (7.5%)	4 (2.8%)	35 (8.5%)	3 (42.9%)	-
or patients not receiving a primary oesophageal anastomosis, at what age is	3 (6)	3 (4)	3 (6)	-	0.93
finitive surgery planned? Median months (IQR)		. /			
or patients not receiving a primary oesophageal anastomosis, what is the future plan Primary oesophageal anastomosis if possible	66 (11.8%)	17 (12.1%)	48 (11.7%)	1 (14.3%)	0.97
Gap assessment	30 (5·4%)	17 (12·1%) 6 (4·3%)	48 (11·7%) 24 (5·8%)	1 (14·3%) 0 (0·0%)	0.97
Colonic interposition	20 (3.6%)	1 (0.7%)	24 (3·8%) 19 (4·6%)	0 (0.0%)	0.03
Gastric pull-up	18 (3.2%)	1(0.7%) 1(0.7\%)	17 (4.1%)	0 (0.0%)	0.08
H fistula - no further intervention planned	3 (0.5%)	2 (1.4%)	1 (0.2%)	0 (0.0%)	0.25
	· /			· · ·	
Ligation of TOF	2(0.4%)	2 (1.4%)	0(0.0%)	010.0%01	0.05
•	2 (0·4%) 0 (0·0%)	2 (1·4%) 0 (0·0%)	0 (0·0%) 0 (0·0%)	0 (0·0%) 0 (0·0%)	0.03

Not applicable, primary anastomosis undertaken253 (45 2%) 253 (45 2%)88 (62 4%) 88 (62 4%)164 (39 4%) 164 (39 4%) 164 (39 4%)11 (14 3%) 164 (14 3%) $00$ Not applicable, patient died5 (0.9%)0 (0.0%)5 (1.2%)0 (0.0%)0 (14 3%) $00$ If the patient had tracheomalacia, was an intervention undertaken?7711 (43 5%) $00$ $0$
Unknown46 (8·2%)5 (3·5%)40 (9·7%)1 (14·3%)0·00If the patient had tracheomalacia, was an intervention undertaken?Yes: aortopexy0 (0·0%)
If the patient had tracheomalacia, was an intervention undertaken?Yes: is ortopexy $0 (0.0\%)$ $0 (0.0\%$
Yes: aortopexy0 (0·0%)0 (0·0%)0 (0·0%)0 (0·0%)0 (0·0%)0 (0Yes: tracheostomy3 (4·2%)2 (6·3%)1 (2·6%)0 (0·0%)0Yes: tracheal stent0 (0·0%)0 (0·0%)0 (0·0%)00Yes: tracheal stent2 (2·8%)1 (3·1%)1 (2·6%)0 (0·0%)0No49 (69·0%)22 (68·8%)27 (69·2%)0 (0·0%)0No49 (69·0%)22 (68·8%)2 (9·2%)0 (0·0%)0Ves:423 (75·5%)131 (92·9%)291 (70·6%)1 (14·3%)Yes423 (75·5%)10 (7·1%)121 (29·4%)6 (85·7%)If the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?11 (14·3%)Yes385 (91·0%)10 (7·1%)121 (29·4%)6 (85·7%)If the patient was discharged prior, were they still alive at 30-days following primary intervention?Yes385 (91·0%)125 (95·4%)260 (89·3%)0 (0·0%)No2 (0·5%)0 (0·0%)2 (0·5%)0 (0·0%)No2 (0·5%)0 (0·0%)2 (0·5%)0 (0·0%)No17 (4·0%)6 (4·6%)10 (3·4%)1 (10·0%)4Gause of mortality:S1 (10·0%)42 (34·1%)1 (16·7%)Cardiac failure21 (15·1%)3 (30·0%)33 (26·8%)2 (33·3%)Cardiac failure19 (13·7%)0 (0·0%)1 (16·7%)Haemorrhage5 (3·6%)1 (10·0
Yes: tracheostomy $3(4.2\%)$ $2(6.3\%)$ $1(2.6\%)$ $0(0.0\%)$ $-$ Yes: tracheal stent $0(0.0\%)$ $0(0.0\%)$ $0(0.0\%)$ $0(0.0\%)$ $0(0.0\%)$ $-$ Yes: supportive management (oxygen +/- ventilation) only $17(23.9\%)$ $7(21.9\%)$ $10(25.6\%)$ $0(0.0\%)$ $-$ No $49(69.0\%)$ $22(68.8\%)$ $27(69.2\%)$ $0(0.0\%)$ $-$ No $49(69.0\%)$ $22(68.8\%)$ $27(69.2\%)$ $0(0.0\%)$ $-$ Outcomes: $    -$ Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? $  -$ Yes $423(75.5\%)$ $131(92.9\%)$ $291(70.6\%)$ $1(14.3\%)$ $<$ $<$ No $137(24.5\%)$ $10(7.1\%)$ $121(29.4\%)$ $6(85.7\%)$ $-$ If the patient survive to discharge d prior, were they still alive at 30-days following primary intervention? $  -$ Yes $385(91.0\%)$ $10(7.1\%)$ $121(29.4\%)$ $6(85.7\%)$ $-$ No $2(0.5\%)$ $0(0.0\%)$ $2(0.7\%)$ $0(0.0\%)$ $-$ No $2(0.5\%)$ $0(0.0\%)$ $2(0.7\%)$ $0(0.0\%)$ $-$ No $12(4.5\%)$ $0(0.0\%)$ $1(10.0\%)$ $42(34.1\%)$ $1(10.0\%)$ No $2(0.5\%)$ $0(0.0\%)$ $10(0.4\%)$ $-$ Cauce of mortality: $   -$ Sepsis $44(31.7\%)$ $1(10.0\%)$ $42(34.1\%)$ $1(16.7\%)$ Aspiration pneumonia
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Anastomotic leak         1 (0.7%)         0 (0.0%)         1 (0.8%)         0 (0.0%)         -           Other         7 (5.0%)         0 (0.0%)         6 (4.9%)         1 (16.7%)         -           Median duration of hospital stays, (IQR) days         18 (18)         23 (17)         18 (17)         6 (17)         0.0
Other         7 (5.0%)         0 (0.0%)         6 (4.9%)         1 (16.7%)         -           Median duration of hospital stays, (IQR) days         18 (18)         23 (17)         18 (17)         6 (17)         0.0
Median duration of hospital stays, (IQR) days 18 (18) 23 (17) 18 (17) 6 (17) 0.0
Yes $63(11\cdot3\%)  10(7\cdot1\%)  53(12\cdot9\%)  0(0\cdot0\%)  <0^{+1}$
No $443(79\cdot1\%) 128(90\cdot8\%) 312(75\cdot7\%) 3(42\cdot9\%)$ -
Not applicable, no surgical wound 54 (9.6%) 3 (2.1%) 47 (11.4%) 4 (57.1%)
Did the patient have a full thickness wound dehiscence?
Yes $7(1.3\%) = 1(0.7\%) = 6(1.5\%) = 0(0.0\%) < 0.0\%$
No 497 (88·8%) 137 (97·2%) 357 (86·7%) 3 (42·9%)
Not applicable, no surgical wound $56 (10.0\%)  3 (2.1\%)  49 (11.9\%)  4 (57.1\%)$
Did the patient require a further unplanned intervention? $19 (3.4\%)$ $9 (6.4\%)$ $10 (2.4\%)$ $0 (0.0\%)$ $< 0^{-1}$
Yes - surgical intervention $52 (9.3\%)$ $14 (9.9\%)$ $38 (9.2\%)$ $0 (0.0\%)$
No $443 (79.1\%) 115 (81.6\%) 325 (78.9\%) 3 (42.9\%) -$
Not applicable – no primary intervention undertaken $46(8\cdot2\%)$ $3(2\cdot1\%)$ $39(9\cdot5\%)$ $4(57\cdot1\%)$ -
If a central line was inserted, did the patient acquire central line sepsis?
Yes, diagnosed clinically         12 (3·3%)         1 (0·8%)         11 (4·4%)         0 (0·0%)         0·1
Yes, confirmed on microbiology $24 (6.5\%)$ $9 (7.6\%)$ $15 (6.0\%)$ $0 (0.0\%)$
No 332 (90·2%) 109 (91·6%) 223 (89·6%) 0 (0·0%)
Did the patient have a condition specific complication within 30-days of primary intervention?
Pneumonia         117 (20·9%)         12 (8·5%)         104 (25·2%)         1 (14·3%)         <0·           Anastomotic leak         63 (11·3%)         13 (9·2%)         49 (11·9%)         1 (14·3%)         0·6
Anastomotic leak $63 (11.3\%)$ $13 (9.2\%)$ $49 (11.9\%)$ $1 (14.3\%)$ $0.6$ Pneumothorax $57 (10.2\%)$ $20 (14.2\%)$ $37 (9.0\%)$ $0 (0.0\%)$ $0.1$
Preumoinorax $37/(10.2\%)$ $20/(14.2\%)$ $37/(9.0\%)$ $0/(0.0\%)$ $0.1$ Mediastinitis $37/(6.6\%)$ $8/(5.7\%)$ $29/(7.04\%)$ $0/(0.0\%)$ $0.6$
Anastomotic stricture $27 (4.8\%)$ $13 (9.2\%)$ $14 (3.4\%)$ $0 (0.0\%)$ $0.0$
Recurrent TOF $10(1.8\%)$ $3(2.1\%)$ $7(1.7\%)$ $0(0.0\%)$ $0.8$
Chylothorax $6(1.1\%)$ $2(1.4\%)$ $4(1.0\%)$ $0(0.0\%)$ $0.8$
Haemothorax 3 (0.5%) 1 (1.0%) 2 (0.5%) 0 (0.0%) 0.9
NEC 3 (0.5%) 0 (0.0%) 3 (0.7%) 0 (0.0%) 0.5
Left vocal cord paralysis/recurrent laryngeal nerve palsy $2(0.4\%)$ $2(1.4\%)$ $0(0.0\%)$ $0(0.0\%)$
Ligation of a bronchus 1 (0.2%) 0 (0.0%) 1 (0.2%) 0 (0.0%) 0.8
Paralysis of the diaphragm $1 (0.2\%)$ $0 (0.0\%)$ $1 (0.2\%)$ $0 (0.0\%)$ $0.8$
Other $18(3.2\%)$ $5(3.6\%)$ $13(3.2\%)$ $0(0.0\%)$ $0.8$
N/A, no intervention $4(0.7\%) 1(0.7\%) 2(0.5\%) 1(14.3\%) < 0.0$
None 285 (50.9%) 83 (58.9%) 200 (48.5%) 2 (28.6%) 0.0 Was the patient followed up at 30-days post primary surgery or intervention to a assess for complications?
Was the patient followed up at 50-days post primary surgery or intervention to a assess for complications? Yes: reviewed in person $231(54.7\%)$ 65 (50.0%) 166 (57.0%) 0 (0.0%) 0.0
Yes: via telephone consultation $31(7\cdot3\%)$ $5(3\cdot8\%)$ $26(8\cdot9\%)$ $0(0\cdot0\%)$ $0(0\cdot0\%)$
Yes: via other means $15 (3.6\%)$ $2 (3.5\%)$ $20 (3.5\%)$ $0 (0.0\%)$
Yes: still an in-patient at 30-days $90 (21.3\%)$ $39 (30.0\%)$ $51 (17.5\%)$ $0 (0.0\%)$
No: data is based on in-patient observations only $27 (6.4\%) = 13 (100\%) = 13 (4.5\%) = 1 (100\%) = -100\%$
No: follow-up was done, but prior to 30-days $28 (6.7\%) = 6 (4.6\%) = 22 (7.6\%) = 0 (0.0\%) = -20 (0.0\%)$
If the patient had a complication, when was it diagnosed?
During the primary admission $186 (33.4\%)$ $45 (31.9\%)$ $141 (34.4\%)$ $0 (0.0\%)$ $<0^{\circ}$
As an emergency re-attender $18 (3.2\%) = 8 (5.7\%) = 10 (2.4\%) = 0 (0.0\%)$
At routine follow-up as an out-patient $15 (2.7\%) 2 (1.4\%) 13 (3.2\%) 0 (0.0\%)$ -
Not applicable, no complications $338 (60.7\%) 86 (61.0\%) 246 (60.0\%) 6 (100.0\%)$ *Patients born in bospital = 0. HIC: High-income countries IOR: Interguartile range, LIC: Low-income countries, MIC: Middle-income countries

\*Patients born in hospital = 0. HIC: High-income countries. IQR: Interquartile range. LIC: Low-income countries. MIC: Middle-income countries. NEC: Necrotising enterocolitis. OA: Oesophageal atresia. TOF: Trachea-oesophageal fistula.

## Supplementary Table 2: Characteristics, perioperative care, surgical interventions, and outcomes for patients with congenital diaphragmatic hernia (CDH)

Variable	Total (n=448)	HIC (n=148)	LMIC* (n=300)	P value
Patient Characteristics:				
Median gestational age at birth (IQR), weeks	38 (2)	38 (2)	38 (2)	0.534
Median age at presentation (IQR), hours	7 (96)	0 (24)	20 (168)	<0.001
Sex:	262 (59 59()	02 (56 10()	170 (50 70/)	
Male	262 (58.5%)	83 (56.1%)	179 (59.7%)	0.470
Female	186 (41.5%)	65 (43·9%)	121 (40.3%)	0.402
Median weight at presentation (IQR), kg Does the patient have another anomaly in addition to the study condition?	3.1 (1.0)	3.2 (1.0)	3.0 (0.9)	0.493
Yes: Cardiovascular	179 (40.0%)	55 (37.2%)	124 (41.3%)	0.397
Yes: Respiratory	70 (15.6%)	23 (15.5%)	47 (15.7%)	0.972
Yes: Gastrointestinal	24 (5.4%)	12 (8.1%)	12 (4.0%)	0.069
Yes: Neurological	17 (3.8%)	12 (8.1%)	5 (1.7%)	0.001
Yes: Genito-urinary	16 (3.6%)	10 (6.8%)	6 (2.0%)	0.011
Yes: Musculoskeletal	16 (3.6%)	9 (6.1%)	7 (2.3%)	0.044
Yes: Down syndrome	3 (0.7%)	0 (0.0%)	3 (1.0%)	0.222
Yes: Beckwith Wiedemann syndrome	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Yes: Cystic fibrosis	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Yes: Chromosomal	9 (2.0%)	4 (2.7%)	5 (1.7%)	0.462
Yes: Other	22 (4.9%)	9 (6.1%)	13 (4.3%)	0.421
No	209 (46.7%)	69 (46.6%)	140 (46.7%)	0.993
Median distance from patient's home to hospital (IQR), km <sup>+</sup>	13 (89)	6 (56)	15 (108)	0.003
Type of delivery:				
Vaginal (spontaneous)	190 (42·4%)	59 (39.9%)	131 (43.7%)	<0.001
Vaginal (induced)	33 (7.4%)	21 (14·2%)	12 (4.0%)	-
Caesarean section (elective)	123 (27.5%)	30 (20.3%)	93 (31.0%)	-
Caesarean section (urgent/non-elective)	92 (20.5%)	29 (19.6%)	63 (21.0%)	-
Unknown	9 (2.0%)	8 (5.4%)	1 (0.3%)	-
Missing	1 (0.2%)	1 (0.7%)	0 (0.0%)	-
Was the patient septic on arrival to your hospital?	74(1(-50))	5 (2, 40/)	(0.(22.00/)	<0.001
Yes	74 (16.5%)	5(3.4%)	69 (23·0%)	<0.001
No	372 (83·0%) 2 (0·4%)	142 (95·9%) 1 (0·7%)	230 (76·7%) 1 (0·3%)	-
Missing Was the patient hypovolaemic on arrival to your hospital?	2 (0 470)	1 (0 770)	1 (0 370)	-
Yes	63 (14.1%)	15 (10.1%)	48 (16.0%)	0.092
No	384 (85.7%)	132 (89.2%)	252 (84.0%)	_
Missing	1 (0.2%)	1 (0.7%)	0 (0.0%)	-
Was the patient hypothermic on arrival to your hospital?				
Yes	49 (10.9%)	3 (2.0%)	46 (15.3%)	<0.001
No	398 (88.8%)	144 (97.3%)	254 (84.7%)	-
Missing	1 (0.2%)	1 (0.7%)	0 (0.0%)	-
American Society of Anaesthesiologists (ASA) Score at the time of primary intervention:				
1. Healthy person	38 (8.5%)	2 (1.4%)	36 (12.0%)	<0.001
2. Mild systemic disease	76 (17.0%)	17 (11.5%)	59 (19·7%)	-
3. Severe systemic disease	148 (33.0%)	63 (42·6%)	85 (28·3%)	-
4. Severe systemic disease that is a constant threat to life	96(21.4%)	47 (31.8%)	49 (16.3%)	-
5. A moribund patient who is not expected to survive without the operation	23 (5·1%) 66 (14·7%)	7 (4·7%) 11 (7·4%)	16 (5·3%) 55 (18·3%)	-
Not applicable - no intervention	1 (0.2%)	11(7 + 76) 1(0.7%)	0(0.0%)	-
Missing What study condition does the patient have?	1 (0 270)	1 (0 770)	0 (0 070)	-
Oesophageal atresia	1(0.2%)	1(0.7%)	0(0.0%)	0.154
Congenital diaphragmatic hernia	448 (100%)	148 (100%)	300 (100%)	-
Intestinal atresia	0 (0.0%)	0(0.0%)	0(0.0%)	_
Gastroschisis	0 (0.0%)	0(0.0%)	0(0.0%)	_
Exomphalos/Omphalocele	1(0.2%)	1(0.7%)	0(0.0%)	0.154
Anorectal malformation	1(0.2%)	1(0.7%)	0(0.0%)	0.154
Hirschsprung's Disease	1(0.2%)	0(0.0%)	1(0.3%)	0.482
Type of CDH				
Left posteriolateral (Bochdalek)	316 (70.5%)	100 (67.6%)	216 (72.0%)	0.190
Right posteriolateral (Bochdalek)	69 (15.4%)	30 (20.3%)	39 (13.0%)	-
Bilateral posteriolateral (Bochdalek)	7 (1.6%)	1 (0.7%)	6 (2.0%)	-
Central	21 (4.7%)	5 (3·4%)	16 (5.3%)	-
Anterior (Morgagni)	21 (4.7%)	9 (6.1%)	12 (4.0%)	-
Other	2 (0.4%)	0 (0.0%)	2 (0.7%)	-
Hiatal hernia	4 (0.9%)	2 (1.4%)	2 (0.7%)	-
Eventration	2 (0.4%)	1 (0.7%)	1 (0.3%)	-

Unknown	6 (1.3%)	0 (0.0%)	6 (2.0%)	-
Type of Bochdalek CDH (CDH Study Group Classification)				
A	41 (10.7%)	15 (11.6%)	26 (10.3%)	0.012
В	168 (44.0%)	57 (44·2%)	111 (43.9%)	-
C	87 (22.8%)	36 (27.9%)	51 (20.2%)	-
D	29 (7.6%)	12 (9.3%)	17 (6.7%)	-
Other (specify)	1 (0.3%)	1 (0.8%)	0 (0.0%)	-
Unknown	56 (14.7%)	8 (6.2%)	48 (19.0%)	-
If bilateral, what was the type of Bochdalek hernia on the left (CDH Study Group)	, ,		. ,	
A	0 (0.0%)	0 (0.0%)	0 (0.0%)	0.230
В	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 250
C	2 (28.6%)	1 (100.0%)	1 (16.7%)	-
D	1(14.3%)	0 (0.0%)	1 (16.7%)	
Unknown	. ,	0 (0.0%)	4 (66.7%)	-
	4 (57.1%)	0 (0.0%)	4 (00.7%)	-
If bilateral, what was the type of Bochdalek hernia on the right (CDH Study Group)	1 (1 4 20 ()	0 (0 00()	1 (1 ( 70 ()	
A	1 (14.3%)	0 (0.0%)	1 (16.7%)	0.072
В	1 (14·3%)	0 (0.0%)	1 (16.7%)	-
C	1 (14·3%)	1 (100.0%)	0 (0.0%)	-
D	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Unknown	4 (57.1%)	0 (0.0%)	4 (66.7%)	-
Liver position?				
Chest	124 (27.7%)	57 (38.5%)	67 (22.3%)	<0.001
Abdomen	284 (63.4%)	83 (56.1%)	201 (67.0%)	-
Unknown	40 (8.9%)	8 (5.4%)	32 (10.7%)	-
Did the patient have pulmonary hypertension (at any stage)?	10 (0 570)	0 (0 170)	52(10 775)	-
Yes: diagnosed clinically	57 (12.7%)	13 (8.8%)	44 (14.7%)	<0.001
Yes: diagnosis confirmed on echocardiography	· /	· · · ·		<0.001
Y es: diagnosis confirmed on echocardiography No	202 (45·1%)	70(47.3%)	132 (44.0%)	-
	152 (33.9%)	61 (41.2%)	91 (30.3%)	-
Unknown	36 (8.0%)	3 (2.0%)	33 (11.0%)	-
Missing	1 (0.2%)	1 (0.7%)	0 (0.0%)	-
Care prior to presentation at the paediatric surgery centre:				
Antenatal ultrasound undertaken?				0.004
Yes: study condition diagnosed	183 (40.8%)	88 (59.5%)	95 (31.7%)	<0.001
Yes: problem identified but study condition not diagnosed	28 (6.3%)	8 (5.4%)	20 (6.7%)	-
Yes: no problem identified	191 (42.6%)	42 (28.4%)	149 (49.7%)	-
No	44 (9.8%)	8 (5.4%)	36 (12.0%)	-
Missing	2 (0.4%)	2 (1.4%)	0 (0.0%)	-
Median gestational age of study condition diagnosis if diagnosis was antenatal (IQR), weeks	26 (13)	24 (12)	27 (11)	0.129
Mode of transport to hospital:				
Ambulance	169 (37.7%)	43 (29.1%)	126 (42.0%)	<0.001
Other transport provided by the health service	17 (3.8%)	8 (5.4%)	9 (3.0%)	-
Patient's own transport	96 (21.4%)	14 (9.5%)	82 (27.3%)	-
Born within the hospital	165 (36.8%)	82 (55.4%)	83 (27.7%)	-
Missing	1 (0.2%)	1 (0.7%)	0 (0.0%)	-
If outborn, where did the patient present from?	(. )			
Home	58 (20.7%)	12 (18.8%)	46 (21.3%)	0.580
Community Clinic/General Practice	39 (13.9%)	7 (10.9%)	32 (14.8%)	_
District Hospital	180 (64.3%)	45 (70.3%)	135 (62.5%)	
*	3 (1.1%)	0 (0.0%)	3 (1.4%)	-
Unknown Paviananative case at the predictive supremy contract	5 (1 170)	0 (0 070)	5 (1 470)	-
Perioperative care at the paediatric surgery centre:				
If septic, were appropriate antibiotics administered?	62 (95 10/)	5 (100 00/)	50 (04 10/)	0.220
Yes within 1 hour of arrival	63 (85.1%)	5 (100.0%)	58 (84.1%)	0.330
Yes within the first day of arrival	11 (14.9%)	0 (0.0%)	11 (15.9%)	-
No	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
If hypovolaemic, was an intravenous fluid bolus given?	10			
Yes within 1 hour of arrival	48 (76.2%)	7 (50.0%)	41 (85.4%)	0.009
Yes within the first day of arrival	13 (20.6%)	6 (42.9%)	7 (14.6%)	-
No	1 (1.6%)	1 (7.1%)	0 (0.0%)	-
Missing	1 (1.6%)	1	0 (0.0%)	-
If hypovolaemic, how much intravenous fluid was given?				
			26 (75 00/)	0.110
10 - 20mls/kg	43 (70.5%)	7 (53.8%)	36 (75.0%)	
10 - 20mls/kg	43 (70·5%) 17 (27·9%)	7 (53·8%) 6 (46·2%)	36 (75·0%) 11 (22·9%)	-
10 - 20mls/kg Above 20mls/kg	17 (27.9%)	6 (46.2%)	11 (22.9%)	-
10 - 20mls/kg Above 20mls/kg Missing	17 (27·9%) 1 (1·6%)	· /	. ,	-
10 - 20mls/kg Above 20mls/kg Missing If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature rang	17 (27·9%) 1 (1·6%) ge?	6 (46·2%) 0 (0·0%)	11 (22·9%) 1 (2·1%)	- - 0·100
10 - 20mls/kg Above 20mls/kg Missing	17 (27·9%) 1 (1·6%) ge? 45 (91·8%)	6 (46·2%) 0 (0·0%) 2 (66·7%)	11 (22·9%) 1 (2·1%) 43 (93·5%)	- - 0·100
10 - 20mls/kg Above 20mls/kg Missing If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature rang Yes	17 (27·9%) 1 (1·6%) ge?	6 (46·2%) 0 (0·0%)	11 (22·9%) 1 (2·1%)	0.100
10 - 20mls/kg Above 20mls/kg Missing If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature rang Yes No	17 (27·9%) 1 (1·6%) ge? 45 (91·8%)	6 (46·2%) 0 (0·0%) 2 (66·7%)	11 (22·9%) 1 (2·1%) 43 (93·5%)	- 0·100 <0·001
10 - 20mls/kg Above 20mls/kg Missing If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature rang Yes No Did the patient receive central venous access? Yes: umbilical catheter	17 (27.9%) 1 (1.6%) 2e? 45 (91.8%) 4 (8.2%) 155 (34.6%)	6 (46·2%) 0 (0·0%) 2 (66·7%) 1 (33·3%) 74 (50·0%)	11 (22.9%) 1 (2.1%) 43 (93.5%) 3 (6.5%) 81 (27.0%)	<0.001
10 - 20mls/kg Above 20mls/kg Missing If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature rang Yes No Did the patient receive central venous access? Yes: umbilical catheter Yes: peripherally inserted central catheter (PICC)	17 (27.9%) 1 (1.6%) ge? 45 (91.8%) 4 (8.2%) 155 (34.6%) 139 (31.0%)	6 (46·2%) 0 (0·0%) 2 (66·7%) 1 (33·3%) 74 (50·0%) 81 (54·7%)	11 (22.9%) 1 (2.1%) 43 (93.5%) 3 (6.5%) 81 (27.0%) 58 (19.3%)	<0·001 <0·001
10 - 20mls/kg Above 20mls/kg Missing If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature rang Yes No Did the patient receive central venous access? Yes: umbilical catheter	17 (27.9%) 1 (1.6%) 2e? 45 (91.8%) 4 (8.2%) 155 (34.6%)	6 (46·2%) 0 (0·0%) 2 (66·7%) 1 (33·3%) 74 (50·0%)	11 (22.9%) 1 (2.1%) 43 (93.5%) 3 (6.5%) 81 (27.0%)	<0.001

No	136 (30.4%)	12 (8.1%)	124 (41.3%)	<0.001
Median total duration of antibiotics following primary intervention (IQR), days	5 (9)	3 (5)	6 (10)	<0.001
Did the patient receive a blood transfusion?	10 (2 201)	2 (1 49/)	0.00.70()	
Yes: not cross-matched	10(2.2%) 175(20.1%)	2(1.4%)	8 (2·7%) 121 (40·3%)	0.600
Yes: cross-matched. No: not required.	175 (39·1%) 253 (56·5%)	54 (36·5%) 87 (58·8%)	166 (55.3%)	-
No: it was required but not available.	9 (2·0%)	4 (2.7%)	5 (1.7%)	-
Missing	1 (0.2%)	1 (0.7%)	0 (0.0%)	_
Did the patient require ventilation?				
Yes and it was given	387 (86.4%)	138 (93.2%)	249 (83.0%)	0.010
Yes, but it was not available	3 (0.7%)	0 (0.0%)	3 (1.0%)	-
No	58 (12.9%)	10 (6.8%)	48 (16.0%)	-
Median time patient remained on ventilation if given (IQR), days	6 (11)	8 (11)	4 (8)	<0.001 0.923
Median time to first enteral feed (post-primary intervention) (IQR), days Median time to full enteral feeds (post-primary intervention) (IQR), days	4 (4) 9 (11)	4 (4) 11 (14)	4 (4) 8 (10)	<0·923
Did the patient require parenteral nutrition?	)(11)	11 (14)	8 (10)	~0 001
Yes and it was given	286 (63.8%)	127 (85.8%)	159 (53.0%)	<0.001
Yes and it was sometimes available, but less than required	13 (2.9%)	0 (0.0%)	13 (4·3%)	-
Yes, but it was not available	3 (0.7%)	0 (0.0%)	3 (1.0%)	-
No	146 (32.6%)	21 (14·2%)	125 (41.7%)	-
Median time patient received parenteral nutrition if received (IQR), days	10 (11)	13 (13)	8 (8)	<0.001
Surgical intervention:				
Primary intervention:	0.00 / 0.00	72 (10 200	101 (60 200)	
Primary repair (non-absorbable sutures)	254 (56·7%)	73 (49.3%)	181 (60·3%)	<0.001
Palliation Patch remain	68 (15·2%) 66 (14·7%)	12 (8·1%) 43 (29·1%)	56(18.7%)	-
Patch repair Primary repair (absorbable sutures)	66 (14·7%) 43 (9·6%)	43 (29·1%) 15 (10·1%)	23 (7·7%) 28 (9·3%)	-
Discharged with planned elective repair	8 (1·8%)	4 (2.7%)	4 (1.3%)	-
Other	3 (0.7%)	0 (0.0%)	3 (1.0%)	-
Missing	6 (1.3%)	1 (0.7%)	5 (1.7%)	-
If patch repair, material used:				
Permacol	2 (3.0%)	0 (0.0%)	2 (8.7%)	<0.001
PTFE	29 (43.9%)	23 (53.5%)	6 (26.1%)	-
Mesh plug	10 (15.2%)	3 (7.0%)	7 (30.4%)	-
Muscle flap	1 (1.5%)	1(2.3%)	0 (0.0%)	-
Gortex Prolene	14 (21·2%) 4 (6·1%)	14 (32·6%) 0 (0·0%)	0 (0·0%) 4 (17·4%)	-
Other	5 (7·6%)	1 (2.3%)	$4(17 \cdot 4\%)$ $4(17 \cdot 4\%)$	-
Unknown	1 (1.5%)	$1(2\cdot3\%)$	0 (0.0%)	-
Other procedures undertaken at the same time:	× /	~ /	· · · ·	
Chest drain insertion	104 (23.2%)	24 (16.2%)	80 (26.7%)	0.014
Abdominal wall patch	16 (3.6%)	9 (6.1%)	7 (2·3%)	0.044
Fundoplication	14 (3.1%)	1 (0.7%)	13 (4·3%)	0.036
Correction of malrotation	26 (5.8%)	13 (8.8%)	13 (4.3%)	0.058
Appendicectomy	29 (6.5%)	13 (8.8%)	16 (5·3%)	0.163
Abdominal silo application (difficult closure) Gastrostomy insertion	6 (1·3%) 1 (0·2%)	6 (4·1%) 1 (0·7%)	0 (0·0%) 0 (0·0%)	<b>0·000</b> 0·154
Central line insertion	2 (0.4%)	0 (0.0%)	2 (0.7%)	0.319
Resection of Meckle's Diverticulum	2 (0.4%)	2 (1.4%)	0 (0.0%)	0.044
Other (specify)	11 (2.5%)	3 (2.0%)	8 (2.7%)	0.681
None	178 (39.7%)	66 (44.6%)	112 (37.3%)	0.140
Surgical approach				
Laparotomy	266 (73.3%)	92 (70.2%)	174 (75.0%)	0.230
Laparoscopy	18(5.0%)	4(3.1%)	14(6.0%)	
Thoracotomy	23 (6.3%) 52 (14.3%)	10(7.6%)	13(5.6%)	
Thoracoscopy	52 (14·3%) 1 (0·3%)	23 (17·6%) 1 (0·8%)	29 (12·5%) 0 (0·0%)	
Other (please specify) Missing	3 (0.8%)	1(0.8%) 1(0.8%)	2 (0.9%)	
Conversion to open		- (* ***)	- (* ) (*)	
Yes	9 (12.9%)	3 (11.1%)	6 (14.0%)	0.730
No	61 (87.1%)	24 (88.9%)	37 (86.0%)	
Median time from arrival at your hospital to primary intervention (IQR), hours	54 (96)	65 (72)	48 (96)	0.912
What type of anaesthesia was used for the primary intervention?				
General anaesthesia with endotracheal tube	364 (81.3%)	131 (88.5%)	233 (77.7%)	0.002
General anaesthesia with laryngeal airway	2 (0.4%)	0 (0.0%)	2 (0.7%)	-
Ketamine anaesthesia	1 (0.2%)	1 (0.7%)	0(0.0%)	-
Spinal/caudal anaesthesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Local anaesthesia only	1 (0.2%) 1 (0.2%)	1 (0·7%) 1 (0·7%)	$0 (0.0\%) \\ 0 (0.0\%)$	-
No anaesthesia, just analgesia No anaesthesia, no analgesia	1(0.2%) 0(0.0%)	1(0.7%) 0(0.0%)	0 (0.0%)	-
ivo anacsinesia, no anaigesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	-

Not applicable no surgery or primary intervations         ?? (1? 6%)         1.1 (9.9%)         0.2 (7.9%)         0.00           Amaschinic data         0.00,0%)         0.00,0%)         0.00,0%)         0.00,0%						
Amendbric cacher         907 (81-9%)         312 (89-2%)         322 (89-2%)         327 (89-3%)         000 0%           Matelial officer         00 0%         00 0%         00 0%         00 0%         00 0%           Surgeon         00 0%         00 0%         00 0%         00 0%         00 0%           Other helicher podesion         10 25%         10 0%         65 127%         -           Pandiarize surgeon of primery attency subscripting the room)         10 25%         10 0%         00 0%         -           Pandiarize surgeon of other instrument attence subscripting the room)         00 0%         00 0%         -           Not surged constructions a podarize orgen attence of the rothom attence orgen attence of the rothom attence orgen attence orgen attence of the rothom attence orgen attence of t		79 (17.6%)	14 (9.5%)	65 (21.7%)	-	
Amageneric00.00%0	· ·					
Macha         0,00,000         0,00,000         0,00,000         0,00,000           Other headbace policial         10,02,000         10,02,000         0,00,000         0,00,000           Other headbace policial         10,02,000         10,02,000         0,00		· · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · ·	0.004	
Sngen         0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	Anaesthetic nurse	· · · · ·	· · · ·	· /	-	
Ome construction10 0.2%10 0.7%10 0.7%00 0.0%.Non manufaction advertationNon- sequence transmissionNon- sequence transmissionNon- sequence transmissionNon- sequence transmissionWho understation decision10 0.7%10 0.7%10 0.7%00 0.0%00 0.0%Creaced magroad (c) lation via digeneral sargeon assisting in the room)00 0.0%00 0.0%00 0.0%00 0.0%00 0.0%Inter docts, medical differe or effer (or differed effered effect effered effered effered effered effect effered effered effect effered effered effered effered effect effect effered effered effered effered effect effered effe	Medical officer	0 (0.0%)	0 (0.0%)	· /	-	
Nonmeric         80(107 M)         15 (101 M)         65 (21.7%)         .           Pacefinites surgeon (or junior with pacefinities surgeon assisting in the room)         306 (82.1 M)         133 (89.9 M)         25 (25.3 M)         0000           Trainee surgeon (or junior with pacefinities argeon assisting in the room)         00 (0%)	Surgeon	0 (0.0%)	0 (0.0%)	0 (0.0%)	-	
Wite outputs wite primary intervention appears as ingrin the room)368 (82-1%)13 (89-9%)235 (83-0%)General surgeon originative stap patients stageon assisting in the room)10 (0-2%)0.00 (0%)0.00 (0%)Trainer assisting in the room)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)Trainer assisting in the room)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)Trainer assisting in the room)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)Trainer assisting in the room)0.00 (0%)1.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)Trainer assisting in the room (0%)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)0.00 (0%)Not applicable: conservative primary intervention was underation3.00 (7%)1.00 (7%)2.00 (7%)0.00 (0%)Not applicable: conservative primary intervention was underation4.00 (7%)1.00 (7%)4.00 (7%)0.00 (7%)Not applicable: conservative primary intervention was underation4.00 (7%)1.00 (7%)4.00 (7%)1.00 (7%)4.00 (7%)Not applicable: conservative primary intervention assisting in the room2.00 (7%)1.00 (7%)4.00 (7%)1.00 (7%)4.00 (7%)1.00 (7%)4.00 (7%)Not applicable: conservative primary intervention anderation2.00 (7%)1.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)4.00 (7%)<	Other healthcare professional	1 (0.2%)	1 (0.7%)	0 (0.0%)	-	
Packairs augen (or junior with packatric surgeon assisting in the ream)         368 (82.1%)         10 (976)         0.00 (90)	No anaesthetic undertaken	80 (17.9%)	15 (10.1%)	65 (21.7%)	-	
General surgeon (or puiser with general surgeon sesting in the room)         10         00.09%)         00.09%         00.09%)         00.09%)         00.09%)         00.09%)         00.09%)         00.09%         00.09%)         00.09%)         00.09%         00.09%)	Who undertook the primary intervention?	, ,				
Junie dock, andied, officer or other (without a packine or general surgoo assisting in the rooth)         0.0.0%         0.0.0%)         0.0.0% <td>Paediatric surgeon (or junior with paediatric surgeon assisting/in the room)</td> <td>368 (82.1%)</td> <td>133 (89.9%)</td> <td>235 (78.3%)</td> <td>0.002</td>	Paediatric surgeon (or junior with paediatric surgeon assisting/in the room)	368 (82.1%)	133 (89.9%)	235 (78.3%)	0.002	
Junie dock, andied, officer or other (without a packine or general surgoo assisting in the rooth)         0.0.0%         0.0.0%)         0.0.0% <td>General surgeon (or junior with general surgeon assisting/in the room)</td> <td>1 (0.2%)</td> <td>1 (0.7%)</td> <td>0 (0.0%)</td> <td>-</td>	General surgeon (or junior with general surgeon assisting/in the room)	1 (0.2%)	1 (0.7%)	0 (0.0%)	-	
Transe surgeon (vibut a pacial arrise) as surfage or in the room)         0 (0.0%)         0 (0.0%)         62 (1.0%) <t< td=""><td></td><td>. ,</td><td>. ,</td><td>· /</td><td>_</td></t<>		. ,	. ,	· /	_	
Not applicable in surgery optimary intervention undertaken         79 (17.0%)         14 (9.5%)         6 (21.7%)         -           Yes         304 (6.7%)         124 (8.5%)         27.0 (0.0%)         -           Yes         304 (6.7%)         124 (8.5%)         27.0 (0.0%)         -           Nor, but it was available         30.0 (7%)         10.0 7%)         20.0 7%)         -           Not applicable : conservative primary intervention was undertaken         77.0 (7.2%)         15.0 17%)         0.0 (0.0%)         -           Not applicable : conservative primary intervention was undertaken         77.0 (7.2%)         10.0 7%)         20.0 7%)         -           Not applicable : conservative primary intervention was undertaken         24.0 (0.2%)         10.0 3%)         0.0000           Not applicable : no surgery or primary intervention was given?         10.0 3%)         0.0000         -         -           Yes         All (0.0 0%)         13.0 (0.0%)         67.0 (0.0%)         0.000         -         -           Yes         All (0.0 0%)         13.0 (0.0%)         13.0 (0.0%)         10.0 (0.5%)         -         -           Yes         All (0.0 0%)         13.0 (0.0%)         10.0 (0.5%)         -         -         -           Yes         All (0.0 0%) </td <td></td> <td>. ,</td> <td>· · · ·</td> <td>· /</td> <td>_</td>		. ,	· · · ·	· /	_	
Was a signal Safey Checklist used at the time of primary intervention?         940(67.9%)         124(63.9%)         180(60.0%)         4.000           Nic hart is vas available         33(7.4%)         16(7.5%)         2.07.9%)            Not applicable: a conservative primary intervention udentaken         30(67.7%)         110(7.5%)         2.07.9%)            Not applicable: a conservative primary intervention udentaken?         113(10.1%)         2.02.9%)            Was factal fractula networks intervention udentaken?         61(1.3%)         5 (3.4%)         10.07.5%)         -0.005           Yes, a was gastanional age was it memered?         24(2)         34(2)             Yes, a was gastanional age was it memered?         34(2)         34(2)             Yes, a was gastanional age was it memered?         34(2)         34(2)             Yes, a was gastanional age was it memered?         34(2)         34(2)             Yes, a was gastanional age was it memered?         34(2)         34(2)             Yes, a was gastanional age was it memered?         34(2)         34(2)             Yes, a was gastanional age was it memered?         32(2)		. ,	. ,	· /		
Yes         504 (67-98)         12 (43.88)         180 (60-96)         40-00           No: but it was available         30 (7-54)         1 (0.7%)         22 (9.7%)         -           No: thit was not available         30 (67-76)         1 (0.7%)         22 (9.7%)         -           Not applicable::::::::::::::::::::::::::::::::::::		79 (17 070)	14 (9 570)	05 (21 770)	-	
No. bar. vasa available         33 (7.4%)         6 (4.1%)         2 (9 0.9%)            Not any stander vanishe         30 (6.7%)         10 (0.7%)         2 (0.7%)            Not applicable: a conservative primary intervention was undertaken         30 (7.3%)         11 (0.7%)         2 (0.7%)            Most applicable: a conservative primary intervention undertaken         10 (2.7%)         11 (0.3%)         10 (2.9%)            Was testa transmitted         42 (0.87%)         14 (3.0%)         14 (3.0%)             If yes, at was gatational age was it insertal?         29 (2)         29 (2)             If yes, at was gatational age was it insertal?         30 (6.8%)         84 (21.7%)         10 (6.7%)            Prostacytin         13 (0.9%)         64 (7.7%)         31 (8.4%)             Prostacytin         13 (0.9%)         64 (27.7%)         10 (6.7%)             Prostacytin         13 (0.9%)         10 (6.7%)         10 (6.7%)             Prostacytin         16 (2.5%)         12 (3.4%)         16 (0.9%)         10 (6.9%)            Prostacytin         16 (0.9%)         12 (0.		204 (67.0%)	124 (92.99/)	180 (60.09/)	~0.001	
No. it as not available         30 (6.7%)         10 (6.7%)         20 (9.7%)         -           Not applicable: consargency primary intervention undertaken         77 (1724)         15 (10.7%)         0.20 (0.9%)         -           Was fordal trakela localusion (FETO) undertaken?         -         -         -         -           Yes         6 (1.3%)         5 (3.4%)         10 (0.7%)         0.00 (0.9%)         -           Yes         twa gestational age was it macreed?         20 (2)         29 (2)         -         -           Hyes, twa gestational age was it macreed?         20 (2)         29 (2)         -         -           Hyes, twa gestational age was it macreed?         20 (2)         29 (2)         -         -           If the painet Holdpunnonal hypertension, what treatment was given?         -         -         -           Nitricositic         21 (0.18%)         16 (0.5%)         9 (0.0%)         0.23 (0.18%)         -04001           Algenstabili         13 (5 (5)         6 (1.5%)         21 (0.18%)         10 (0.5%)         -04001           Algenstabili         21 (0.18%)         10 (0.15%)         10 (0.18%)         0.0400           Algenstabili         10 (0.16%)         21 (0.18%)         10 (0.18%)         0.0400		· /	· · · · ·	· · · · ·	<0.001	
Net applicable: a conservative primary intervention undertaken         3 (0 .7%)         1 (0.7%)         2 (0.7%)         -           Missing         1 (0.7%)         1 (0.4%)         1 (0.4%)         -           Was fortal trached occlusion (FETO) undertaken?         -         -         -           Yes         6 (1.3%)         5 (3.4%)         1 (0.3%)         9 (0.9%)         -           Ityse, at what gestational age was it inserto?         20 (2)         24 (2)         -         -           Thyse, at was gestational age was it inserto?         3 (4.0%)         3 (1.6.%)         9 (0.9%)         -           Thyse, at was gestational age was it inserto?         -         -         -         -         -           Thyse, at was gestational age was it inserto?         -         3 (1.6.%)         9 (0.9%)         -         -         -           Prostational ge was it inserto?         -		· · · ·	· · · ·	· /	-	
Not applicable: as sargery or primary intervention undertaken         71 (72.26)         15 (00.16)         6 (2.07.96)         -           Was ford trached occlusion (FETO) undertaken?         *         *         *         *           Ya         6 (1.37.85)         5 (3.4.96)         10 (0.37.6)         *         *           No         42 (0.8.77.6)         13 (0.2.77.86)         6 (1.7.7.86)         33 (0.2.7.86)         *           Thys, at was gestational age was it inserte?         *         *         *         *           Thire scient had pubmours hypertension, what treatment was given?         *         *         *         *           Thire scient had pubmours hypertension, what treatment was given?         *		· · · ·	· /		-	
Missing         Line 2000         Line 20000 <thline 20000<="" th=""> <thline 20000<="" th=""> <th< td=""><td></td><td>. ,</td><td>· · · · ·</td><td>· /</td><td>-</td></th<></thline></thline>		. ,	· · · · ·	· /	-	
Wase fracticated acclesion (FETO) undertaken?         6 (1 3)         5 (3 4)         10 0 3)         9 0 90           No         442 (98.7%)         142 (96.7%)         120 (9.7%)         -           I'yes, at was gestational age was it inserted?         29 (2)         -         -           I'ryes, at was gestational age was it inserted?         29 (2)         -         -           I'the patient adjuntuonary hypertension, what treatment was given?         -         -         -           I'the patient adjuntuonary hypertension, what treatment was given?         - <td>Not applicable: no surgery or primary intervention undertaken</td> <td>· · · · ·</td> <td></td> <td>62 (20.7%)</td> <td>-</td>	Not applicable: no surgery or primary intervention undertaken	· · · · ·		62 (20.7%)	-	
Yes         6 (1-3%)         5 (1-3%)         1 (10-3%)         0.008           No         442 (0×75)         143 (0×64)         29 (2)         29 (2)         -           I'yes, at wag setational age was it inserted!         29 (2)         29 (2)         -         -           I'the pricent bad pubmonary hypertension, what treatment was given?         -         -         -         -           No         28 (10 6%)         18 (21 7%)         10 (5 7%)         -0001           Appostabil         13 (5 7%)         2 (2 7%)         4 3 (24 +4%)         0.570           Miltimone         66 (25 5%)         2 (2 7%)         4 3 (24 +4%)         0.570           Solantili         -         10 (5 7%)         10 (5 7%)         0.208           Parosenide         2 (0 2%)         11 (2 5%)         10 (0 5%)         0.508           Other instrupts (dopamine, dobutamine, adrealine, noradrenaline and others)         16 (6 2%)         11 (2 5%)         10 (0 5%)         0.401           None: norrequired but not available         16 (6 2%)         10 (2 7%)         10 (0 5%)         0.400           Nome: norrequired but not available         16 (6 2%)         12 (14 5%)         24 (16 7%)         0.400           No         21 (14 2%)         12 (14 5%)	5	1 (0.2%)	1 (0.7%)	0 (0.0%)	-	
No         442 (98,7%)         143 (96,7%)         29 (99,7%)         1           If yes, at whit pertainoil age was interactive?         34 (2)         34 (2)         34 (2)         -           If the patient had pubmoary hypertension, what treatment was given?         97 (37,5%)         64 (77,1%)         33 (18,8%)         -0001           Prostacyclin         28 (10,8%)         18 (21,7%)         10 (5,7%)         -0001           Alporotadi         13 (56%)         6 (27,5%)         74 (40%)         0.7600           Milmone         66 (25,5%)         23 (27,7%)         43 (24,4%)         0.9700           Sildenafii         64 (24,7%)         17 (40,5%)         47 (26,7%)         0.2800           Other incrospes (dopamine, dobutamine, adrenaline, nondrenaline and others)         16 (6,2%)         5 (6,0%)         11 (6,3%)         0.940           None: required to not available         16 (2,4%)         12 (14,2%)         45 (2,5,6%)         0.940           None: required to not available         12 (4,6%)         24 (9,6%)         2 (14,2%)         15 (1,7%)         0.940           No         21 (14,2%)         12 (14,2%)         15 (1,7%)         4.900         0.900           No         12 (14,2%)         12 (14,2%)         12 (14,2%)         12 (14,2%)	Was foetal tracheal occlusion (FETO) undertaken?					
No         442 (98,7%)         412 (96,7%)         299 (99,7%)         1           If yes, at wat gestational age was internoved?         34 (2)         34 (2)         -         -           If yes, at wat gestational age was internoved?         97 (37,5%)         64 (77) (78)         33 (18,8%)         -         -001           Prostacyclint         28 (10,8%)         16 (27,7%)         34 (24,4%)         0.5705         -	Yes	6 (1.3%)	5 (3.4%)	1 (0.3%)	0.008	
If yes, at was pertained age was it meerce?       29 (2)       29 (2)       -       -         If yes, at was pertained age was it meerce?       -       -       -       -         Nitric coide       97 (37.5%)       64 (77.1%)       33 (18.8%)       -0001         Prostacyclin       28 (10.8%)       18 (21.7%)       10 (5.7%)       -0.001         Apposadal       13 (5.0%)       67 (25.%)       17 (4.9%)       0.5260         Sildenafil       66 (25.5%)       23 (27.7%)       43 (24.4%)       0.570         Apposadal       66 (25.5%)       23 (27.7%)       43 (24.4%)       0.570         Other incropes (dopanine, advenanine, adrenaline, noradrenaline and others)       16 (6.2%)       12 (4.4%)       45 (5.0%)       0.44         None: required but not souilable       16 (6.2%)       12 (4.4%)       45 (2.0%)       -       -         Yes       28 (6.3%)       22 (14.9%)       6 (2.9%)       -       -       -       -         No       16 (0.2%)       28 (0.0%)       12 (1.4%)       0.20 (9.5%)       -       -       -       -         Yes       7 (7)       8 (7)       6 (2.9%)       29 (90.6%)       -       -       -       -       -       -       -	No	. ,	· · · ·		-	
If yes, at was gestational age was it removed?       94 (2)       34 (2)       .         It the pottent bandmonary hypertension, what treatment was given?       97 (37.5%)       64 (77.1%)       33 (18.8%)       60.001         Prostacyclin       13 (5.0%)       64 (77.1%)       33 (18.8%)       0.001         Appostadi       13 (5.0%)       67 (72.5%)       47 (26.7%)       0.0200         Miltinone       66 (25.5%)       21 (27.7%)       43 (24.4%)       0.570         Stidenaffi       66 (25.5%)       11 (25%)       47 (26.7%)       0.580         Funsomide       20 (8%)       11 (25%)       47 (26.7%)       0.580         Nome: required tot not available       16 (6.2%)       12 (14.5%)       45 (25.6%)       0.401         Nome: required tot not available       22 (14.9%)       42 (26.3%)       22 (14.9%)       46 (26.7%)       -9001         No       12 (16.6%)       12 (16.6%)       12 (16.8%)       6.101       -9001		. ,	· · ·	-	_	
If the putnonary hypertension, what treatment was given?       97 (37-5%)       64 (77-1%)       33 (18.8%)       9-001         Prestruyclin       28 (0.8%)       18 (21-7%)       33 (18.8%)       9-001         Alprostadil       13 (5.0%)       6 (72-1%)       33 (18.8%)       9-001         Alprostadil       13 (5.0%)       6 (72-1%)       43 (12.4%)       0.570         Sidenafil       64 (24.7%)       47 (26.7%)       0.280         Funsexnide       0.08%)       11 (6.5%)       0.21 (2.4%)       45 (2.5 (4.8%)       0.000         Other inotropes (dopamine, dobutamine, andernaline and others)       16 (6.2%)       12 (0.4%)       45 (2.5 (4.8%)       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.0000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000       0.00000		. ,		-	_	
Nine oxide         97 (37 :96)         64 (77 :1%)         33 (18 :8%)         -0-001           Prostacyclin         28 (08 :8%)         16 (72 :9%)         7 (4 :0%)         0.260)           Milrinone         66 (25 :9%)         7 (4 :0%)         0.260)           Milrinone         66 (25 :9%)         17 (2 :0%)         47 (2 :0%)         0.260%           Milrinone         20 :8%)         17 (2 :0%)         47 (2 :0%)         0.90%         0.90%           Furoscenide         20 :8%)         17 (2 :0%)         47 (2 :0%)         0.90%         0.90%         0.90%         0.90%           Nome: required thun to available         16 (6 :2%)         0 (0 :0%)         16 (2 :0%)         -0001           Nome: required thun to available         7 (7 :8 (7 :0%)         22 (1 :4 :%)         16 (2 :0%)         -0001           None: required thun to available         7 (7 :8 (7 :0%)         22 (1 :8 :0%)         16 (2 :0%)         -0001           No         20 (9 :8 :0%)         12 (2 (0 :0%)         12 (1 :8 :0%)         16 (2 :0%)         -0001           No         12 (2 :0 :0%)         13 (2 :0 :0%)         15 (3 : 3%)         -0001         -0.08         -0.08         -0.09         -0.09         -0.01         -0.00         No         -0.01		5 (2)	51(2)		-	
Prosequin         28 (0.8%)         18 (21.7%)         0 (0.57%)         9.0001           Alprostadil         13 (5.0%)         6 (7.2%)         43 (24.4%)         0.570           Sidenafil         6 (2.5%)         23 (27.7%)         43 (24.4%)         0.570           Sidenafil         6 (4.24.7%)         17 (20.5%)         47 (26.7%)         0.280           Other inotropes (dopamine, dobutamine, adrenaline, and others)         16 (6.2%)         10 (0.4%)         45 (25.5%)         0.040           None: not required         75 (22.0%)         12 (14.4%)         45 (25.5%)         0.040           None: not required but not available         16 (6.2%)         0.000%         16 (9.1%)         0.000           No         420 (0.3.8%)         12 (0.5.1%)         294 (9.8.0%)         .           Tyse, for how long (10,R), days         7(7)         8 (7.0%)         12 (14.2%)         11 (3.8.3%)         .           Tyse, for how long (10,R), days         7(7)         8 (20.0%)         11 (3.6.3%)         10 (5.5%)         0.000           No         12 (0.69.6%)         112 (0.5%)         10 (6.1%)         7(3.6.2%)         2           No         13 (3.6%)         10 (0.4%)         7 (3.6.2%)         2         10 (1.5%)         10 (1.5%)		07 (27.59/)	64 (77,10/)	22 (19.90/)	<0.001	
Approxing       13 (5 + 5%)       6 (7 + 5%)       7 (4 + 6%)       0 - 260         Mirnone       66 (25 + 5%)       23 (27 + 5%)       47 (26 + 5%)       0 - 260         Funsemide       2 (0 + 5%)       11 (1 + 5%)       10 (0 + 5%)       0 + 260         Nome: not required       15 (6 + 2%)       15 (6 + 5%)       11 (6 + 5%)       0 + 260       0 + 940         Nome: not required       15 (6 + 2%)       15 (6 + 5%)       16 (6 + 15%)       0 + 260       0 + 040         Nome: negatired but not available       16 (6 + 2%)       2 (1 (4 + 5%)       16 (6 + 15%)       0 + 000         Nome: negatired but not available       16 (6 + 2%)       2 (2 (4 + 5%)       2 - 000       -         Nome: negatired but not available       2 (2 (4 + 5%)       2 - 000       -       -         No       420 (93 + 5%)       12 (6 + 5%)       2 - 000 (5 + 5%)       -       -       -         No       13 (2 (6 + 5%)       12 (7 (5 + 5%)       18 (5 (1 + 5%)       -		· /	· · · · · ·	· · · · ·		
Minimane       66 (25 %)       23 (27 %)       43 (24 %)       0.520         Sildenafii       64 (24 7%)       17 (20 %)       47 (26 7%)       0.580         Other inotropes (dopamine, dobtamine, andrenaline and others)       16 (62 %)       5 (6 0%)       11 (0 %)       0.940         None: not required but not available       16 (6 2%)       0.06 %)       15 (9 %)       0.044         None: required but not available       16 (6 2%)       0.04 %)       16 (9 %)       0.040         No erropic required but not available       21 (14 %)       45 (2 5 %)       0.040       0.057         Did the patient receive extracorporeal membrane oxygenation (ECMO)?       21 (14 %)       45 (2 5 %)       0.040       0.057         No       28 (6 3%)       22 (14 %)       6 (2 %)       0.079       0.079         Did the patient survive to discharge (or 30-days fitll an in-patient 30-days following primary intervertor)       Yes       11 (3 %)       10 (1 2 %)       11 (1 8 %)       10 (9 %)       11 (1 8 %)       0.00 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)       1.0 (3 %)	•	· · · · ·		· /		
Sildenafil         64 (24.7%)         17 (20.7%)         47 (26.7%)         0.280           Furosemide         21 (1-2%)         11 (6-3%)         0.10%)         0.580           Other inotropes (dopamine, dobutamine, adrenaline and others)         16 (6-2%)         5 (6-0%)         11 (6-3%)         0.90 (0%)         0.00 (0%)	*	· · ·		· · · ·		
Funcesmide         2 (0.%)         1 (1.2%)         1 (0.6%)         0.980           Other instropes (dopamine, dobutamine, adrenaline, noradrenaline and others)         16 (6.2%)         5 (6.0%)         11 (6.3%)         0.940           Nome: not required         16 (6.2%)         5 (6.0%)         11 (6.3%)         0.940           Nome: not required but not available         16 (6.2%)         0.00%         16 (9.1%)         0.940           Did the patient receive extracoporeal membrane oxygenation (ECMO)?         Yes         28 (6.3%)         22 (14.9%)         62 (2.0%)         -0.011           No         216 (65.1%)         22 (64.9%)         524 (98.0%)         -24 (98.0%)         -24 (98.0%)         -           If yes, for how long (IQR), days         7 (7)         8 (7)         6 (2.0%)         -0.011         -           Did the patient survice to discharge (or 30-days if still an in-patient 30-days following primary interventor)?         Yes         312 (60.6%)         115 (88.3%)         -           Yes         312 (60.6%)         111 (89.5%)         169 (91.4%)         0.2(70         No         -         -           No         10 (3.5%)         0.00 (9.5%)         116 (9.1%)         -         -         -         -         -         -         -         -         -<		66 (25.5%)		43 (24.4%)	0.570	
Other instropes (dopamine, advenaline, noradrenaline and others)         16 (6 2%)         5 (6 0%)         11 (6 3%)         0 -940           None: not required         57 (6 2%)         12 (14 5%)         45 (25 6%)         0-044           None:: not required         16 (6 2%)         0 (0 0%)         16 (9 14 5%)         45 (2 5 6%)         0-044           None:: not required         16 (6 2%)         0 (0 0%)         16 (9 14 5%)         46 (2 0%)         -           None:: not required         22 (14 9%)         6 (2 0%)         420 (93 8%)         126 (85 1%)         294 (98 0%)         -           If yes, for how long (IQR), days         7 (7         8 (7)         6 (2 0%)         -         -           Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention?         -         -         -           Yes         312 (69 e%)         115 (18 5%)         -         -         -           No         106 (30 -4%)         21 (14 -2%)         115 (18 -3%)         -         -           No         10 (3 6%)         0 (0 0%)         16 (9 1.4%)         0 (0 0%)         10 (10 5%)         -           No         10 (3 6%)         0 (0 0%)         16 (9 1.4%)         0 (0 0%)         -         -	Sildenafil	64 (24.7%)	17 (20.5%)	47 (26.7%)	0.280	
None: not required57 (22.0%)12 (14.5%)45 (25.6%)0-044None: nequired but not available16 (6.2%)00.0%)16 (9.1%)0005Did the pattent receive extracoporeal membrane oxygenation (ECMO)?28 (6.3%)22 (14.9%)6 (2.0%) $<$ Yes28 (6.3%)126 (85.1%)294 (98.0%)-If yes, for how long (IQR), days7 (7)8 (7)6 (2.0%) $<$ Outcomes: $<$ 312 (69.6%)127 (85.8%)185 (61.7%) $<$ Out if the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?Yes210 (93.4%)115 (38.3%)-Yes210 (90.6%)111 (89.5%)185 (61.7%) $<$ $<$ $<$ $<$ No130 (30.4%)21 (14.2%)115 (38.3%)Yes210 (90.6%)111 (89.5%)169 (91.4%)0.27000<	Furosemide	2 (0.8%)	1 (1.2%)	1 (0.6%)	0.580	
None required but not available         16 (6-2%)         0 (0-0%)         16 (9-1%)         0 4005           Did the patient receive extracorporeal membrane oxygenation (ECMO)?         28 (6-3%)         22 (14-9%)         6 (2-0%)         -40-001           No         420 (93-8%)         126 (85-1%)         224 (88-0%)         -         -           No         420 (93-8%)         126 (85-1%)         224 (88-0%)         -         -           If we patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent)?         T         -	Other inotropes (dopamine, dobutamine, adrenaline, noradrenaline and others)	16 (6.2%)	5 (6.0%)	11 (6.3%)	0.940	
None required but not available         16 (6-2%)         0 (0-0%)         16 (9-1%)         0 4005           Did the patient receive extracorporeal membrane oxygenation (ECMO)?         28 (6-3%)         22 (14-9%)         6 (2-0%)         -40-001           No         420 (93-8%)         126 (85-1%)         224 (88-0%)         -         -           No         420 (93-8%)         126 (85-1%)         224 (88-0%)         -         -           If we patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent)?         T         -	None: not required	57 (22.0%)	12 (14.5%)	45 (25.6%)	0.044	
Did te patient receive extracorporeal membrane oxygenation (ECMO)?       22 (14-9%)       6 (2.0%)       420 (93-8%)       120 (65-1%)       224 (98-0%)       -         Yes       7(7)       8 (7)       6 (2)       0.879         Outcomest         Use of solve on glog (0, days       121 (69-6%)       127 (85-8%)       185 (61-7%)       4-0401         No       136 (30-4%)       21 (14-2%)       115 (38-3%)       4-0401         No       136 (30-4%)       21 (14-2%)       116 (38-3%)       0-0401         No       136 (30-4%)       21 (14-2%)       116 (38-3%)       0-0401         No       16 (39-7%)       111 (89-5%)       169 (01-6%)       1.0         No       10 (37-5%)       10 (90-6%)       11 (18-5%)       169 (01-6%)       1.0         No followed-up after discharge       11 (3-6%)       32 (24%)       8 (4-3%)       0.0       16         Followed-up dut discharge       11 (3-6%)       30 (24%)       8 (4-3%)       1.0	*					
Yes22 (i 4.9%) 20 (03.8%)22 (14.9%) 20 (03.8%)6 (2.0%) 20 (08.7%) $\mathbf{c}$ No126 (85.1%)294 (08.0%).If yes, for how long (IQR), days7 (7)8 (7)6 (2.0%).Outcomes:312 (60.6%)127 (85.8%)185 (61.7%) $\mathbf{c}$ $\mathbf{c}$ No136 (30.4%)21 (14.2%)115 (38.3%)-If the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? $\mathbf{v}$ $\mathbf{v}$ $\mathbf{e}$ No136 (30.4%)21 (14.2%)115 (38.3%)If the patient was discharge option, were they still alive at 30-days following primary intervention: $\mathbf{v}$ $\mathbf{v}$ $\mathbf{v}$ No100.0%)10 (0.5%)100 (0.0%)1 (0.5%)No followed-up ther discharge11 (3.6%)30 (0.0%)1 (0.5%)Cause of mortality: $\mathbf{v}$ $\mathbf{v}$ $\mathbf{v}$ Respiratory failure83 (60.6%)10 (47.6%)73 (62.9%)Cardia failure south into until 30-days post primary intervention17 (55%)10 (81.9%)Cardia failure south into until 30-days post primary intervention23 (60.6%)10 (47.6%)73 (62.9%)-Cardia failure south into until 30-days post primary intervention10 (17.9%)4 (10.0%)16 (13.8%)-Cardia failure south into until 30-days post primary intervention13 (17.3%)0 (0.0%)Cardia failure south into untinto a strutt into ono			• (• • • • •)		0 000	
No $420 (93 \cdot 8\%)$ $126 (85 \cdot 1\%)$ $294 (98 \cdot 9\%)$ $201$ If yes, for how long (IQR), days7 (7)8 (7)6 (2) $0.879$ Outcomes:Use the stript of discharge (or 30-days if still an in-patient 30-days following primary intervention)?Yes312 (69 -6%)127 (85 -8%)185 (61 -7%) $40$ -001No312 (69 -6%)21 (14 -2%)115 (38 -3%) $-$ If the patient was discharged prior, were they still alive at 30-days following primary intervention? $ -$ Yes280 (90 -6%)111 (89 -5%)169 (91 -4%) $0.270$ No10 (0.3%)00 (0.9%)11 (0.3%)00 (0.9%) $-$ No to followed-up after discharge11 (3 6%)3 (2 -4%)8 (4 -3%) $-$ Followed-up, but not until 30-days post primary intervention $  -$ Cause of motality: $   -$ Respiratory failure27 (19 -7%)4 (19 -9%)3 (2 -9%) $-$ Cardiac failure27 (19 -7%)4 (19 -9%)3 (2 -9%) $-$ Sepsis16 (11 -7%)0 (0 -9%)16 (13 -8%) $-$ Haemorrhage6 (4 4%)3 (14 -3%)0 (0 -9%) $-$ Other3 (2 -2%)2 (9 -5%)1 (0 -7%)1 (4 -3%)0 (0 -9%)Haemorrhage10 (7 -5%)1 (4 -5%)1 (3 (4 -3%)0 (0 -9%) $-$ No346 (77 -2%)1 (3 (8 -9%)2 23 (77 -7%) $ -$ No36 (6 (17 -3%)1 (0 -7%) <td< td=""><td>Dia die padent feterite endaeorperear memorale enjgenatori (Dento).</td><td></td><td></td><td></td><td></td></td<>	Dia die padent feterite endaeorperear memorale enjgenatori (Dento).					
If yes, for how long (IQR), days7 (7)8 (7)6 (2) $_{0.879}$ Outcomes:Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention?Yes312 (69-6%)127 (85-8%)185 (61-7%)<0001		28 (6:3%)	22(14.9%)	6 (2.0%)	<0.001	
Outcomes:           Outcomes:           Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?           Yes $312 (69-6\%)$ $127 (85-8\%)$ $185 (61.7\%)$ <0-001           No $136 (50-4\%)$ $121 (42-2\%)$ $115 (28-3\%)$ .           If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes $10 (30-4\%)$ $011 (89-5\%)$ $169 (91-4\%)$ $0-270$ No $110 (3-3\%)$ $0 (0-0\%)$ $1 (0-5\%)$ .         .           Followed-up after discharge $11 (3.45\%)$ $3 (2.4\%)$ $8 (4:3\%)$ .           Followed-up after discharge $11 (3.16\%)$ $3 (2.4\%)$ $8 (4:3\%)$ .           Cause of mortality:         Respiratory failure $8 (60-6\%)$ $10 (47-6\%)$ $7 (3 (2-9\%)$ $- 0$ Cardiac failure $27 (19-7\%)$ $4 (19-0\%)$ $3 (2.4\%)$ $1 (4.8\%)$ $0 (00-0\%)$ $- 16 (13-3\%)$ Haemorrhage $6 (4.4\%)$ $3 (14-3\%)$ $3 (2.5\%)$ $1 (9.5\%)$ $- 10 (9.5\%)$ $- 10 (9.5\%)$ <th cot<="" td=""><td>Yes</td><td>. ,</td><td>· · · ·</td><td>. ,</td><td></td></th>	<td>Yes</td> <td>. ,</td> <td>· · · ·</td> <td>. ,</td> <td></td>	Yes	. ,	· · · ·	. ,	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Yes No	420 (93.8%)	126 (85.1%)	294 (98.0%)	-	
Yes         312 (69.6%)         127 (85.8%)         185 (61.7%)         <0001           No         136 (30.4%)         21 (14.2%)         115 (38.3%)         .           If the patient was discharged prior, were they still alive at 30-days following primary intervention?         280 (90.6%)         111 (89.5%)         169 (91.4%)         0.270           No         1 (0.3%)         0 (0.0%)         1 (0.5%)         64 (4.3%)         .           Followed-up, after discharge         1 (0.3%)         0 (0.0%)         1 (0.5%)         .         .           Followed-up, but not until 30-days post primary intervention         17 (5.5%)         10 (8.1%)         7 (3.8%)         .           Cause of mortality:         -         -         -         -         -           Cardiae failure         27 (19.7%)         4 (19.0%)         23 (19.8%)         -           Sepsis         16 (11.7%)         0 (0.0%)         16 (13.8%)         -           Haemorrhage         6 (4.4%)         3 (14.3%)         0 (0.0%)         -           Recurrent trache-oesophageal fistula         1 (0.7%)         1 (4.8%)         0 (0.0%)         -           Median duration of hospital stay, days         13 (7)         21(9)         10 (14) <b>&lt;001</b> Did t	Yes No	420 (93.8%)	126 (85.1%)	294 (98.0%)	-	
No         136 (30.4%)         21 (14.2%)         115 (38.3%)         .           IF the patient was discharged prior, were they still alive at 30-days following primary intervention:	Yes No If yes, for how long (IQR), days	420 (93.8%)	126 (85.1%)	294 (98.0%)	-	
If the patient was discharged prior, were they still alive at 30-days following primary intervention?VVVYes280 (90-6%)111 (89-5%)169 (91-4%)0.270No1 (0-3%)0 (0-0%)1 (0-5%).Not followed-up after discharge11 (3-6%)3 (2-4%)8 (4-3%).Followed-up, but not until 30-days post primary intervention17 (5-5%)10 (8-1%)7 (3-8%).Cause of mortality:Respiratory failure27 (19-7%)4 (19-0%)23 (19-8%).Respiratory failure27 (19-7%)4 (19-0%)23 (19-8%)Sepsis16 (11-7%)0 (0-0%)16 (13-8%)Haemorrhage6 (4-4%)3 (14-3%)3 (2-6%)Other3 (2-2%)2 (9-5%)11 (0-9%)Recurrent tracheo-osphageal fistula1 (0-7%)1 (4-8%)0 (0-0%).Syndrome incompatible with life1 (0-7%)1 (4-8%)0 (0-0%).Did the patient have a surgical site infection?YYYes25 (5-6%)12 (8-1%)13 (4-3%)0-002No346 (77-2%)13 (8-8%)64 (21-3%).Did the patient have a full thickness wound dehiscence?YY.Yes2 (0-4%)1 (0-7%)1 (0-3%)0-005No366 (81-7%)133 (89-9%)233 (77-7%).No tapplicable, no surgical wound80 (17-9%)133 (89-9%)233 (77-7%).Did the p	Yes No If yes, for how long (IQR), days Outcomes:	420 (93·8%) 7 (7)	126 (85.1%)	294 (98.0%)	-	
Yes280 (90.6%)111 (89.5%)169 (91.4%)0.270No10 (0.3%)0 (0.0%)1 (0.5%).Not followed-up after discharge11 (13.6%)3 (2.4%)8 (4.3%).Followed-up, but not until 30-days post primary intervention17 (5.5%)10 (8.1%)7 (3.8%).Cause of mortality: $  -$ <td< td=""><td>Yes No If yes, for how long (IQR), days <b>Outcomes:</b> Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent</td><td>420 (93.8%) 7 (7)</td><td>126 (85·1%) 8 (7)</td><td>294 (98·0%) 6 (2)</td><td>0.879</td></td<>	Yes No If yes, for how long (IQR), days <b>Outcomes:</b> Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent	420 (93.8%) 7 (7)	126 (85·1%) 8 (7)	294 (98·0%) 6 (2)	0.879	
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No $1 (0.3\%)$ $0 (0.0\%)$ $1 (0.5\%)$ .Not followed-up fier discharge $11 (3.6\%)$ $3 (2.4\%)$ $8 (4.3\%)$ .Followed-up, but not until $30$ -days post primary intervention $17 (5.5\%)$ $10 (8.1\%)$ $7 (3.8\%)$ .Cause of mortality:Respiratory failure $83 (60.6\%)$ $10 (47.6\%)$ $73 (62.9\%)$ $<0.001$ Cardiac failure $83 (60.6\%)$ $10 (47.6\%)$ $73 (62.9\%)$ $<0.001$ Cardiac failure $83 (60.6\%)$ $10 (47.6\%)$ $73 (62.9\%)$ $<0.001$ Cardiac failure $27 (19.7\%)$ $4 (19.0\%)$ $23 (19.8\%)$ .Sepsis $16 (11.7\%)$ $00.00\%$ $10 (13.8\%)$ .Haemorrhage $6 (4.4\%)$ $3 (14.3\%)$ $3 (2.6\%)$ .Other $3 (2.2\%)$ $2 (9.5\%)$ $10 (0.9\%)$ .Recurrent tracheo-ocsophageal fistula $1(0.7\%)$ $1 (4.8\%)$ $0 (0.0\%)$ .Syndrome incompatible with life $1 (0.7\%)$ $1 (4.8\%)$ $0 (0.0\%)$ .Did the patient have a surgical site infection?Yes $25 (5.6\%)$ $123 (8.3 1.5\%)$ $223 (74.3\%)$ No $346 (77.2\%)$ $13 (8.8\%)$ $64 (21.3\%)$ Not applicable, no surgical wound dehiscence?Yes $2 (0.4\%)$ $1 (0.7\%)$ $1 (0.3\%)$ $0.005$ No $366 (81.7\%)$ $13 (8.89.9\%)$ $233 (77.7\%)$ <t< td=""><td>Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary interven Yes No</td><td>420 (93.8%) 7 (7) attion)? 312 (69.6%)</td><td>126 (85·1%) 8 (7) 127 (85·8%)</td><td>294 (98.0%) 6 (2) 185 (61.7%)</td><td>0.879 &lt;0.001</td></t<>	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary interven Yes No	420 (93.8%) 7 (7) attion)? 312 (69.6%)	126 (85·1%) 8 (7) 127 (85·8%)	294 (98.0%) 6 (2) 185 (61.7%)	0.879 <0.001	
Not followed-up after discharge11 (3-6%)3 (2-4%)8 (4-3%).Followed-up, but not until 30-days post primary intervention17 (5-5%)10 (8-1%)7 (3-8%).Cause of mortality:73 (62-9%)<0001	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention?	420 (93.8%) 7 (7) attion)? 312 (69.6%) 136 (30.4%)	126 (85·1%) 8 (7) 127 (85·8%) 21 (14·2%) 111 (89·5%)	294 (98·0%) 6 (2) 185 (61·7%) 115 (38·3%)	- 0·879 <0·001 -	
Followed-up, but not until 30-days post primary intervention17 (5-5%)10 (8-1%)7 (3-8%).Cause of mortality: Respiratory failure83 (60-6%)10 (47-6%)73 (62-9%) $<$ 0-001Cardiac failure27 (19-7%)4 (19-0%)23 (19-8%)-Sepsis16 (11-7%)0 (0-0%)16 (13-8%)-Haemorrhage6 (4-4%)3 (14-3%)3 (2-6%)-Other3 (2-2%)2 (9-5%)1 (0-9%)-Recurrent tracheo-osophageal fistula1 (0-7%)1 (4-8%)0 (0-0%)-Syndrome incompatible with life1 (0-7%)1 (4-8%)0 (0-0%)-Median duration of hospital stay, days13 (17)21(19)10 (14)<0-001	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes	420 (93·8%) 7 (7) ition)? 312 (69·6%) 136 (30·4%) 280 (90·6%)	126 (85·1%) 8 (7) 127 (85·8%) 21 (14·2%) 111 (89·5%)	294 (98.0%) 6 (2) 185 (61.7%) 115 (38.3%) 169 (91.4%)	- 0·879 <0·001 -	
Cause of mortality: Respiratory failure83 (60-6%)10 (47-6%)73 (62-9%)<0-001Cardiac failure27 (19-7%)4 (19-0%)23 (19-8%)-Sepsis16 (11.7%)0 (0-0%)16 (13.8%)-Haemorrhage6 (4.4%)3 (14-3%)3 (2-6%)-Other3 (2-2%)2 (9-5%)1 (0-9%)-Recurrent tracheo-oesophageal fistula1 (0-7%)1 (4.8%)0 (0-0%)-Syndrome incompatible with life1 (0-7%)1 (4.8%)0 (0-0%)-Median duration of hospital stay, days13 (17)21 (19)10 (14)<0-001	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No	420 (93.8%) 7 (7) 1100)? 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%)	126 (85·1%) 8 (7) 127 (85·8%) 21 (14·2%) 111 (89·5%) 0 (0·0%)	294 (98.0%) 6 (2) 185 (61.7%) 115 (38.3%) 169 (91.4%) 1 (0.5%)	- 0·879 <0·001 -	
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Yes - percutaneous       11 (2·5%)       6 (4·1%)       5 (1·7%)       <0·001         Yes - surgical intervention       28 (6·3%)       16 (10·8%)       12 (4·0%)       -         No       335 (74·8%)       113 (76·4%)       222 (74·0%)       -         Not applicable - no primary intervention undertaken       74 (16·5%)       13 (8·8%)       61 (20·3%)       -	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 346 (77.2%) 77 (17.2%) 2 (0.4%) 366 (81.7%)	$126 (85 \cdot 1\%)$ 8 (7) $127 (85 \cdot 8\%)$ 21 (14 · 2%) $111 (89 \cdot 5\%)$ 0 (0 · 0%) 3 (2 · 4%) 10 (8 · 1%) $10 (47 \cdot 6\%)$ 4 (19 · 0%) 0 (0 · 0%) 3 (14 · 3%) 2 (9 · 5%) 1 (4 · 8%) 1 (4 · 8%) 21(19) $12 (8 \cdot 1\%)$ $123 (83 · 1\%)$ $13 (8 · 8\%)$ $1 (0 · 7\%)$ $133 (89 · 9\%)$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 73 (62.9\%) \\ 23 (19.8\%) \\ 16 (13.8\%) \\ 3 (2.6\%) \\ 1 (0.9\%) \\ 0 (0.0\%) \\ 10 (14) \\ \hline \\ 13 (4.3\%) \\ 223 (74.3\%) \\ 64 (21.3\%) \\ \hline \\ 233 (77.7\%) \\ \end{array}$		
Yes – surgical intervention       28 (6·3%)       16 (10·8%)       12 (4·0%)       -         No       335 (74·8%)       113 (76·4%)       222 (74·0%)       -         Not applicable – no primary intervention undertaken       74 (16·5%)       13 (8·8%)       61 (20·3%)       -	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No Not applicable, no surgical wound	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 346 (77.2%) 77 (17.2%) 2 (0.4%) 366 (81.7%)	$126 (85 \cdot 1\%)$ 8 (7) $127 (85 \cdot 8\%)$ 21 (14 · 2%) $111 (89 \cdot 5\%)$ 0 (0 · 0%) 3 (2 · 4%) 10 (8 · 1%) $10 (47 \cdot 6\%)$ 4 (19 · 0%) 0 (0 · 0%) 3 (14 · 3%) 2 (9 · 5%) 1 (4 · 8%) 1 (4 · 8%) 21(19) $12 (8 \cdot 1\%)$ $123 (83 · 1\%)$ $13 (8 · 8\%)$ $1 (0 · 7\%)$ $133 (89 · 9\%)$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 73 (62.9\%) \\ 23 (19.8\%) \\ 16 (13.8\%) \\ 3 (2.6\%) \\ 1 (0.9\%) \\ 0 (0.0\%) \\ 10 (14) \\ \hline \\ 13 (4.3\%) \\ 223 (74.3\%) \\ 64 (21.3\%) \\ \hline \\ 233 (77.7\%) \\ \end{array}$		
No         335 (74·8%)         113 (76·4%)         222 (74·0%)         -           Not applicable – no primary intervention undertaken         74 (16·5%)         13 (8·8%)         61 (20·3%)         -	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No Not applicable, no surgical wound Did the patient require a further unplanned intervention?	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 7 (17.2%) 2 (0.4%) 366 (81.7%) 80 (17.9%)	$126 (85 \cdot 1\%) \\ 8 (7) \\ \hline \\ 127 (85 \cdot 8\%) \\ 21 (14 \cdot 2\%) \\ 111 (89 \cdot 5\%) \\ 0 (0 \cdot 0\%) \\ 3 (2 \cdot 4\%) \\ 10 (8 \cdot 1\%) \\ \hline \\ 10 (8 \cdot 1\%) \\ \hline \\ 10 (47 \cdot 6\%) \\ 4 (19 \cdot 0\%) \\ 0 (0 \cdot 0\%) \\ 3 (14 \cdot 3\%) \\ 2 (9 \cdot 5\%) \\ 1 (4 \cdot 8\%) \\ 1 (3 \cdot 8\%) \\ 1 (0 \cdot 7\%) \\ 133 (89 \cdot 9\%) \\ 14 (9 \cdot 5\%) \\ \hline \\ \end{array}$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 73 (62.9\%) \\ 23 (19.8\%) \\ 16 (13.8\%) \\ 3 (2.6\%) \\ 1 (0.9\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 10 (14) \\ \hline \\ 13 (4.3\%) \\ 223 (74.3\%) \\ 64 (21.3\%) \\ 233 (77.7\%) \\ 66 (22.0\%) \\ \hline \end{array}$		
Not applicable – no primary intervention undertaken         74 (16.5%)         13 (8.8%)         61 (20.3%)	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No Not applicable, no surgical wound Did the patient require a further unplanned intervention? Yes – percutaneous	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 25 (5.6%) 346 (77.2%) 77 (17.2%) 2 (0.4%) 366 (81.7%) 80 (17.9%)	$126 (85 \cdot 1\%)$ $8 (7)$ $127 (85 \cdot 8\%)$ $21 (14 \cdot 2\%)$ $111 (89 \cdot 5\%)$ $0 (0 \cdot 0\%)$ $3 (2 \cdot 4\%)$ $10 (8 \cdot 1\%)$ $10 (47 \cdot 6\%)$ $4 (19 \cdot 0\%)$ $3 (14 \cdot 3\%)$ $2 (9 \cdot 5\%)$ $1 (4 \cdot 8\%)$ $1 (3 \cdot 1\%)$ $123 (83 \cdot 1\%)$ $13 (8 \cdot 8\%)$ $1 (0 \cdot 7\%)$ $133 (89 \cdot 9\%)$ $14 (9 \cdot 5\%)$ $6 (4 \cdot 1\%)$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 7 (3.8\%)$		
	Yes No If yes, for how long (IQR), days <b>Outcomes:</b> Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No No followed-up, after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No Not applicable, no surgical wound Did the patient require a further unplanned intervention? Yes – percutaneous Yes – surgical intervention	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 25 (5.6%) 346 (77.2%) 77 (17.2%) 2 (0.4%) 366 (81.7%) 80 (17.9%) 11 (2.5%) 28 (6.3%)	$126 (85 \cdot 1\%)$ $8 (7)$ $127 (85 \cdot 8\%)$ $21 (14 \cdot 2\%)$ $111 (89 \cdot 5\%)$ $0 (0 \cdot 0\%)$ $3 (2 \cdot 4\%)$ $10 (8 \cdot 1\%)$ $10 (47 \cdot 6\%)$ $4 (19 \cdot 0\%)$ $0 (0 \cdot 0\%)$ $3 (14 \cdot 3\%)$ $2 (9 \cdot 5\%)$ $1 (4 \cdot 8\%)$ $1 (3 \cdot 1\%)$ $123 (83 \cdot 1\%)$ $13 (8 \cdot 8\%)$ $1 (0 \cdot 7\%)$ $133 (89 \cdot 9\%)$ $14 (9 \cdot 5\%)$ $6 (4 \cdot 1\%)$ $16 (10 \cdot 8\%)$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 7 (3.8\%)$		
If central line access required, did the patient acquire central line sepsis?	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No Not applicable, no surgical wound Did the patient require a further unplanned intervention? Yes – percutaneous Yes – surgical intervention No	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 2 (5.6%) 346 (77.2%) 77 (17.2%) 2 (0.4%) 366 (81.7%) 80 (17.9%) 11 (2.5%) 28 (6.3%) 335 (74.8%)	$126 (85 \cdot 1\%)$ $8 (7)$ $127 (85 \cdot 8\%)$ $21 (14 \cdot 2\%)$ $111 (89 \cdot 5\%)$ $0 (0 \cdot 0\%)$ $3 (2 \cdot 4\%)$ $10 (8 \cdot 1\%)$ $10 (47 \cdot 6\%)$ $4 (19 \cdot 0\%)$ $0 (0 \cdot 0\%)$ $3 (14 \cdot 3\%)$ $2 (9 \cdot 5\%)$ $1 (4 \cdot 8\%)$ $1 (2 (8 \cdot 1\%)$ $13 (8 \cdot 8\%)$ $1 (0 \cdot 7\%)$ $133 (89 \cdot 9\%)$ $14 (9 \cdot 5\%)$ $6 (4 \cdot 1\%)$ $16 (10 \cdot 8\%)$ $113 (76 \cdot 4\%)$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 7 (3.8\%)$		
	Yes No If yes, for how long (IQR), days Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervent Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Respiratory failure Cardiac failure Sepsis Haemorrhage Other Recurrent tracheo-oesophageal fistula Syndrome incompatible with life Median duration of hospital stay, days Did the patient have a surgical site infection? Yes No Not applicable, no surgical wound Did the patient have a full thickness wound dehiscence? Yes No Not applicable, no surgical wound Did the patient require a further unplanned intervention? Yes – surgical intervention No Not applicable, no surgical wound Did the patient require a further unplanned intervention? Yes – surgical intervention No Not applicable, no surgical wound	420 (93.8%) 7 (7) 312 (69.6%) 136 (30.4%) 280 (90.6%) 1 (0.3%) 11 (3.6%) 17 (5.5%) 83 (60.6%) 27 (19.7%) 16 (11.7%) 6 (4.4%) 3 (2.2%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 1 (0.7%) 2 (5.6%) 346 (77.2%) 77 (17.2%) 2 (0.4%) 366 (81.7%) 80 (17.9%) 11 (2.5%) 28 (6.3%) 335 (74.8%)	$126 (85 \cdot 1\%)$ $8 (7)$ $127 (85 \cdot 8\%)$ $21 (14 \cdot 2\%)$ $111 (89 \cdot 5\%)$ $0 (0 \cdot 0\%)$ $3 (2 \cdot 4\%)$ $10 (8 \cdot 1\%)$ $10 (47 \cdot 6\%)$ $4 (19 \cdot 0\%)$ $0 (0 \cdot 0\%)$ $3 (14 \cdot 3\%)$ $2 (9 \cdot 5\%)$ $1 (4 \cdot 8\%)$ $1 (2 (8 \cdot 1\%)$ $13 (8 \cdot 8\%)$ $1 (0 \cdot 7\%)$ $133 (89 \cdot 9\%)$ $14 (9 \cdot 5\%)$ $6 (4 \cdot 1\%)$ $16 (10 \cdot 8\%)$ $113 (76 \cdot 4\%)$	$\begin{array}{c} 294 (98.0\%) \\ \hline 6 (2) \\ \hline \\ 185 (61.7\%) \\ 115 (38.3\%) \\ \hline \\ 169 (91.4\%) \\ 1 (0.5\%) \\ 8 (4.3\%) \\ 7 (3.8\%) \\ \hline \\ 7 (3.8\%)$		

Yes, diagnosed clinically	9 (2.9%)	3 (2.2%)	6 (3.4%)	0.700
Yes, confirmed on microbiology	16 (5.1%)	6 (4.3%)	10 (5.6%)	-
No	290 (92.1%)	129 (93.5%)	161 (91.0%)	-
Condition specific complication within 30-days of primary surgery?				
Air leak	33 (7.4%)	10 (6.8%)	23 (7.7%)	0.729
Chylothorax	14 (3.1%)	7 (4.7%)	7 (2·3%)	0.170
Adhesional obstruction	6 (1.3%)	2 (1.4%)	4 (1.3%)	0.988
Pleural effusion	3 (0.7%)	1 (0.7%)	2 (0.7%)	0.991
Recurrence	2 (0.4%)	2 (1.4%)	0 (0.0%)	0.044
Haemothorax	2 (0.4%)	1(0.7%)	1 (0.3%)	0.609
Pneumonia	2 (0.4%)	0 (0.0%)	2 (0.7%)	0.319
Phrenic nerve palsy	1 (0.2%)	0 (0.0%)	1 (0.3%)	0.482
Other	18 (4.0%)	5 (3.4%)	13 (4.3%)	-0.628
None	280 (62.5%)	99 (66·9%)	181 (60.3%)	0.177
Was the patient followed up at 30-days post primary surgery or intervention to assess for complications?	?			
Yes: reviewed in person	176 (56·4%)	70 (55.1%)	106 (57.3%)	<0.001
Yes: via telephone consultation	35 (11.2%)	4 (3.1%)	31 (16.8%)	-
Yes: via other means	6 (1.9%)	0 (0.0%)	6 (3·2%)	-
Yes: still an in-patient at 30-days	56 (17.9%)	34 (26.8%)	22 (11.9%)	-
No: data is based on in-patient observations only	21 (6.7%)	15 (11.8%)	6 (3·2%)	-
No: follow-up was done, but prior to 30-days	18 (5.8%)	4 (3.1%)	14 (7.6%)	-
If the patient had a complication, when was it diagnosed?				
During the primary admission	127 (28.3%)	42 (28.4%)	85 (28.3%)	0.760
As an emergency re-attender	6 (1.3%)	1 (0.7%)	5 (1.7%)	-
At routine follow-up as an out-patient	5 (1.1%)	1 (0.7%)	4 (1.3%)	-
Not applicable, no complications	309 (69.0%)	104 (70.3%)	205 (68.3%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.3%)	-

\*Only 1 patient was from a LIC and hence patients from MIC and LICs were combined in this table. †patients born in hospital = 0. Percentages have been rounded to 1 decimal place and may not total 100.0%. CDH: Congenital diaphragmatic hernia. HIC: High-income countries. IQR: Interquartile range. LMIC: Low- and middle-income countries.

# Supplementary Table 3: Characteristics, perioperative care, surgical interventions, and outcomes for patients with intestinal atresia

Variable	Total (n=681)	HIC (n=152)	MIC (n=509)	LIC (n=20)	P value
Patient Characteristics:	(11 001)				
Median gestational age at birth (IQR), weeks	37 (3)	37 (3)	37 (3)	36 (2)	0.262
Median age at presentation (IQR), hours	24 (72)	0 (25)	36 (94)	96 (92)	<0.001
Sex: Male	336 (49.3%)	73 (48.0%)	256 (50.3%)	7 (35.0%)	0.610
Female	343 (50·4%)	79 (52·0%)	251 (49.3%)	13 (65.0%)	0.010
Ambiguous	2 (0.3%)	0 (0.0%)	2 (0.4%)	0 (0.0%)	_
Median weight at presentation (IQR), kg	2.5 (1.0)	2.7(1.1)	2.4(1.0)	2.2 (0.7)	0.124
Does the patient have another anomaly in addition to the study condition?					
Yes: Cardiovascular	151 (22.2%)	49 (32·2%)	98 (19·3%)	4 (20.0%)	0.003
Yes: Respiratory	20 (2.9%)	7 (4.6%)	13 (2.6%)	0 (0.0%)	0.309
Yes: Gastrointestinal	81 (11.9%)	24 (15.8%)	56 (11.0%)	1(5.0%)	0.174
Yes: Neurological	23(3.4%)	7(4.6%)	16 (3·1%) 24 (4·7%)	0 (0·0%) 0 (0·0%)	0·476 0·379
Yes: Genito-urinary Yes: Musculoskeletal	34 (5·0%) 18 (2·6%)	10 (6·6%) 6 (3·9%)	12(2.4%)	0 (0.0%)	0.425
Yes: Down syndrome	65 (9·5%)	17 (11.2%)	48 (9.4%)	0 (0.0%)	0.423
Yes: Beckwith Wiedemann syndrome	0 (0.0%)	0(0.0%)	0 (0.0%)	0 (0.0%)	-
Yes: Cystic fibrosis	5 (0.7%)	2(1.3%)	2(0.4%)	1 (5.0%)	0.039
Yes: Chromosomal	14 (2.1%)	5 (3.3%)	9 (1.8%)	0 (0.0%)	0.411
Yes: Other	36 (5.3%)	7 (4.6%)	29 (5.7%)	0 (0.0%)	0.489
No	402 (59.0%)	80 (52.6%)	307 (60.3%)	15 (75.0%)	0.081
Median distance from patient's home to hospital (IQR), km*	19 (96)	6 (46)	25 (108)	28 (109)	<0.001
Type of delivery:		· · · ·	· · · ·		
Vaginal (spontaneous)	333 (48.9%)	68 (44·7%)	248 (48.7%)	17 (85.0%)	<0.001
Vaginal (induced)	20 (2.9%)	12 (7.9%)	8 (1·6%)	0 (0.0%)	-
Caesarean section (elective)	145(21.3%)	24(15.8%)	120(23.6%)	1(5.0%)	-
Caesarean section (urgent/non-elective)	181 (26.6%)	48 (31·6%) 0 (0·0%)	131 (25·7%) 2 (0·4%)	2 (10·0%) 0 (0·0%)	-
Unknown Was the patient septic on arrival to your hospital?	2 (0.3%)	0 (0.076)	2 (0.4%)	0 (0.0%)	-
Yes	141 (20.7%)	3 (2.0%)	127 (25.0%)	11 (55.0%)	<0.001
No	540 (79.3%)	149 (98.0%)	382 (75.0%)	9 (45.0%)	-
Was the patient hypovolaemic on arrival to your hospital?					
Yes	142 (20.9%)	12 (7.9%)	124 (24.4%)	6 (30.0%)	<0.001
No	539 (79·1%)	140 (92.1%)	385 (75.6%)	14 (70.0%)	-
Was the patient hypothermic on arrival to your hospital? Yes	74 (10.9%)	9 (5.9%)	62 (12.2%)	3 (15.0%)	0.077
No	606 (89·0%)	143 (94.1%)	446 (87.6%)	17 (85.0%)	-
Missing	1 (0.1%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	_
American Society of Anaesthesiologists (ASA) Score at the time of primary in	· /		× /	. ( )	
1. Healthy person	99 (14.5%)	19 (12.5%)	76 (14.9%)	4 (20.0%)	0.009
2. Mild systemic disease	220 (32·3%)	47 (30.9%)	163 (32.0%)	10 (50.0%)	-
3. Severe systemic disease	239 (35.1%)	59 (38.8%)	177 (34.8%)	3 (15.0%)	-
4. Severe systemic disease that is a constant threat to life	57 (8.4%)	20 (13.2%)	36 (7.1%)	1 (5.0%)	-
5. A moribund patient who is not expected to survive without the operation	40 (5.9%)	2(1.3%)	38 (7.5%)	0 (0.0%)	-
Not applicable - no intervention	24 (3·5%) 2 (0·3%)	3 (2·0%) 2 (1·3%)	19 (3·7%) 0 (0·0%)	2 (10·0%) 0 (0·0%)	-
Missing What study condition does the patient have?	2 (0.3%)	2 (1.376)	0 (0.0%)	0 (0.0%)	-
Oesophageal atresia	18 (2.6%)	7 (4.6%)	11 (2.2%)	0 (0.0%)	0.194
Congenital diaphragmatic hernia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Intestinal atresia	681 (100·0%)	152 (100.0%)	509 (100.0%)	20 (100.0%)	-
Gastroschisis	17 (2.5%)	8 (5.3%)	9 (1.8%)	0 (0.0%)	0.041
Exomphalos/Omphalocele	8 (1.2%)	3 (2.0%)	5 (1.0%)	0 (0.0%)	0.539
Anorectal malformation	12 (1.8%)	3 (2.0%)	9 (1.8%)	0 (0.0%)	0.819
Hirschsprung's Disease	3 (0.4%)	2 (1·3%)	1 (0.2%)	0 (0.0%)	0.180
Type of intestinal atresia?	279 (41.0%)	83 (51.60/)	189 (37.1%)	7 (35.0%)	<0.001
Duodenal (DA) Jejuno-ileal (JIA)	279 (41·0%) 369 (54·2%)	83 (54·6%) 57 (37·5%)	300 (58·9%)	7 (35·0%) 12 (60·0%)	~0.001
Colonic (CA)	31 (4.6%)	11 (7.2%)	19 (3.7%)	12(000%) 1(5.0%)	-
Missing	2(0.3%)	1(0.7%)	1 (0.2%)	0 (0.0%)	-
Classification of duodenal or colonic atresia?	( / - )	(* * *)	(~ = / *)	. (* */*)	
1	162 (52.4%)	38 (40.4%)	119 (57.5%)	5 (62.5%)	0.070
2	73 (23.6%)	26 (27.7%)	44 (21.3%)	3 (37.5%)	-
3	69 (22.3%)	29 (30.9%)	40 (19.3%)	0 (0.0%)	-
4	5 (1.6%)	1 (1.1%)	4 (1.9%)	0 (0.0%)	-
Classification of jejuno-ileal atresia					

2       22 (29.5%)       20 (35.1%)       50 (10.6%)       21 (67.5%)       -         3b       45 (12.2%)       3 (8.8%)       36 (12.0%)       4 (13.5%)       -         3b       45 (12.2%)       3 (8.8%)       36 (12.0%)       4 (13.5%)       -         Cre prior torp contains at the pacifiatic surger center:       -       -       -       -       -         Yes: start problem identified       140 (20.9%)       17 (12.9%)       17 (12.9%)       4 (14.5%)       - <td< th=""><th>1</th><th>77 (20.8%)</th><th>9 (15.8%)</th><th>64 (21.3%)</th><th>4 (33·3%)</th><th>0.014</th></td<>	1	77 (20.8%)	9 (15.8%)	64 (21.3%)	4 (33·3%)	0.014
3b       4 4 (212-30)       5 (6.8%)       36 (12.0%)       4 (12.0%)       7 (10.7%)       117 (23.0%)       0 (0.0%)       -         Care prior to presentation at the pacifiatric surgery cante:       -       -       -       -       -         Yes: structure discover of the pacifiatric surgery cante:       -       -       -       0 (0.0%)       -       -       0 (0.0%)       -       -       -       0 (0.0%)       -       -       - <td< td=""><td>2</td><td>72 (19.5%)</td><td>20 (35.1%)</td><td>50 (16.6%)</td><td>2 (16.7%)</td><td>-</td></td<>	2	72 (19.5%)	20 (35.1%)	50 (16.6%)	2 (16.7%)	-
4         01 (0 - 5%)         7 (12 7%)         94 (17 9%)         0 (0 7%)		· · · ·	· · ·	. ,	· · · ·	-
Circe prior to presentations at the pacificatic surgery curies:         U           Yes: structural disconsed and indexto.or         194 (28.5%)         77 (40.7%)         117 (22.0%)         0.0 0%)         40.401           Yes: synchem indexto.or         26.10.9%         11.0 (20.9%)         11.0		· /			· · · ·	-
Advantal diffusional underfather? Ves: problem identified by tanky condition not diagnosed 194 (28: 5%) (20: 5%) 193 (120: 4%) 190 (19: 4%) (20: 5%) (17: (23: 4%) 190 (19: 5%) (17: 5%) (10: 5%) (10: 5%) No Missing 100 (19: 5%) (20: 5%) (10: 5%) (10: 5%) (10: 5%) 100 (19: 5%) (20: 5%) (10: 5%) (10: 5%) (10: 5%) (10: 5%) 100 (19: 5%) (10:		61 (16.5%)	7 (12:3%)	54 (17:9%)	0 (0.0%)	-
Yes rubbin disclosed         194 (28 3%)         77 (59 7%)         117 (23 0%)         00 (0%)         •0 (0%)           Yes rub poblie disclosed and standing disclosed and disclo						
Ye: problem identified for andy condition not diagnosed         156 (20 4%)         31 (20 4%)         100 (19 6%)         5 (25 9%)         -           No         45 (12 5%)         41 (24 6%)         74 (14 5%)         70 (35 9%)         -           Median gestificinal lage of study condition diagnosis if diagnosis was another to hosphal:         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         5 (25 9%)         00 (19 5%)         1 (25 5%)		194 (28.5%)	77 (50.7%)	117 (23.0%)	0 (0.0%)	<0.001
No         S5 (12.3%)         4.12 (2.6%)         7.4 (14.5%)         7.6 (14.5%)         1.0 (3.5 (1.0)           Median pestational age of study condition diagnosis is was another to bogshilt.		136 (20.0%)	31 (20.4%)	100 (19.6%)	5 (25.0%)	-
Missing         2.0.3%         1.0.7%         1.0.2%         0.0.0%         -           Missing space finally consist of diagnosis was and the optical structure of the optical s	Yes: no problem identified	· · · ·	39 (25.7%)	217 (42.6%)	· · · · ·	-
Median generation and age of study condition diagnosis of diagnosis was an interval (UR) weeks         30 (10)         30 (22)         30 (8)         -         0-914           Mode of framport to bospital:         -         0         0         0         0         0         -         -         0         -         -         -         -         -         -         -         -         -         -         -         -         -         -         0         0         0         0         0         0         0         0         0         0         -         -         -         -         -         -         -         -         -         -         -         0         0         0         0         0         0         0         0         0         0         -         -         -         -         -         -		· /	. ,		, ,	-
antendin (1008), weaks in the loop of the source in the source of the s		2 (0.3%)	1 (0.7%)	1 (0.2%)	0 (0.0%)	-
Mode formsport to bayeline :         Set (38, 82)         Set (31, 82)         <		30 (10)	30 (22)	30 (8)	-	0.914
Other ransport provided by the health service         46 (6 8%)         10 (6 6%)         30 (5 9%)         6 (2 0%)         -           Patient's constraining the health service         214 (1 14%)         81 (3 3.3%)         133 (26 1%)         0 (0 9%)         -           Barn within the heaptin         214 (1 14%)         81 (3 3.3%)         133 (26 1%)         0 (0 9%)         -           Houtsom, where did the priner present from?         -         -         0 (0 9%)         2 (0 9%)         0 (0 9%)         2 (0 9%)         0 (0 9%)         2 (0 9%)         0 (0 9%)         -           Community Clinic/Ceneral Partice         74 (15 9%)         4 (5 6%)         6 (1 7.6%)         1 (0 9%)         0 (0 9%)         0 (0 9%)         0 (0 9%)         -           From andfree requisity with the study centre         1 (0 2%)         1 (1 14%)         0 (0 9%)         1 (5 9%)         1 (5 9%)         -           Yes within the ord anival         3 (0 24%)         0 (0 9%)         3 (1 2 3%)         1 (0 7 5%)         7 (5 7%)         7 (6 3 %)         0 (9 9%)         -           Yes within the ord anival         3 (2 14%)         0 (0 9%)         3 (2 3 4%)         0 (0 9%)         -         1 (0 7 5%)         1 (0 7 5%)         7 (5 5 4%)         7 (6 3 %)         -         0 (0 3 2 3%)						
Patient some manaport         155 (22.8%)         3 (2 0%)         141 (31.4%)         9 (45 0%)         -           Inservation the bospital         2 (0.2%)         0 (0 0%)         2 (0.4%)         0 (0 0%)         -           Insums vitan the bospital         2 (0.2%)         1 (1.4%)         53 (1.4%)         2 (0 0.0%)         -           Instance         5 (1.2 0%)         1 (1.4%)         53 (1.4%)         2 (0 0.0%)         -           Discie Theopital         238 (70.5%)         63 (88.7%)         253 (67.0%)         1 (2 0.0%)         -           From andfreent speciality within the study centre         3 (0.0%)         2 (0.3%)         1 (0.0%)         -           Inductors and inferent speciality within the study centre         3 (0.0%)         2 (0.5%)         7 (63.6%)         0.0%           Versitial Liborito antibiotics administered?         10 (77.5%)         7 (53.6%)         0 (0.0%)         -           Versitial Liborito antival         3 (2.3.4%)         0 (0.0%)         1 (0.75%)         1 (0.75%)         1 (0.75%)         1 (0.75%)         1 (0.75%)         2 (4.9%)         0 (0.0%)         -           Versitial Liborito antival         0 (0.0%)         1 (0.75%)         7 (53.6%)         0 (0.0%)         -           Versitial Liborito antival		. ,		. ,	· /	<0.001
Born whith the barginal         214 (31-4%)         81 (53-3%)         213 (26-4%)         0 (0.0%)         -           House         2 (0.4%)         0 (0.0%)         2 (0.4%)         0 (0.0%)         -           From and the control         74 (15-3%)         1 (1.4%)         53 (14-2%)         2 (0.0%)         -           District Hooginal         232 (70-5%)         12 (0.0%)         -         -         -           From and the control         1 (0.4%)         0 (0.0%)         2 (0.0%)         -         -           Unknown         3 (0.6%)         0 (0.0%)         2 (0.5%)         1 (5.0%)         -           View within the study centre         3 (0.6%)         0 (0.0%)         3 (0.2%)         1 (5.0%)         -           View within the study centre         10 (75.5%)         3 (100.0%)         9 (73.6%)         1 (9.1%)         -           View within the study of arrival         30 (2.4%)         0 (0.0%)         1 (9.1%)         -           View within the study of arrival         10 (75.5%)         7 (53.4%)         0 (0.0%)         -           View within the study of arrival         10 (75.5%)         7 (53.4%)         3 (10.0%)         0 (0.0%)         -           View within the study of arrival         2 (0.2%)		. ,	· /	. ,	· /	
Missing         2 (0.2%)         0 (0.9%)         2 (0.4%)         0 (0.9%)	*	. ,	. ,		· /	
If outbom, where did the patient present from?       5 (12.0%)       4 (15.9%)       1 (1.4%)       2 (10.0%)       < 0.00%	*	· · · ·	· · · ·	· · · ·	. ,	
Home56 (12 0%)1 (1 4%)53 (42 2%)2 10 0%) $< 0 - 00$ District Hospial328 (70 - 5%)65 (617 - 6%)12 (40 0%)-District Hospial328 (70 - 5%)65 (88 - 7%)233 (70 - 6%)10 (40 - 5%)-From andbre routy10 0.25%1 (1 4%)0 (0 0.0%)1 (5 0%)-From andbre routy3 (0 - 6%)2 (0 - 5%)1 (5 0%)-Unknown3 (0 - 6%)2 (0 - 5%)3 (10 - 0%)96 (75 - 6%)7 (63 - 6%)0 - 100Yes within 1 hour of arrival30 (6 (75 - 2%)3 (100 - 0%)90 (75 - 6%)3 (2 3 - 5%)-No2 (1 - 4%)0 (0 0%)30 (2 3 - 5%)Yes within 1 hour of arrival2 (1 4%)0 (0 0%)30 (2 3 - 5%)No2 (1 4%)0 (0 0%)1 (0 8%)1 (9 1%)Yes within 1 hour of arrival2 (1 4%)0 (0 0%)3 (2 3 - 5%)No6 (4 2 - 3%)7 (58 - 3%)90 (7 9%)4 (66 - 7%)No6 (4 2 - 3%)7 (58 - 3%)5 (4 0%)0 (0 0 9%)If hypooleamic, how much intravenous fluid waig given?10 - 20mlakg3 (8 2 - 9%)4 (66 - 7%)5 (6 83 - 3%)No6 (1 2 - 5%)7 (53 - 5%)5 (4 0%)0 (0 0 9%)10 - 20mlakg3 (8 2 - 9%)7 (53 - 6%)86 (2 2 3%)5 (16 0%)10 -		2 (0 570)	0 (0 070)	2 (0 470)	0 (0 070)	-
District lognial         328 (70 5%)         61 (88 -7%)         22 (0.0%)         1         0.00%)         1           From andbrictor country         10 (0.2%)         2 (0.5%)         10 (0.0%)         1 (5.0%)         -           Pring andfreent speciality within the study centre         3 (0.6%)         2 (0.5%)         1 (0.0%)         1 (5.0%)         -           Perioperative care at the pacelatric surgery centre:         Item of a non-on-on-on-on-on-on-on-on-on-on-on-on-		56 (12.0%)	1 (1.4%)	53 (14.2%)	2 (10.0%)	<0.001
From a different speciality within the study centre $1 (0.2\%)$ $1 (1.4\%)$ $0 (0.0\%)$ $1 (0.0\%)$ $-$ Finan a different speciality within the study centre $3 (0.6\%)$ $2 (0.5\%)$ $1 (5.0\%)$ $-$ Perioperative cater at the paediatric surgery centre:Iter set the paediatric surgery centre:Iter set the paediatric surgery centre:Vest within the first day of arrival $106 (75.2\%)$ $3 (100.0\%)$ $0 (25.6\%)$ $7 (63.6\%)$ $0.190$ Yes within the first day of arrival $31 (23.4\%)$ $0 (0.0\%)$ $31 (23.5\%)$ $ 10.95\%$ $1 (0.95\%)$ $1 (0.95\%)$ $-$ Yes within the first day of arrival $21 (14.5\%)$ $0 (0.0\%)$ $2 (14.5\%)$ $2 (0.33.5\%)$ $ 0 (0.0\%)$ $2 (14.5\%)$ $2 (0.33.5\%)$ $-$ No $2 (1.4\%)$ $0 (0.0\%)$ $2 (16.5\%)$ $2 (0.33.5\%)$ $ 0 (0.0\%)$ $ -$ Yes within the first day of arrival $2 (61.2\%)$ $1 (6.7\%)$ $2 (0.13.5\%)$ $3 (0.0\%)$ $ -$ No $0 (27.5\%)$ $4 (0.6\%)$ $0 (0.0\%)$ $                                      -$ <td< td=""><td>•</td><td>· /</td><td>· · · ·</td><td>· · · ·</td><td></td><td>-</td></td<>	•	· /	· · · ·	· · · ·		-
From a different speciality within the study centre $3 (0.6\%)$ $2 (2.8\%)$ $2 (0.0\%)$ $1 (5.0\%)$ $-$ Unknown $3 (0.6\%)$ $0 (0.0\%)$ $2 (0.0\%)$ $1 (5.0\%)$ $-$ Perioperative care at the paediatric surgery centre:IIf's spitch user of arrival $30 (6.6\%)$ $3 (100.0\%)$ $96 (75.6\%)$ $7 (63.6\%)$ $0.190$ Yes within the first day of arrival $33 (23.4\%)$ $0 (0.0\%)$ $1 (0.25.6\%)$ $3 (100.0\%)$ $3 (27.3\%)$ $-$ No $2 (1.4\%)$ $0 (0.0\%)$ $1 (0.25.6\%)$ $3 (27.3\%)$ $ -$ Yes within the first day of arrival $2 (1.4\%)$ $0 (0.0\%)$ $1 (0.75.5\%)$ $1 (0.15\%)$ $-$ Yes within the first day of arrival $2 (1.83.3\%)$ $2 (1.61.3\%)$ $2 (0.61.3\%)$ $2 (0.61.3\%)$ $0 (0.0\%)$ $-$ No $6 (42.2\%)$ $1 (8.3.3\%)$ $2 (0.61.3\%)$ $0 (0.0\%)$ $ -$ IP byproblemic, how much intravenous fluid was given? $    10 - 20 mis/kg$ $38 (27.9\%)$ $4 (66.7\%)$ $6 (9.2\%)$ $  10 - 20 mis/kg$ $38 (27.9\%)$ $1 (16.7\%)$ $   10 - 20 mis/kg$ $38 (27.9\%)$ $ 6 (9.2\%)$ $   10 - 20 mis/kg$ $       10 - 20 mis/kg$ $       10 - 20 mis/kg$ $     -$ </td <td>*</td> <td></td> <td>· /</td> <td>· /</td> <td></td> <td>-</td>	*		· /	· /		-
Turnown         3 (0-6%)         0 (0-0%)         2 (0-5%)         1 (5 0%)         -           Periorative care at the padiatric surgery centre:         I </td <td>•</td> <td>· · · ·</td> <td>· · ·</td> <td>· /</td> <td>· · · ·</td> <td>-</td>	•	· · · ·	· · ·	· /	· · · ·	-
Perioperative care at the pacifiatric surgery centre:         1           If septic, were appropriate ambiotics administered?         106 (75 2%)         3 (100 0%)         96 (75 6%)         7 (63 6%)         0 :190           Yes within the first day of arrival         33 (23 4%)         0 (00%)         30 (23 6%)         3 (27 3%)         -           No         2 (1 4%)         0 (00%)         10 (23 6%)         3 (27 3%)         -           Ves within the first day of arrival         20 (1 6%)         0 (00%)         1 (0 1%)         2 (33 3%)         -           Ves within the first day of arrival         26 (18 3%)         4 (33 3%)         5 (4 0%)         0 (00%)         -           10 - 20mls/kg         38 (27 -9%)         5 (4 0%)         0 (0 0%)         -         -           10 - 20mls/kg         38 (27 -9%)         1 (16 -7%)         -         -         -           10 - 20mls/kg         38 (27 -9%)         2 (0 3 4%)         0 (0 0%)         -         -           10 - 20mls/kg         38 (27 -9%)         2 (0 3 -9%)         3 (0 0 0%)         -         -           Ves: unbilical enhert         69 (0 1%)         2 (1 3 -9%)         3 (0 48%)         0 (0 0%)         -           Ves: unbilica enhere         69 (0 1 (5 %)				· /	· · · ·	
If septic, were appropriate antibiotics administered?       9       9       7(63-6%)       7(63-6%)       0       00       96(75-6%)       7(63-6%)       0       0       90       30 (23-6%)       3 (27-3%)       1       0		5 (0.0%)	0 (0 0%)	2 (0 570)	1 (3.0%)	-
Yes within 1 hour of arrival       106 (75 2%)       3 (100 0%)       30 (23 4%)       0 (00 0%)       30 (23 4%)       0 (00 0%)       1 (0 8%)       1 (9 1%)       -         No       2 (14%)       0 (00 0%)       1 (0 8%)       1 (9 1%)       -         If hyporolaemic, was an intravenous fluid bolus given?       -       -       -         Yes within 1 herist day of arrival       26 (18 3%)       4 (33 3%)       20 (16 1%)       2 (33 3%)       -         No       64 (42%)       1 (8 4%)       5 (4 0%)       0 (00 %)       -       -         If hyporolaemic, how much intravenous fluid was given?       -       <						
No.       2 (1-4%)       0 (0.0%)       1 (0.3%)       1 (9-1%)       -         If hypotolamic, was an introvens fluid bolus given?       7 (58-3%)       9 (979-8%)       4 (66-7%)       0.400         Yes: within the first day of arrival       26 (18-3%)       4 (33-3%)       20 (16-1%)       2 (33-3%)         No       6 (4-2%)       1 (63-3%)       5 (672-3%)       5 (83-3%)       0.600         If hypotolaemic, how much intravenous fluid was given?       7 (75-3%)       5 (672-3%)       5 (683-3%)       0.100-3%)         ID - 20mlSkg       38 (27-9%)       4 (36-4%)       33 (27-7%)       5 (95-2%)       3 (100-9%)       0-100         No       5 (68%)       2 (22-2%)       3 (48-3%)       0 (0.0%)       0-140         Yes: mubilical catheter       (PICC)       268 (39-4%)       99 (95-1%)       168 (13-0%)       0 (0.0%)       0-140         Yes: mubilical catheter       (PICC)       268 (39-4%)       99 (65-1%)       16 (10-6%)       0 (0.0%)       0-100         Yes: mubilical catheter       (PICC)       268 (39-4%)       99 (65-1%)       16 (10-6%)       0 (0.0%)       0-000         Yes: mubilical catheter       (PICC)       268 (39-4%)       90 (65-1%)       16 (10-6%)       0 (0.0%)       0-000		106 (75.2%)	3 (100.0%)	96 (75.6%)	7 (63.6%)	0.190
If hypoxolaemic, was an intravenous fluid bolus given? Yes within 1 hour of arrival 110 (77.5%) 7 (58.3%) 99 (79.8%) 4 (66.7%) 0.400 Yes: within the first day of arrival 26 (18.3%) 4 (33.3%) 20 (16.1%) 2.33 3%) - No 6 (4.2%) 1 (8.3%) 5 (4.0%) 0 (0.0%) - If hypoxolaemic, how much intravenous fluid was given? 10 - 20mlskg 38 (72.1%) 7 (63.6%) 86 (72.3%) 5 (83.3%) 0.680 Above 20mlskg 38 (27.9%) 4 (36.4%) 33 (27.7%) 1 (16.7%) - If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature range? Yes $69$ (92.2%) 7 (77.8%) 9 (95.2%) 3 (100.0%) 0.140 No $56$ (63%) 2 (22.2%) 3 (100.0%) 0.140 No $56$ (63%) 2 (22.2%) 3 (100.0%) 0.140 Yes: epripherally inserted central venous access? Yes: moltical catheter (PICC) 268 (39.4%) 99 (65.1%) 168 (33.0%) 1 (5.0%) 4-0001 Yes: epripherally inserted central in with utrasound guidance 106 (15.6%) 40 (26.3%) 66 (3.9%) 5 4 (10.6%) 0 (0.0%) 0-140 Yes: epripherally inserted central line (open insertion) 60 (8.8%) 6 (3.9%) 5 4 (10.6%) 0 (0.0%) -0.015 No $234$ (34.4%) 13 (8.6%) 5 0 (0.9%) 4-0.001 Yes: coress-matched. 334 (49.0%) 41 (27.0%) 203 (35.6%) 10 (50.0%) -0.015 No intravergative a blood transfusion? Yes: not ross-matched. 334 (49.0%) 41 (27.0%) 233 (55.6%) 10 (50.0%) - No: it was required but not available. 20 (2.9%) 4 (2.6%) 116 (3.1%) 0 (0.0%) - No: it was required but not available. 21 (3.1%) 110 (77.0%) 225 (29.5%) 1 (5.0%) 4-0001 Yes: coress-matched. 334 (49.0%) 41 (27.0%) 233 (55.6%) 10 (50.0%) - No: it was required but not available. 21 (3.1%) 110 (77.0%) 25 (22.4%) 26 (40.5%) 10 (50.0%) - No: it was required but not available. 21 (3.1%) 110 (77.0%) 20 (40.8%) 00 (0.0%) - No: it was required but not available. 21 (3.1%) 110 (77.0%) 20 (40.8%) 10 (50.0%) - No: it was required but not available. 21 (3.1%) 110 (77.0%) 20 (40.8%) 10 (50.0%) - No: it was required but not available. 21 (3.1%) 110 (77.0%) 20 (40.6%) 10 (50.0%) - No it was required but not available. 21 (3.1%) 110 (77.0%) 20 (40.8%) 00 (0.0%) - No: i	Yes: within the first day of arrival	33 (23·4%)	0 (0.0%)	30 (23.6%)	3 (27.3%)	-
Yes:100 (77 5%)7 (58.3%)99 (79.8%)4 (66.7%)0.400Yes:26 (18.3%)4 (33.3%)20 (16.1%)2 (33.3%)-No6 (4.2%)1 (8.3%)5 (4.0%)0.0 (0.%)-If hypovalaenic, how much intravenous fluid was given?10 - 20mlskg98 (72.1%)7 (63.6%)86 (72.3%)5 (83.3%)0.600Above 20mlskg38 (27.9%)4 (36.4%)33 (27.7%)1 (16.7%)-If hypothermic, was the patient warned on arrival to your hospital to within a normal temperature range?Yes69 (93.2%)7 (77.8%)59 (95.2%)3 (100.0%)0.140No5 (64.8%)2 (22.2%)3 (48.%)0 (0.0%)-No5 (64.8%)2 (22.2%)3 (49.0%)0 (0.0%)-140Yes:mbhilitia catheter69 (10.1%)20 (13.2%)49 (9.6%)0 (0.0%)-0140Yes: preptrating inserted central line with ultrasound guidance106 (15.6%)40 (26.3%)66 (13.0%)0 (0.0%)-0001Yes: moticrison048.8%6 (3.9%)54 (10.6%)0 (0.0%)No224 (34.4%)13 (8.6%)202 (23.7%)1 (5.0%)No22 (47.3%)16 (6.0%)4 (0.6%)0 (0.0%)No22 (2.9%)4 (2.6%)16 (3.1%)0 (0.0%)No22 (47.3%)10 (6.0%%)20 (20.3%)1 (5.0%)No20 (2.9%)4 (2.6%) <td< td=""><td></td><td>2 (1.4%)</td><td>0 (0.0%)</td><td>1 (0.8%)</td><td>1 (9.1%)</td><td>-</td></td<>		2 (1.4%)	0 (0.0%)	1 (0.8%)	1 (9.1%)	-
Yes: within the first day of arrival $26$ (18.3%) $433.3\%$ $20$ (16.1%) $2(33.3\%)$ $-$ No $6(4.2\%)$ $1(8.3\%)$ $5(4.0\%)$ $0(0.0\%)$ $-$ If bypoolaemic, how much intravenous fluid was given? $98$ (72.1%) $7(63.6\%)$ $86$ (72.3%) $5(83.3\%)$ $0.6800$ Above 20mls/kg $382$ (27.9%) $4(36.4\%)$ $332$ (27.7%) $11(16.7\%)$ $-$ If hypoolaemic, was the patient warned on arrival to your hospital to within a normal temperature range? $ -$ Yes $9(93.2\%)$ $7(77.8\%)$ $5(9.55.2\%)$ $3(100.0\%)$ $0.1400$ No $5(6.8\%)$ $2(22.2\%)$ $3(4.8\%)$ $0(0.0\%)$ $0.140$ Yes: inobilical calabeter $7(77.8\%)$ $99(65.1\%)$ $106.9\%$ $0.00.0\%$ $-0.001$ Yes: inobilical calabeter $9(10.1\%)$ $20(13.2\%)$ $49(9.6\%)$ $0(0.0\%)$ $0.140$ Yes: greinberally inserted central calbeter (PICC) $266.83\%$ $6(2.3\%)$ $6(13.0\%)$ $0(0.0\%)$ $0.0015$ No $234(34.4\%)$ $13(.6\%)$ $200.2(39.7\%)$ $19(9.5\%)$ $0.00.0\%$ $0.0015$ No $234(34.4\%)$ $13(.6\%)$ $10(.0\%)$ $0.00.0\%$ $0.0015$ No $232(47.3\%)$ $10(6.7\%)$ $236(40.5\%)$ $10(50.0\%)$ $-$ No $4(2.6\%)$ $16(3.1\%)$ $0(0.0\%)$ $-$ No $202(9.7\%)$ $12(5.0\%)$ $12(5.0\%)$ $-$ No $202(9.7\%)$ $12(5.0\%)$ $12(5.0\%)$ $-$ No $10(50.0\%)$ $  -$ <		110 (77.5%)	7 (58.2%)	00 (70.8%)	1 (66.7%)	0.400
No         6 (4-2%)         1 (8-3%)         5 (4-0%)         0 (0-0%)         -           If hypotolaenic, how much intravenous fluid was given?         - </td <td></td> <td></td> <td></td> <td>. ,</td> <td></td> <td></td>				. ,		
If hypovalaenic, how much intravenous fluid was given?       98 (72-1%)       7 (63-6%)       86 (72-3%)       5 (83-3%)       0 - 80         10 - 20mls/kg       38 (27-9%)       4 (36-4%)       33 (27-7%)       1 (16-7%)       -         If hypothermic, was the patient warned on arrival to your hospital to within a normal temperature rarge?       -<	•	· · · · ·	· /	· · · ·	· · · ·	-
Above 20mlskg38 (27-9%)4 (36-4%)33 (27-7%)1 (16-7%).If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature range?		~ /	× /	· · · ·	~ /	
If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature range? Yes 69 (93-2%) 7(718%) 59 (95-2%) 3 (100-0%) - 10 the patient receive central venous access? Yes: unbitical catheter 69 (10-1%) 20 (13-2%) 49 (9-6%) 0 (0-0%) 0-140 Yes: urbitical catheter 69 (10-1%) 20 (13-2%) 49 (9-6%) 0 (0-0%) 0-140 Yes: peripherally inserted central catheter (PICC) 268 (39-4%) 99 (65-1%) 168 (33-0%) 1 (5-0%) 40-001 Yes: peripherally inserted central line with ultrasound guidance 106 (15-6%) 44 0(26-3%) 66 (13-0%) 0 (0-0%) 0-015 No 234 (34-4%) 13 (8-6%) 202 (39-7%) 19 (95-0%) 40-001 Duration of antibiotics following primary intervention (days), median (IQR) 8 (10) 4 (5) 10 (9) 5 (7) <0001 Duration of antibiotics following primary intervention (days), median (IQR) 8 (10) 4 (5) 10 (9) 5 (7) <0001 Pis: percutaneously inserted central line (open insertion) 224 (34-4%) 13 (8-6%) 202 (39-7%) 19 (95-0%) 4-0001 Duration of antibiotics following primary intervention (days), median (IQR) 8 (10) 4 (5) 10 (9) 5 (7) <0001 Duration of antibiotics following primary intervention (days), median (IQR) 324 (12-0%) 16 (3-1%) 0 (0-0%) <- No: not required. 334 (49-0%) 41 (27-0%) 226 (40-5%) 10 (50-0%) - No: not required. 334 (49-0%) 41 (27-0%) 226 (40-5%) 10 (50-0%) - No: it was required but not available. 5 (0-7%) 1 (0-7%) 4 (0-8%) 0 (0-0%) - No to trequired. 370 (54-3%) 117 (77-0%) 252 (49-5%) 1 (5-0%) - No to trequired. 21 (3-1%) 1 (0-7%) 17 (3-3%) 3 (15-0%) - No to trequired. 10 (10, days 7 (5) 7 (5) 7 (6) 3 (4) <0010 Yes; but it was not available 12 (3-1%) 10 (77-0%) 270 (40-5%) 10 (50-0%) - No to trequired. 10 (10, days 7 (5) 7 (5) 7 (6) 3 (4) <0010 Yes; but it was not available 14 (10) 16 (17) 13 (12) 5 (3) <0001 Did the patient require partner la nutrition if given (IQR), days 14 (13) 16 (17) 13 (12) 5 (3) <0001 Yes; und it was sometimes available, but less than required 37 (54-%) 0 (0-0%) 37 (7-3%) 11 (55-0%) - No 106 (15-6%) 11 (7-2%) 88 (7-3%) 7 (35-0%) - No 106 (15-6%) 11 (	-	· /	. ,	. ,	· /	0.680
Yes No69 (93-2%) 5 (6-8%)7 (77.9%) 2 (22-2%)59 (95-2%) 3 (4-8%)0 (0-0%) 0 (0-0%)0-140 0Did the patient receive central venous access?Yes: umbilical catheter69 (10-1%)-90 (65-1%)168 (33-0%)0 (0-0%)0-140Yes: peripherally inserted central line with ultrasound guidance106 (15-6%)40 (26-3%)66 (13-0%)0 (0-0%)<0-001	0	· /	· /	33 (27.7%)	1 (16.7%)	-
No5 (6.8%)2 (22.2%)3 (4.8%)0 (0.0%)-Did the patient receive central venous access?69 (10.1%)20 (13.2%)49 (9.6%)0 (0.0%)0.140Yes: umbilical catheter69 (10.1%)20 (13.2%)49 (9.6%)0 (0.0%)0.140Yes: umbilical catheter(Dec.)268 (39.4%)99 (65.1%)168 (33.0%)1 (5.0%)<0.001				59 (95.2%)	3 (100.0%)	0.140
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Did the patient require parenteral nutrition? Yes: and it was given490 $(72 \cdot 0\%)$ 141 $(92 \cdot 8\%)$ 347 $(68 \cdot 2\%)$ 2 $(10 \cdot 0\%)$ <0001Yes: and it was sometimes available, but less than required37 $(5 \cdot 4\%)$ 0 $(0 \cdot 0\%)$ 37 $(7 \cdot 3\%)$ 0 $(0 \cdot 0\%)$ -Yes: but it was not available48 $(7 \cdot 0\%)$ 0 $(0 \cdot 0\%)$ 37 $(7 \cdot 3\%)$ 11 $(55 \cdot 0\%)$ -No106 $(15 \cdot 6\%)$ 11 $(7 \cdot 2\%)$ 88 $(17 \cdot 3\%)$ 7 $(35 \cdot 0\%)$ -Median time patient received parenteral nutrition if received (IQR), days14 $(12)$ 15 $(12)$ 14 $(12)$ 20 $(20)$ 0 $\cdot 055$ Surgical intervention:Time from arrival to primary intervention in hours, median (IQR)25 $(52)$ 22 $(28)$ 28 $(57)$ 48 $(84)$ <0·001		. ,		. ,	. ,	
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Yes: but it was not available       48 (7.0%)       0 (0.0%)       37 (7.3%)       11 (55.0%)       -         No       106 (15.6%)       11 (7.2%)       88 (17.3%)       7 (35.0%)       -         Median time patient received parenteral nutrition if received (IQR), days       14 (12)       15 (12)       14 (12)       20 (20)       0.055         Surgical intervention:       55 (52)       22 (28)       28 (57)       48 (84)       <0.001		490 (72.0%)	141 (92.8%)	347 (68.2%)	2 (10.0%)	<0.001
No         106 (15.6%)         11 (7.2%)         88 (17.3%)         7 (35.0%)         -           Median time patient received parenteral nutrition if received (IQR), days         14 (12)         15 (12)         14 (12)         20 (20)         0.055           Surgical intervention:         25 (52)         22 (28)         28 (57)         48 (84)         <0.001	Yes: and it was sometimes available, but less than required	. ,			. ,	-
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Surgical intervention:         Time from arrival to primary intervention in hours, median (IQR)       25 (52)       22 (28)       28 (57)       48 (84)       <0.001		, ,				-
Time from arrival to primary intervention in hours, median (IQR)       25 (52)       22 (28)       28 (57)       48 (84)       <0.001		14 (12)	15 (12)	14 (12)	20 (20)	0.022
Primary intervention for patients with duodenal atresia:	Surgical intervention:					
· ·	Time from arrival to primary intervention in hours, median (IQR)	25 (52)	22 (28)	28 (57)	48 (84)	<0.001
Duodenoduodenostomy         200 (71·9%)         62 (74·7%)         134 (71·3%)         4 (57·1%)         0·69	•					
	Duodenoduodenostomy	200 (71.9%)	62 (74.7%)	134 (71·3%)	4 (57.1%)	0.69

	20.414.000	10 (10 000)	00 (14 00)	1 /1 4 / 00 / 0	
Duodenojenunostomy Wab avairing aphy	39(14.0%)	10(12.0%)	28 (14·9%) 12 (6·4%)	1(14.3%)	-
Web excision only Palliation	20 (7·2%) 9 (3·2%)	7 (8.4%)	12 (6·4%) 7 (3·7%)	1(14.3%)	-
	9 (3·2%) 10 (3·6%)	1 (1·2%) 3 (3·6%)	7 (3.7%)	1 (14·3%) 0 (0·0%)	-
Other Surgical approach for patients with duodenal atresia:	10 (3 070)	3 (3 070)	7 (3 770)	0 (0 070)	-
Laparotomy	224 (87.8%)	59 (74.7%)	159 (93.5%)	6 (100.0%)	0.002
Laparoscopy	26 (10.2%)	18 (22.8%)	8 (4.7%)	0 (0.0%)	-
Endoscopy	1 (0.4%)	0 (0.0%)	1 (0.6%)	0 (0.0%)	-
Other	4 (1.6%)	2 (2.5%)	2 (1.2%)	0 (0.0%)	-
Type of anastomosis for patients with duodenal atresia:	× /	× /	× /	· · · ·	
Kimura's diamond shape	162 (68.9%)	49 (68.1%)	112 (70.9%)	1 (20.0%)	0.180
Side-to-side	50 (21.3%)	15 (20.8%)	32 (20.3%)	3 (60.0%)	-
End-to-end	23 (9.8%)	8 (11.1%)	14 (8.9%)	1 (20.0%)	-
Primary intervention for JIA or CA?					
Primary anastomosis	264 (66.0%)	43 (63 · 2%)	214 (67.1%)	7 (53.8%)	0.011
Bowel resection	170 (42.5%)	24 (35·3%)	144 (45.1%)	2 (15.4%)	0.037
Divided stoma	50 (12.5%)	15 (22.1%)	34 (10.7%)	1 (7.7%)	0.713
Division of web only	16 (4.0%)	2 (2.9%)	13 (4.1%)	1 (7.7%)	0.250
Santulli stoma	15 (3.8%)	0 (0.0%)	15 (4.7%)	0 (0.0%)	0.096
Loop stoma	14 (3.5%)	2(2.9%)	11 (3.4%)	1 (7.7%)	0.317
Bishop-Koop stoma	10(2.5%)	1(1.5%)	8 (2·5%) 5 (1.6%)	1(7.7%)	0·175
Palliation Other	8 (2·0%)	3(4.4%)	5(1.6%)	0 (0.0%) 1 (7.7%)	0.272
Other Surgical approach for patients with JIA or CA?	27 (6.8%)	3 (4.4%)	23 (7·2%)	1 (7.7%)	0.170
Laparotomy	327 (95.9%)	51 (96.2%)	267 (96.0%)	9 (90.0%)	0.43
Laparoscopy	8 (2.3%)	1 (1.9%)	7 (2.5%)	0 (0.0%)	-
Endoscopy	1 (0.3%)	0(0.0%)	1 (0.4%)	0 (0.0%)	-
Other	5 (1.5%)	1 (1.9%)	3(1.1%)	1 (10.0%)	-
Conversion to open procedure for all patients undergoing laparoscopy or endo	· /		• (• • • • )	- ()	
Yes	6 (16.7%)	1 (5.3%)	5 (29.4%)	-	0.052
No	30 (83.3%)	18 (94.7%)	12 (70.6%)	-	-
Was the distal bowel flushed to check for patency?					
Yes	442 (83.2%)	78 (62.9%)	351 (89.3%)	13 (92.9%)	<0.001
No	89 (16.8%)	46 (37.1%)	42 (10.7%)	1 (7.1%)	-
Median length of bowel excised in patients undergoing a bowel resection, in	15(15)	11 (14)	15 (15)	50 (20)	0.026
cm (IQR)	15 (15)	()			
What type of anaesthesia was used for the primary intervention? General anaesthesia with endotracheal tube	655 (96.2%)	149 (98.0%)	489 (96.1%)	17 (85.0%)	0.160
General anaesthesia with laryngeal airway	4 (0.6%)	0 (0.0%)	3 (0.6%)	1 (5.0%)	-
Ketamine anaesthesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Spinal/caudal anaesthesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Local anaesthesia only	2 (0.3%)	0 (0.0%)	2 (0.4%)	0 (0.0%)	_
No anaesthesia, just analgesia	1 (0.1%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	_
No anaesthesia, no analgesia	2 (0.3%)	0 (0.0%)	2 (0.4%)	0 (0.0%)	-
Not applicable: no surgery or primary intervention undertaken	17 (2.5%)	3 (2.0%)	12 (2.4%)	2 (10.0%)	-
Who undertook the anaesthetic for the primary intervention?					
Anaesthetic doctor	646 (94.9%)	144 (94.7%)	488 (95.9%)	14 (70.0%)	<0.001
Anaesthetic nurse	9 (1·3%)	1 (0.7%)	4 (0.8%)	4 (20.0%)	-
Medical officer	2 (0.3%)	2 (1.3%)	0 (0.0%)	0 (0.0%)	-
Surgeon	2 (0.3%)	0(0.0%)	2 (0.4%)	0 (0.0%)	-
Other healthcare professional	2(0.3%)	2(1.3%)	0 (0.0%)	0 (0.0%)	-
No anaesthetic undertaken	20 (2.9%)	3 (2.0%)	15 (2.9%)	2 (10.0%)	-
Who undertook the primary intervention?	654 (96·0%)	149 (98·0%)	489 (96.1%)	16 (80.0%)	0.007
Paediatric surgeon (or junior with paediatric surgeon assisting/in the room) General surgeon (or junior with general surgeon assisting/in the room)	6 (0.9%)	1 (0.7%)	4 (0.8%)	10(80.0%) 1(5.0%)	-
Junior doctor, medical officer or other (without a paediatric or general	· · · ·		· /	. ,	-
surgeon assisting/in the room)	2 (0.3%)	0 (0.0%)	2 (0.4%)	0 (0.0%)	-
Trainee surgeon (without a paediatric or general surgeon assisting or in the	2 (0, 40/)	0 (0.0%)	2 (0.4%)	1 (5.0%)	_
Trainee surgeon (without a paediatric of general surgeon assisting of in the		0 (0 0/0)	2 (0 4/0)	1 (5 070)	-
room)	3 (0.4%)	• • • • •	10 10 10 11		
room) Not applicable - no surgery or primary intervention undertaken.	3 (0·4%) 16 (2·3%)	2 (1.3%)	12 (2·4%)	2 (10.0%)	-
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention?	16 (2·3%)				-
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes	16 (2·3%) 530 (77·8%)	144 (94.7%)	378 (74·3%)	8 (40.0%)	<u>-</u> <0·001
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available	16 (2·3%) 530 (77·8%) 68 (10·0%)	144 (94·7%) 4 (2·6%)	378 (74·3%) 58 (11·4%)	8 (40·0%) 6 (30·0%)	<0·001 -
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%)	144 (94·7%) 4 (2·6%) 1 (0·7%)	378 (74·3%) 58 (11·4%) 61 (12·0%)	8 (40·0%) 6 (30·0%) 4 (20·0%)	<0·001 - -
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available Not applicable: a conservative primary intervention was undertaken	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%) 3 (0·4%)	144 (94·7%) 4 (2·6%) 1 (0·7%) 1 (0·7%)	378 (74·3%) 58 (11·4%) 61 (12·0%) 2 (0·4%)	8 (40.0%) 6 (30.0%) 4 (20.0%) 0 (0.0%)	- - -
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available Not applicable: a conservative primary intervention was undertaken Not applicable: no surgery or primary intervention undertaken	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%)	144 (94·7%) 4 (2·6%) 1 (0·7%)	378 (74·3%) 58 (11·4%) 61 (12·0%)	8 (40·0%) 6 (30·0%) 4 (20·0%)	- <0.001 - - - -
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available Not applicable: a conservative primary intervention was undertaken Not applicable: no surgery or primary intervention undertaken <b>Outcomes:</b>	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%) 3 (0·4%) 14 (2·1%)	144 (94·7%) 4 (2·6%) 1 (0·7%) 1 (0·7%) 2 (1·3%)	378 (74·3%) 58 (11·4%) 61 (12·0%) 2 (0·4%)	8 (40.0%) 6 (30.0%) 4 (20.0%) 0 (0.0%)	- - -
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available Not applicable: a conservative primary intervention was undertaken Not applicable: no surgery or primary intervention undertaken <b>Outcomes:</b> Did the patient survive to discharge (or 30-days if still an in-patient 30-days for	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%) 3 (0·4%) 14 (2·1%)	144 (94·7%) 4 (2·6%) 1 (0·7%) 1 (0·7%) 2 (1·3%)	378 (74·3%) 58 (11·4%) 61 (12·0%) 2 (0·4%) 10 (2·0%)	8 (40·0%) 6 (30·0%) 4 (20·0%) 0 (0·0%) 2 (10·0%)	
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available Not applicable: a conservative primary intervention was undertaken Not applicable: no surgery or primary intervention undertaken <b>Outcomes:</b> Did the patient survive to discharge (or 30-days if still an in-patient 30-days for Yes	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%) 3 (0·4%) 14 (2·1%)	144 (94·7%) 4 (2·6%) 1 (0·7%) 1 (0·7%) 2 (1·3%) intervention)? 147 (96·7%)	378 (74·3%) 58 (11·4%) 61 (12·0%) 2 (0·4%) 10 (2·0%) 400 (78·6%)	8 (40·0%) 6 (30·0%) 4 (20·0%) 0 (0·0%) 2 (10·0%) 8 (40·0%)	- - -
room) Not applicable - no surgery or primary intervention undertaken. Was a Surgical Safety Checklist used at the time of primary intervention? Yes No: but it was available No: it was not available Not applicable: a conservative primary intervention was undertaken Not applicable: no surgery or primary intervention undertaken <b>Outcomes:</b> Did the patient survive to discharge (or 30-days if still an in-patient 30-days for	16 (2·3%) 530 (77·8%) 68 (10·0%) 66 (9·7%) 3 (0·4%) 14 (2·1%)	144 (94·7%) 4 (2·6%) 1 (0·7%) 2 (1·3%) 2 (1·3%) intervention)? 147 (96·7%) 5 (3·3%)	378 (74·3%) 58 (11·4%) 61 (12·0%) 2 (0·4%) 10 (2·0%)	8 (40·0%) 6 (30·0%) 4 (20·0%) 0 (0·0%) 2 (10·0%)	

	500 (02 20())	1.41 (05.00())	2(2(01.00/)	5 ((2, 50))	0.004
Yes	508 (92.2%)	141(97.2%)	362(91.0%)	5 (62.5%)	<0.001
No	2 (0·4%) 21 (3·8%)	0 (0.0%)	2 (0·5%) 16 (4·0%)	0 (0.0%)	-
Not followed-up after discharge	· · ·	2(1.4%)	18 (4·5%) 18 (4·5%)	3(37.5%)	-
Followed-up, but not until 30-days post primary intervention Cause of mortality:	20 (3.6%)	2 (1.4%)	18 (4.3%)	0 (0.0%)	-
Sepsis	67 (52.3%)	0 (0.0%)	63 (56.8%)	4 (33.3%)	0.001
Respiratory failure	$17(13\cdot3\%)$	1(20.0%)	15 (13.5%)	1(8.3%)	-
Cardiac failure	14 (10.9%)	4 (80.0%)	9 (8.1%)	1 (8.3%)	-
Anastomotic leak	8 (6.3%)	0 (0.0%)	6 (5.4%)	2 (16.7%)	-
Aspiration pneumonia	7 (5.5%)	0 (0.0%)	5 (4.5%)	2 (16.7%)	-
Malnutrition	4(3.1%)	0(0.0%)	4(3.6%)	0 (0.0%)	-
Electrolyte disturbance Haemorrhage	4 (3·1%) 2 (1·6%)	0 (0·0%) 0 (0·0%)	3 (2·7%) 1 (0·9%)	1 (8·3%) 1 (8·3%)	-
Other	5 (3.9%)	0 (0.0%)	5 (4.5%)	0(0.0%)	-
Median duration of hospital stay in days (IOR)	19 (17)	24 (13)	18 (15)	11 (9)	<0.001
Did the patient have a surgical site infection?				. ,	
Yes	71 (10.4%)	16 (10.5%)	53 (10.4%)	2 (10.0%)	0.590
No	586 (86.0%)	132 (86.8%)	438 (86.1%)	16 (80.0%)	-
Not applicable, no surgical wound	24 (3.5%)	4 (2.6%)	18 (3.5%)	2 (10.0%)	-
Did the patient have a full thickness wound dehiscence?					
Yes	17 (2.5%)	2 (1.3%)	15 (2.9%)	0 (0.0%)	0.390
No	639 (93.8%)	145 (95.4%)	476 (93.5%)	18 (90.0%)	-
Not applicable, no surgical wound	25 (3.7%)	5 (3·3%)	18 (3.5%)	2 (10.0%)	-
Did the patient require a further unplanned intervention?	5 (0 70/)	2 (1 20/)	2 (0 60/)	0 (0 00/)	0.240
Yes – percutaneous	5(0.7%)	$2(1\cdot3\%)$	3 (0·6%) 78 (15·3%)	0 (0.0%) 5 (25.0%)	0.340
Yes – surgical intervention	102 (15·0%)	19 (12.5%)	· · · ·	5 (25·0%)	-
No	552 (81·1%)	127 (83.6%)	412 (80.9%)	13(65.0%)	-
Not applicable – no primary intervention undertaken	22 (3·2%)	4 (2.6%)	16 (3.1%)	2 (10.0%)	-
If central line access was used, did the patient acquire central line sepsis? Yes, diagnosed clinically	24 (5.4%)	6 (4.3%)	18 (5.8%)	0 (0.0%)	0.610
Yes, confirmed on microbiology	30 (6.7%)	13 (9.4%)	17 (5.5%)	0 (0.0%)	0 010
No	394 (87.9%)	120 (86.3%)	273 (88.6%)	1 (100.0%)	_
Condition specific complications within 30-days of primary intervention:	374 (07 770)	120 (00 570)	273 (88 676)	1 (100 070)	-
Anastomotic leak	57 (8.4%)	0 (0.0%)	52 (10.2%)	5 (25.0%)	<0.001
Short-gut	26 (3.8%)	4 (2.6%)	22 (4.3%)	0 (0.0%)	0.421
Adhesive bowel obstruction	23 (3.4%)	3 (2.0%)	20 (3.9%)	0 (0.0%)	0.351
Anastomotic stenosis	19 (2.8%)	4 (2.6%)	13(2.6%)	2 (10.0%)	0.139
Stoma prolapse	8 (1.2%)	4 (2.6%)	4 (0.8%)	0 (0.0%)	0.159
Difficulty establishing/ tolerating enteral feeds/intestinal dysmotility	7 (1.0%)	1 (0.7%)	6 (1.2%)	0 (0.0%)	0.769
Parastomal skin breakdown	6 (0.9%)	0 (0.0%)	5 (1.0%)	1 (5.0%)	0.071
Stoma retraction	5 (0.7%)	1 (0.7%)	4 (0.8%)	0 (0.0%)	0.915
Pneumonia (aspiration pneumonia or pneumonia)	5 (0.7%)	0 (0.0%)	4 (0.8%)	1 (5.0%)	0.047
Missed additional atresia	4 (0.6%)	0 (0.0%)	4 (0.8%)	0 (0.0%)	0.507
Bowel perforation	4 (0.6%)	3 (2.0%)	1 (0.2%)	0 (0.0%)	0.040
Electrolyte disturbance	4 (0.6%)	0 (0.0%)	4 (0.8%)	0 (0.0%)	0.507
High output stoma	3 (0.4%)	3 (2.0%)	0 (0.0%)	0 (0.0%)	0.005
Other bowel pathology	3 (0.4%)	3 (2.0%)	0 (0.0%)	0 (0.0%)	0.002
N/A, No intervention	3 (0.4%)	0 (0.0%)	2 (0.4%)	1 (5.0%)	0.006
Bleeding	2 (0.3%)	0 (0.0%)	1 (0.2%)	1 (5.0%)	<0.001
Persistent intestinal (duodenal/jejunal) dilatation	1 (0.1%)	0 (0.0%)	1 (0.2%)	0 (0.0%)	0.844
NEC	1 (0.1%)	1 (0.7%)	0 (0.0%)	0 (0.0%)	0.175
Persisting obstruction requiring redo anastomosis	1 (0.1%)	1 (0.7%)	0 (0.0%)	0 (0.0%)	0.175
Parastomal hernia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Other	17 (2.5%)	2 (1.3%)	15 (2.9%)	0 (0.0%)	0.405
Was the patient followed up at 30-days post primary surgery or intervention t	o assess for compli				
Yes: reviewed in person	308 (55-5%)	81 (55·1%)	225 (56.3%)	2 (25.0%)	<0.001
Yes: via telephone consultation	49 (8.8%)	3 (2.0%)	45 (11.3%)	1 (12.5%)	-
Yes: via other means	13 (2·3%)	3 (2.0%)	10 (2.5%)	0 (0.0%)	-
Yes: still an in-patient at 30-days	107 (19·3%)	42 (28.6%)	65 (16·3%)	0 (0.0%)	-
No: data is based on in-patient observations only	44 (7.9%)	12 (8.2%)	30 (7.5%)	2 (25.0%)	-
No: follow-up was done, but prior to 30-days	34 (6.1%)	6 (4.1%)	25 (6.3%)	3 (37.5%)	-
If the patient had a complication, when was it diagnosed?					
During the primary admission	200 (29.4%)	31 (20.4%)	159 (31·2%)	10 (50.0%)	0.010
As an emergency re-attender	12 (1.8%)	1 (0.7%)	11 (2·2%)	0 (0.0%)	-
At routine follow-up as an out-patient	12 (1.8%)	1 (0.7%)	10 (2.0%)	1 (5.0%)	-
Not applicable, no complications	453 (66.5%)	119 (78.3%)	325 (63.9%)	9 (45.0%)	-
Missing	4 (0.6%)	0 (0.0%)	4 (0.8%)	0 (0.0%)	-
*Patients born in hospital = 0. Percentages have been rounded to 1	deaimal place and r	may not total 100.	. ,	IOD.	

\*Patients born in hospital = 0. Percentages have been rounded to 1 decimal place and may not total 100.0%. HIC: High-income countries. IQR: Interquartile range. LIC: Low-income countries. MIC: Middle-income countries. NEC: Necrotising enterocolitis.

# Supplementary Table 4: Characteristics, perioperative care, surgical interventions, and outcomes for patients with gastroschisis

Variable	Total (n=453)	HIC (n=139)	MIC (n=304)	LIC (n=10)	P value
Patient Characteristics:	(11 433)				
Median gestational age at birth (IQR), weeks	36 (2)	36 (2)	37 (3)	36 (4)	0.099
Median age at presentation (IQR), hours	0 (10)	0 (0)	2 (20)	12 (12)	<0.001
Sex:				- (	
Male	232 (51.2%)	73 (52.4%)	152 (50.0%)	7 (70.0%)	0.430
Female	221 (48.8%)	66 (47.5%)	152 (50.0%)	3 (30.0%)	<0.001
Median weight at presentation (IQR), kg Does the patient have another anomaly in addition to the study condition?	2.3 (0.7)	2.5 (0.7)	2.2 (0.6)	2.2 (1.2)	<0.001
Yes: Cardiovascular	44 (9.7%)	16 (11.5%)	28 (9.2%)	0 (0.0%)	0.433
Yes: Respiratory	12 (2.6%)	2 (1.4%)	10 (3.3%)	0 (0.0%)	0.462
Yes: Gastrointestinal	46 (10.2%)	4 (2.9%)	42 (13.8%)	0 (0.0%)	0.001
Yes: Neurological	3 (0.7%)	1 (0.7%)	2 (0.7%)	0 (0.0%)	0.964
Yes: Genito-urinary	13 (2.9%)	2 (1.4%)	11 (3.6%)	0 (0.0%)	0.381
Yes: Musculoskeletal	3 (0.7%)	1 (0.7%)	2 (0.7%)	0 (0.0%)	0.964
Yes: Down syndrome	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Yes: Beckwith Wiedemann syndrome	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Yes: Cystic fibrosis	3 (0.7%)	1 (0.7%)	2 (0.7%)	0 (0.0%)	0.964
Yes: Chromosomal	1 (0.2%)	1 (0.7%)	0 (0.0%)	0 (0.0%)	0.322
Yes: Other	14 (3.1%)	4 (2.9%)	10 (3.3%)	0 (0.0%)	0.827
No	340 (75.1%)	112 (80.6%)	218 (71.7%)	10 (100.0%)	0.025
Median distance from patient's home to hospital (IQR), km*	2 (58)	0 (13)	10 (91)	52 (94)	<0.001
Type of delivery:					
Vaginal (spontaneous)	176 (38.9%)	45 (32.4%)	122 (40.1%)	9 (90.0%)	<0.001
Vaginal (induced)	26 (5.7%)	22 (15.8%)	4 (1.3%)	0 (0.0%)	-
Caesarean section (elective)	123 (27.2%)	36 (25.9%)	87 (28.6%)	0 (0.0%)	-
Caesarean section (urgent/non-elective)	128 (28.3%)	36 (25.9%)	91 (29.9%)	1 (10.0%)	-
Was the patient septic on arrival to your hospital?	62 (12.79/)	5 (2.69/)	57 (18.8%)	0 (0.0%)	<0.001
Yes	62 (13·7%) 390 (86·1%)	5 (3·6%) 134 (96·4%)	246 (80.9%)	10 (100.0%)	<0.001
No	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
Missing Was the patient hypovolaemic on arrival to your hospital?	1 (0 270)	0 (0 070)	1 (0 570)	0 (0 070)	-
Yes	99 (21.9%)	14 (10.1%)	84 (27.6%)	1 (10.0%)	<0.001
No	353 (77.9%)	125 (89.9%)	219 (72.0%)	9 (90.0%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
Was the patient hypothermic on arrival to your hospital?					
Yes	90 (19·9%)	7 (5.0%)	81 (26.6%)	2 (20.0%)	<0.001
No	362 (79.9%)	132 (95.0%)	222 (73.0%)	8 (80.0%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
American Society of Anaesthesiologists (ASA) Score at the time of primary					
intervention:	61 (13.5%)	21 (15.1%)	37 (12.2%)	3 (30.0%)	<0.001
<ol> <li>Healthy person</li> <li>Mild systemic disease</li> </ol>	127 (28·0%)	35 (25.2%)	91 (29·9%)	1 (10.0%)	~0.001
3. Severe systemic disease	172 (38·0%)	65 (46·8%)	106 (34.9%)	1(10.0%) 1(10.0%)	-
<ol> <li>Severe systemic disease</li> <li>Severe systemic disease that is a constant threat to life</li> </ol>	50 (11·0%)	12 (8.6%)	38 (12.5%)	0 (0.0%)	-
<ol> <li>Severe systeme disease that is a constant threat to me</li> <li>A moribund patient who is not expected to survive without the operation</li> </ol>	13 (2.9%)	12(0.07%)	12 (3.9%)	0 (0.0%)	-
Not applicable - no intervention	30 (6.6%)	5 (3.6%)	20 (6.6%)	5 (50.0%)	-
What study condition does the patient have?	( , , , , , , , , , , , , , , , , , ,	- (- 0/0)	_= ( = 0, 0)	- (- 0 0/0)	-
Oesophageal atresia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Congenital diaphragmatic hernia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Intestinal atresia	17 (3.8%)	8 (5.8%)	9 (3.0%)	0 (0.0%)	0.292
Gastroschisis	453 (100.0%)	139 (100.0%)	304 (100.0%)	10 (100.0%)	-
Exomphalos/Omphalocele	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Anorectal malformation	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Hirschsprung's Disease	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	0.782
Type of Gastroschisis?	251 (55 50)	100 (80.000)	220 (52 53)	c (co oo))	
Simple	351 (77.5%)	106 (76.3%)	239 (78.6%)	6 (60.0%)	0.351
Complex: associated with atresia	44 (9·7%)	13 (9.4%)	30 (9.9%)	1 (10.0%)	0.985
Complex: associated with necrosis	26 (5·7%)	10(7.2%)	15 (4.9%)	1 (10.0%)	0.537
Complex: associated with perforation	19(4.2%)	7(5.0%)	11(3.6%)	1(10.0%)	0.513
Complex: associated with closing gastroschisis	29 (6.4%)	9 (6.5%)	19 (6.3%)	1 (10.0%)	0.892
Care prior to presentation at the paediatric surgery centre:					
Antenatal ultrasound undertaken?	281 (62.0%)	132 (95.0%)	148 (48.7%)	1 (10.0%)	<0.001
Yes: study condition diagnosed Yes: problem identified but study condition not diagnosed	17 (3.8%)	2 (1.4%)	15 (4.9%)	0 (0.0%)	
Yes: no problem identified	90 (19.9%)	1 (0.7%)	85 (28.0%)	4 (40·0%)	-
No	65 (14.3%)	4 (2.9%)	56 (18·4%)	5 (50·0%)	-
110	55 (17 570)	· (2 7/0)	55 (10 470)	5 (50 070)	-

Median gestational age of study condition diagnosis if diagnosis was					
antenatal (IQR), weeks	22 (16)	19 (12)	26 (13)	-	<0.001
Mode of transport to hospital:	137 (30.2%)	23 (16.5%)	107 (35.2%)	7 (70.0%)	<0.001
Ambulance Other transport provided by the health service	137 (30.2%)	4 (2·9%)	10 (3.3%)	0 (0·0%)	<0.001
Patient's own transport	58 (12.8%)	0 (0.0%)	56 (18.4%)	2 (20.0%)	-
Born within the hospital	244 (53.9%)	112 (80.6%)	131 (43.1%)	1 (10.0%)	-
If out born, where did the patient present from?				. ,	
Home	20 (9.6%)	0 (0.0%)	20 (11.6%)	0 (0.0%)	0.017
Community Clinic/General Practice	42 (20.1%)	1 (3.7%)	38 (22.0%)	3 (33.3%)	-
District Hospital	143 (68.4%)	25 (92.6%)	112 (64.7%)	6 (66.7%)	-
From a different speciality within the study centre	1 (0.5%) 2 (1.0%)	1(3.7%)	0 (0.0%)	0 (0·0%) 0 (0·0%)	-
Unknown Missing	1 (0.5%)	0 (0·0%) 0 (0·0%)	2 (1·2%) 1 (0·6%)	0 (0.0%)	-
Perioperative care at the paediatric surgery centre:	1 (0 570)	0 (0 070)	1 (0 0/0)	0 (0 0/0)	-
If septic, were appropriate antibiotics administered?					
Yes within 1 hour of arrival	48 (77.4%)	4 (80.0%)	44 (77.2%)	0 (0.0%)	0.910
Yes: within the first day of arrival	12 (19.4%)	1 (20.0%)	11 (19.3%)	0 (0.0%)	-
No	2 (3·2%)	0 (0.0%)	2 (3.5%)	0 (0.0%)	-
If hypovolaemic, was an intravenous fluid bolus given? Yes within 1 hour of arrival	88 (88.9%)	11 (78.6%)	77 (91.7%)	0 (0.0%)	0.006
Yes: within the first day of arrival	11 (11.1%)	3 (21.4%)	7 (8.3%)	1 (100.0%)	-
No	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	_
If hypovolaemic, how much intravenous fluid was given?			. ,	. ,	
10 - 20mls/kg	78 (78.8%)	7 (50.0%)	70 (83.3%)	1 (100.0%)	0.016
Above 20mls/kg	21 (21·2%)	7 (50.0%)	14 (16.7%)	0 (0.0%)	-
If hypothermic, was the patient warmed on arrival to your hospital to within a normal temperature range?					
Yes	86 (95.6%)	6 (85.7%)	78 (96.3%)	2 (100.0%)	0.410
No	4 (4.4%)	1 (14·3%)	3 (3.7%)	0 (0.0%)	-
Did the patient receive central venous access?	14 (2 10/)	4 (2 (2))	10 (2 20/)	0 (0 00()	0.007
Yes: umbilical catheter	14(3.1%) 231(51.0%)	4(2.9%) 101(72.7%)	$10(3\cdot3\%)$ 129(42:4%)	0(0.0%) 1(10.0%)	0·827 < <b>0·001</b>
Yes: peripherally inserted central catheter (PICC) Yes: percutaneously inserted central line with ultrasound guidance	231 (51·0%) 70 (15·5%)	101 (72·7%) 30 (21·6%)	129 (42·4%) 40 (13·2%)	1 (10·0%) 0 (0·0%)	<0.001 0.029
Yes: surgically placed central line (open insertion)	66 (14·6%)	11 (7.9%)	40 (13 270) 55 (18·1%)	0 (0.0%)	0.008
No	107 (23.6%)	4 (2.9%)	94 (30.9%)	9 (90.0%)	<0.001
Median total duration of antibiotics following primary intervention (IQR),	7 (11)	6 (6)	9 (13)	2 (4)	<0.001
days Did the notiont meeting a bland transfusion?	, (11)	0(0)	) (15)	2 (H)	·0 001
Did the patient receive a blood transfusion? Yes: not cross-matched	3 (0.7%)	0 (0.0%)	3 (1.0%)	0 (0.0%)	0.001
Yes: cross-matched.	187 (41.3%)	39 (28·1%)	146 (48·0%)	2 (20.0%)	0.001
No: not required.	254 (56.1%)	98 (70·5%)	148 (48.7%)	8 (80.0%)	-
No: it was required but not available.	9 (2.0%)	2 (1.4%)	7 (2.3%)	0 (0.0%)	-
Did the patient require ventilation?					
Yes: and it was given	342 (75.5%)	125 (89.9%)	216 (71.1%)	1 (10.0%)	<0.001
Yes, but it was not available	29 (6·4%)	0 (0.0%)	28 (9.2%)	1(10.0%)	-
No Median time patient remained on ventilation if given (IQR), days	82 (18·1%) 4 (7)	14 (10·1%) 4 (6)	60 (19·7%) 5 (7)	8 (80·0%) 1 (0)	- 0·013
Median time patient remained on ventilation if given (IQR), days Median time to first enteral feed (post-primary intervention) (IQR), days	4(7)	4 (6)	13 (10)	0 (0)	<0.013
Median time to first enteral feed (post-primary intervention) (IQR), days	22 (15)	27 (13)	21 (18)	30 (0)	<0.001
Did the patient require parenteral nutrition?	()		()	(*)	
Yes: and it was given	351 (77.5%)	138 (99·3%)	212 (69.7%)	1 (10.0%)	<0.001
Yes: and it was sometimes available, but less than required	21 (4.6%)	0 (0.0%)	21 (6.9%)	0 (0.0%)	-
Yes: but it was not available	26 (5.7%)	0 (0.0%)	23 (7.6%)	3 (30.0%)	-
No	55 (12·1%)	1(0.7%)	48 (15.8%)	6 (60.0%)	-
Median time patient received parenteral nutrition if received (IQR), days	21 (16)	24 (13)	20 (18)	30 (0)	<0.001
Surgical intervention:					
Primary intervention:	166 (26 69/)	52 (20 10/)	112 (27 20/)	0 (0 00/)	~0.001
Primary closure in the operating room (OR)	166 (36·6%)	53 (38·1%)	113(37.2%)	0(0.0%)	<0.001
Staged closure using a preformed silo	108 (23·8%) 83 (18·3%)	41 (29·5%) 17 (12·2%)	64 (21·1%) 64 (21·1%)	3 (30·0%) 2 (20·0%)	-
Staged closure using a surgical silo (including improvised silo) Staged closure using an Alexis Wound Retractor and Protector	38 (8·4%)	6 (4·3%)	32(10.5%)	2 (20 <sup>.</sup> 0%) 0 (0.0%)	-
Primary closure at the cotside (Bianchi technique)	32 (7.1%)	21 (15.1%)	11 (3.6%)	0 (0.0%)	-
Stoma	3 (0.7%)	0 (0.0%)	3 (1.0%)	0 (0.0%)	-
No intervention undertaken	14 (3.1%)	0 (0.0%)	9 (3.0%)	5 (50.0%)	-
Other method	9 (2.0%)	1 (0.7%)	8 (2.6%)	0 (0.0%)	-
Time from presentation to primary intervention in hours, median (IQR)	4 (6)	2 (3)	5 (10)	3 (5)	<0.001
Method of defect closure?					
Fascia and skin closed with sutures	277 (63.4%)	89 (64·0%)	187 (63·8%)	1 (20.0%)	<0.001
Sutureless closure with skin edges opposed and dressing applied	45(10.3%)	25(18.0%)	20 (6.8%)	0(0.0%)	-
Just skin closed with sutures, fascia left open	36 (8.2%)	6 (4·3%)	30 (10.2%)	0 (0.0%)	-

Dressing applied, defect left open to close by secondary intention (+/-					
cord flap/ cord coverage of defect)	21 (4.8%)	12 (8.6%)	9 (3.1%)	0 (0.0%)	-
Umbilical cord sutured over the defect, fascia left open	14 (3.2%)	3 (2.2%)	11 (3.8%)	0 (0.0%)	-
Patch/mesh closure	3 (0.7%)	0 (0.0%)	3 (1.0%)	0 (0.0%)	-
Other	36 (8.2%)	2 (1.4%)	30 (10.2%)	4 (80.0%)	-
Patient died before the defect was closed	5 (1.1%)	2 (1.4%)	3 (1.0%)	0 (0.0%)	-
Time from admission to abdominal wall closure in days, median (IQR)	2 (5)	1 (6)	2 (5)	2 (0)	0.873
What type of anaesthesia was used for the primary intervention?					
General anaesthesia with endotracheal tube	361 (79.7%)	121 (87.1%)	236 (77.6%)	4 (40.0%)	<0.001
General anaesthesia with laryngeal airway	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
Ketamine anaesthesia	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
Spinal/caudal anaesthesia	1(0.2%)	0 (0.0%)	1(0.3%)	0 (0.0%)	-
Local anaesthesia only	9 (2·0%) 44 (9·7%)	0 (0·0%) 15 (10·8%)	9 (3·0%) 29 (9·5%)	0 (0·0%) 0 (0·0%)	-
No anaesthesia, just analgesia No anaesthesia, no analgesia	17 (3.8%)	3 (2.2%)	14 (4.6%)	0 (0.0%)	-
Not applicable: no surgery or primary intervention undertaken.	19 (4.2%)	0 (0.0%)	13 (4.3%)	6 (60.0%)	-
Who undertook the anaesthetic for the primary intervention?	1) (1 2/0)	0 (0 070)	15 (1 570)	0 (00 070)	-
Anaesthetic doctor	337 (74.4%)	94 (67.6%)	241 (79.3%)	2 (20.0%)	<0.001
Anaesthetic nurse	4 (0.9%)	0 (0.0%)	2 (0.7%)	2 (20.0%)	-
Medical officer	21 (4.6%)	20 (14.4%)	1 (0.3%)	0 (0.0%)	-
Surgeon	9 (2.0%)	0 (0.0%)	9 (3.0%)	0 (0.0%)	-
Other healthcare professional	20 (4.4%)	11 (7.9%)	9 (3.0%)	0 (0.0%)	-
No anaesthetic undertaken	62 (13.7%)	14 (10.1%)	42 (13.8%)	6 (60.0%)	-
Who undertook the primary intervention?	423 (93.4%)	133 (95.7%)	285 (93.8%)	5 (50.00/)	<0.001
Paediatric surgeon (or junior with paediatric surgeon assisting/in the room) General surgeon (or junior with general surgeon assisting/in the room)	423 (93·4%) 1 (0·2%)	0(0.0%)	285 (93·8%) 1 (0·3%)	5 (50·0%) 0 (0·0%)	~0.001
Junior doctor, medical officer or other (without a paediatric or general	· /	. ,	. ,	. ,	-
surgeon assisting/in the room)	5 (1.1%)	2 (1.4%)	3 (1.0%)	0 (0.0%)	-
Trainee surgeon (without a paediatric or general surgeon assisting or in the	11 (2.4%)	4 (2.9%)	7 (2·3%)	0 (0.0%)	
room) Not applicable - no surgery or primary intervention undertaken.	13 (2.9%)	0 (0.0%)	8 (2.6%)	5 (50.0%)	-
Was a Surgical Safety Checklist used at the time of primary intervention?	15 (2 570)	0 (0 070)	0 (2 070)	5 (50 070)	-
Yes	304 (67.1%)	111 (79.9%)	191 (62.8%)	2 (20.0%)	<0.001
No: but it was available	63 (13.9%)	12 (8.6%)	50 (16.4%)	1 (10.0%)	-
No: it was not available	29 (6.4%)	0 (0.0%)	28 (9.2%)	1 (10.0%)	-
Not applicable: a conservative primary intervention was undertaken	37 (8.2%)	16 (11.5%)	21 (6.9%)	0 (0.0%)	-
	· /		(* * · · ·)	· · · ·	
Not applicable: no surgery or primary intervention undertaken	20 (4.4%)	0 (0.0%)	14 (4.6%)	6 (60.0%)	-
					-
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days					-
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?	20 (4.4%)	0 (0.0%)	14 (4.6%)	6 (60.0%)	
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes	20 (4·4%) 345 (76·2%)	0 (0.0%)	14 (4·6%) 207 (68·1%)	6 (60·0%) 1 (10·0%)	<0.001
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No	20 (4.4%)	0 (0.0%)	14 (4.6%)	6 (60.0%)	
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes	20 (4·4%) 345 (76·2%)	0 (0.0%)	14 (4·6%) 207 (68·1%)	6 (60·0%) 1 (10·0%)	<0.001
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%)	6 (60·0%) 1 (10·0%) 9 (90·0%) 0 (0·0%)	<0.001
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%) 0 (0.0%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%)	6 (60.0%) 1 (10.0%) 9 (90.0%) 0 (0.0%) 0 (0.0%)	<0.001
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%) 0 (0.0%) 3 (2.2%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%)	6 (60.0%) 1 (10.0%) 9 (90.0%) 0 (0.0%) 0 (0.0%) 1 (100.0%)	<0.001
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%) 0 (0.0%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%)	6 (60.0%) 1 (10.0%) 9 (90.0%) 0 (0.0%) 0 (0.0%)	<0·001 - <0·001 -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality:	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%) 0 (0.0%) 3 (2.2%) 10 (7.4%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%)	6 (60.0%) 1 (10.0%) 9 (90.0%) 0 (0.0%) 1 (100.0%) 0 (0.0%)	<0.001 - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%) 0 (0.0%) 3 (2.2%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%)	6 (60.0%) 1 (10.0%) 9 (90.0%) 0 (0.0%) 0 (0.0%) 1 (100.0%)	<0·001 - <0·001 -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%)	0 (0.0%) 137 (98.6%) 2 (1.4%) 122 (90.4%) 0 (0.0%) 3 (2.2%) 10 (7.4%) 2 (100.0%) 0 (0.0%) 0 (0.0%)	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%)	6 (60·0%) 1 (10·0%) 9 (90·0%) 0 (0·0%) 1 (100·0%) 0 (0·0%) 5 (55·6%) 1 (11·1%) 0 (0·0%)	<0.001 - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%)	6 (60·0%) 1 (10·0%) 9 (90·0%) 0 (0·0%) 1 (100·0%) 0 (0·0%) 5 (55·6%) 1 (11·1%) 0 (0·0%) 0 (0·0%)	<0.001 - - - - - 0.650 -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - - 0.650 - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel Malnutrition	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%) 1 (1·0%)	$\begin{array}{c} 6\ (60\cdot0\%)\\ \hline\\ 1\ (10\cdot0\%)\\ 9\ (90\cdot0\%)\\ \hline\\ 0\ (0\cdot0\%)\\ 1\ (100\cdot0\%)\\ 0\ (0\cdot0\%)\\ \hline\\ 5\ (55\cdot6\%)\\ 1\ (11\cdot1\%)\\ 0\ (0\cdot0\%)\\ 0\ (0\cdot0\%)\\ 1\ (11\cdot1\%)\\ \end{array}$	<0.001 - - - - - 0.650 -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - 0.650 - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel Malnutrition Aspiration pneumonia Haemorrhage Anastomotic leak	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%) 1 (1·0%) 1 (1·0%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel Malnutrition Aspiration pneumonia Haemorrhage Anastomotic leak Other	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 6 (5·5%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	14 (4.6%) $207 (68.1%)$ $97 (31.9%)$ $184 (88.9%)$ $1 (0.5%)$ $5 (2.4%)$ $17 (8.2%)$ $43 (43.9%)$ $24 (24.5%)$ $15 (15.3%)$ $5 (5.1%)$ $2 (2.0%)$ $1 (1.0%)$ $1 (1.0%)$ $4 (4.1%)$	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ 2 \ (22 \cdot 2\%) \end{array}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel Malnutrition Aspiration pneumonia Haemorrhage Anastomotic leak Other Median duration of hospital stays, (IQR) days	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%) 1 (1·0%) 1 (1·0%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - 0.650 - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken         Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes         No         If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes         No         Not followed-up after discharge         Followed-up, but not until 30-days post primary intervention         Cause of mortality:         Sepsis         Respiratory failure         Cardiac failure         Electrolyte disturbance         Ischaemic bowel         Malnutrition         Aspiration pneumonia         Haemorrhage         Anastomotic leak         Other         Median duration of hospital stays, (IQR) days	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 6 (5·5%) 22 (18)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 29 \ (8) \end{array}$	14 (4.6%) $207 (68.1%)$ $97 (31.9%)$ $184 (88.9%)$ $1 (0.5%)$ $5 (2.4%)$ $17 (8.2%)$ $43 (43.9%)$ $24 (24.5%)$ $15 (15.3%)$ $5 (5.1%)$ $2 (2.0%)$ $1 (1.0%)$ $1 (1.0%)$ $4 (4.1%)$	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ 2 \ (22 \cdot 2\%) \end{array}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel Malnutrition Aspiration pneumonia Haemorrhage Anastomotic leak Other Median duration of hospital stays, (IQR) days	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 6 (5·5%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%) 1 (1·0%) 2 (2·0%) 1 (1·0%) 4 (4·1%) 20 (24)	$\frac{6}{600}$ $\frac{1}{1000}$ $\frac{1}{9}(900\%)$ $\frac{0}{900\%}$ $\frac{0}{000\%}$ $\frac{0}{000\%}$ $\frac{1}{1000\%}$ $\frac{1}{1000\%}$ $\frac{0}{00\%}$ $\frac{1}{110\%}$ $\frac{0}{00\%}$ $\frac{0}{00\%}$ $\frac{0}{00\%}$ $\frac{1}{111\%}$ $\frac{0}{00\%}$ $\frac{0}{0}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken Outcomes: Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? Yes No If the patient was discharged prior, were they still alive at 30-days following primary intervention? Yes No Not followed-up after discharge Followed-up, but not until 30-days post primary intervention Cause of mortality: Sepsis Respiratory failure Cardiac failure Electrolyte disturbance Ischaemic bowel Malnutrition Aspiration pneumonia Haemorrhage Anastomotic leak Other Median duration of hospital stays, (IQR) days	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 6 (5·5%) 22 (18) 51 (11·3%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 29 \ (8) \\ \hline \end{array}$	14 (4·6%) 207 (68·1%) 97 (31·9%) 184 (88·9%) 1 (0·5%) 5 (2·4%) 17 (8·2%) 43 (43·9%) 24 (24·5%) 15 (15·3%) 5 (5·1%) 2 (2·0%) 1 (1·0%) 2 (2·0%) 1 (1·0%) 1 (1·0%) 4 (4·1%) 20 (24) 30 (9·9%)	$\frac{6}{600}$ $\frac{1}{1000}$ $\frac{1}{9}(900\%)$ $\frac{0}{900\%}$ $\frac{0}{00\%}$ $\frac{0}{00\%}$ $\frac{1}{1000\%}$ $\frac{1}{1000\%}$ $\frac{0}{00\%}$ $\frac{1}{111\%}$ $\frac{0}{00\%}$ $\frac{0}{0}$ $\frac{0}{0}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken         Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes         No         If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes         No         Not followed-up after discharge         Followed-up, but not until 30-days post primary intervention         Cause of mortality:         Sepsis         Respiratory failure         Cardiac failure         Electrolyte disturbance         Ischaemic bowel         Malnutrition         Aspiration pneumonia         Haemorrhage         Anastomotic leak         Other         Median duration of hospital stays, (IQR) days         Did the patient have a surgical site infection?         Yes         No	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 6 (5·5%) 22 (18) 51 (11·3%) 368 (81·2%) 34 (7·5%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 10 \ (13 \cdot 7\%) \\ 115 \ (82 \cdot 7\%) \\ 5 \ (3 \cdot 6\%) \\ \hline \end{array}$	14 (4.6%)           207 (68 · 1%)           97 (31 · 9%)           184 (88 · 9%)           1 (0 · 5%)           5 (2 · 4%)           17 (8 · 2%)           43 (43 · 9%)           24 (24 · 5%)           15 (15 · 3%)           5 (5 · 1%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           1 (1 · 0%)           2 (2 · 0%)           2 (2 · 0%)           2 (2 · 0%)           2 (2 · 0%)           2 (2 · 0%)           2 (2 · 0%)           3 0 (9 · 9%)           2 5 0 (82 · 2%)           2 4 (7 · 9%)	$\frac{6}{600}, \frac{6}{00}, 6$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken         Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes         No         If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes         No         No followed-up after discharge         Followed-up, but not until 30-days post primary intervention         Cause of mortality:         Sepsis         Respiratory failure         Cardiac failure         Electrolyte disturbance         Ischaemic bowel         Mahutrition         Aspiration pneumonia         Haemorrhage         Anastomotic leak         Other         Median duration of hospital stays, (IQR) days         Did the patient have a surgical wound         Did the patient have a full thickness wound dehiscence?         Yes	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 6 (5·5%) 22 (18) 51 (11·3%) 368 (81·2%) 34 (7·5%) 21 (4·6%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 15 \ (82 \cdot 7\%) \\ 5 \ (3 \cdot 6\%) \\ \hline \\ 3 \ (2 \cdot 2\%) \end{array}$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·2%)           2 (2·4)           3 0 (9·9%)           2 50 (82·2%)           2 4 (7·9%)           18 (5·9%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ \hline \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ \hline \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken         Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes         No         If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes         No         No followed-up after discharge         Followed-up, but not until 30-days post primary intervention         Cause of mortality:         Sepsis         Respiratory failure         Cardiac failure         Electrolyte disturbance         Ischaemic bowel         Mahutrition         Aspiration pneumonia         Haemorrhage         Anastomotic leak         Other         Median duration of hospital stays, (IQR) days         Did the patient have a surgical wound         Did the patient have a full thickness wound dehiscence?         Yes         No	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 6 (5·5%) 22 (18) 51 (11·3%) 368 (81·2%) 34 (7·5%) 21 (4·6%) 399 (88·1%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·2%)           2 (2·4)           3 0 (9·9%)           2 50 (82·2%)           2 4 (7·9%)           18 (5·9%)           2 65 (87·2%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ \hline \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ \end{array}$	<0.001 - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken           Outcomes:           Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           No followed-up after discharge           Followed-up, but not until 30-days post primary intervention           Cause of mortality:           Sepsis           Respiratory failure           Cardiac failure           Electrolyte disturbance           Ischaemic bowel           Malnutrition           Aspiration pneumonia           Haemorrhage           Anastomotic leak           Other           Median duration of hospital stays, (IQR) days           Did the patient have a surgical site infection?           Yes           No           Not applicable, no surgical wound           Did the patient have a full thickness wound dehiscence?           Yes           No           Not applicable, no surgical wound	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 6 (5·5%) 22 (18) 51 (11·3%) 368 (81·2%) 34 (7·5%) 21 (4·6%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 15 \ (82 \cdot 7\%) \\ 5 \ (3 \cdot 6\%) \\ \hline \\ 3 \ (2 \cdot 2\%) \end{array}$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·2%)           2 (2·4)           3 0 (9·9%)           2 50 (82·2%)           2 4 (7·9%)           18 (5·9%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ \hline \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ \hline \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken           Outcomes:           Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           Not followed-up after discharge           Followed-up, but not until 30-days post primary intervention           Cause of mortality:           Sepsis           Respiratory failure           Cardiac failure           Electrolyte disturbance           Ischaemic bowel           Malnutrition           Aspiration pneumonia           Haemorrhage           Anastomotic leak           Other           Median duration of hospital stays, (IQR) days           Did the patient have a surgical site infection?           Yes           No           Not applicable, no surgical wound           Did the patient have a full thickness wound dehiscence?           Yes           No <t< td=""><td>20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (0·9%) 3 (0·9%) 3 (7·5%) 3 (7·3%)</td><td><math display="block">\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \</math></td><td>14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           2 (2·2%)           2 4 (7·9%)           2 50 (82·2%)           2 4 (7·9%)           18 (5·9%)           2 65 (87·2%)           2 1 (6·9%)</td><td><math display="block">\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ \hline \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 4 \ (40 \cdot 0\%) \\ 6 \ (60 \cdot 0\%) \\ \hline \end{array}</math></td><td>&lt;0.001 - - - - - - - - - - - - -</td></t<>	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (0·9%) 3 (0·9%) 3 (7·5%) 3 (7·3%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           2 (2·2%)           2 4 (7·9%)           2 50 (82·2%)           2 4 (7·9%)           18 (5·9%)           2 65 (87·2%)           2 1 (6·9%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ \hline \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 4 \ (40 \cdot 0\%) \\ 6 \ (60 \cdot 0\%) \\ \hline \end{array}$	<0.001 - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken         Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes         No         If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes         No         If the patient was discharged prior, were they still alive at 30-days following primary intervention?         Yes         No         Not followed-up after discharge         Followed-up, but not until 30-days post primary intervention         Cause of mortality:         Sepsis         Respiratory failure         Cardiac failure         Electrolyte disturbance         Ischaemic bowel         Malnutrition         Aspiration pneumonia         Haemorrhage         Anastomotic leak         Other         Median duration of hospital stays, (IQR) days         Did the patient have a surgical site infection?         Yes         No         No ta applicable, no surgical wound         Did the patient have a full thickness wound dehiscence?         Yes         No         No tapplicable, no surgical wound	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 3 (1·3%) 368 (81·2%) 34 (7·5%) 21 (4·6%) 399 (88·1%) 33 (7·3%) 5 (1·1%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           2 (1·0%)           1 (1·0%)           2 (0·9%)           2 (0·7%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ \hline \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ \end{array}$	<0.001 - - - - - - - - - - - - - - - - - -
Not applicable: no surgery or primary intervention undertaken           Outcomes:           Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           Store           Not followed-up after discharge           Followed-up, but not until 30-days post primary intervention           Cause of mortality:           Sepsis           Respiratory failure           Cardiac failure           Electrolyte disturbance           Ischaemic bowel           Malnutrition           Aspiration pneumonia           Haemorrhage           Anastomotic leak           Other           Median duration of hospital stays, (IQR) days           Did the patient have a surgical wound           No           Not applicable, no surgical wound           Did the patient have a full thickness wound dehiscence?           Yes           No           Not ap	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 3 (1·1%) 368 (81·2%) 34 (7·5%) 21 (4·6%) 399 (88·1%) 33 (7·3%) 5 (1·1%) 58 (12·8%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           2 (1·0%)           1 (1·0%)           2 (2·4)           30 (9·9%)           250 (82·22%)           24 (7·9%)           18 (5·9%)           265 (87·2%)           21 (6·9%)           2 (0·7%)           38 (12·5%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0$	<ul> <li>&lt;0·001</li> <li>-</li> <li>-<!--</td--></li></ul>
Not applicable: no surgery or primary intervention undertaken           Outcomes:           Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           If the patient was discharged prior, were they still alive at 30-days following primary intervention?           Yes           No           Store           Not followed-up after discharge           Followed-up, but not until 30-days post primary intervention           Cause of mortality:           Sepsis           Respiratory failure           Cardiac failure           Electrolyte disturbance           Ischaemic bowel           Malnutrition           Aspiration pneumonia           Haemorrhage           Anastomotic leak           Other           Median duration of hospital stays, (IQR) days           Did the patient have a surgical site infection?           Yes           No           Not applicable, no surgical wound           Did the patient have a full thickness wound dehiscence?           Yes	20 (4·4%) 345 (76·2%) 108 (23·8%) 306 (89·2%) 1 (0·3%) 9 (2·6%) 27 (7·9%) 50 (45·9%) 25 (22·9%) 15 (13·8%) 5 (4·6%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 1 (0·9%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 2 (1·8%) 3 (1·3%) 368 (81·2%) 34 (7·5%) 21 (4·6%) 399 (88·1%) 33 (7·3%) 5 (1·1%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ \hline \\ 137 \ (98 \cdot 6\%) \\ 2 \ (1 \cdot 4\%) \\ \hline \\ 122 \ (90 \cdot 4\%) \\ 0 \ (0 \cdot 0\%) \\ 3 \ (2 \cdot 2\%) \\ 10 \ (7 \cdot 4\%) \\ \hline \\ 2 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot$	14 (4·6%)           207 (68·1%)           97 (31·9%)           184 (88·9%)           1 (0·5%)           5 (2·4%)           17 (8·2%)           43 (43·9%)           24 (24·5%)           15 (15·3%)           5 (5·1%)           2 (2·0%)           1 (1·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           1 (1·0%)           2 (2·0%)           2 (1·0%)           1 (1·0%)           2 (0·9%)           2 (0·7%)	$\begin{array}{c} 6 \ (60 \cdot 0\%) \\ \hline \\ \\ \hline \\ 1 \ (10 \cdot 0\%) \\ 9 \ (90 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ 1 \ (100 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 5 \ (55 \cdot 6\%) \\ 1 \ (11 \cdot 1\%) \\ 0 \ (0 \cdot 0\%) \\ \hline \\ 2 \ (22 \cdot 2\%) \\ 6 \ (6) \\ \hline \\ 2 \ (20 \cdot 0\%) \\ \hline \\ 3 \ (30 \cdot 0\%) \\ 5 \ (50 \cdot 0\%) \\ \hline \\ 0 \ (0 \cdot 0\%) \\ \hline \\ \end{array}$	<0.001 - - - - - - - - - - - - -

If central line access used, did the patient acquire central line sepsis?					
Yes, diagnosed clinically	14 (4.1%)	6 (4·4%)	8 (3.8%)	0 (0.0%)	0.390
Yes, confirmed on microbiology	49 (14.2%)	13 (9.6%)	36 (17.2%)	0 (0.0%)	-
No	282 (81.7%)	116 (85.9%)	165 (78.9%)	1 (100.0%)	-
Did the neonate have any of these complications within 30-days of primary intervention?					
Abdominal compartment syndrome (ACS)	36 (8.2%)	7 (5.0%)	29 (9.8%)	0 (0.0%)	0.171
Ischemic bowel	26 (5.9%)	8 (5.8%)	17 (5.8%)	1 (20.0%)	0.840
Necrotising enterocolitis	18 (4.1%)	10 (7.2%)	8 (2.7%)	0 (0.0%)	0.060
None of these	371 (84.5%)	121 (87.1%)	246 (83.4%)	4 (80.0%)	0.001
If the patient has ACS, was the abdomen re-opened?					
Yes	11 (30.6%)	5 (71.4%)	6 (20.7%)	-	0.009
No	25 (69.4%)	2 (28.6%)	23 (79.3%)	-	-
Was the patient followed up at 30-days post primary surgery or intervention to a assess for complications?					
Yes: reviewed in person	179 (51.9%)	56 (40.9%)	123 (59.4%)	0 (0.0%)	0.002
Yes: via telephone consultation	14 (4.1%)	7 (5.1%)	7 (3.4%)	0 (0.0%)	-
Yes: via other means	10 (2.9%)	4 (2.9%)	6 (2.9%)	0 (0.0%)	-
Yes: still an in-patient at 30-days	104 (30.1%)	55 (40.1%)	49 (23.7%)	0 (0.0%)	-
No: data is based on in-patient observations only	20 (5.8%)	9 (6.6%)	10 (4.8%)	1 (100.0%)	-
No: follow-up was done, but prior to 30-days	18 (5.2%)	6 (4.4%)	12 (5.8%)	0 (0.0%)	-
If the patient had a complication, when was it diagnosed?					
During the primary admission	164 (36.2%)	41 (29.5%)	120 (39.5%)	3 (30.0%)	0.007
As an emergency re-attender	13 (2.9%)	2 (1.4%)	9 (3.0%)	2 (20.0%)	-
At routine follow-up as an out-patient	2 (0.4%)	0 (0.0%)	2 (0.7%)	0 (0.0%)	-
Not applicable, no complications	273 (60.3%)	96 (69.1%)	172 (56.6%)	5 (50.0%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0·0%)	-

\*Patients born in hospital = 0. Percentages have been rounded to 1 decimal place and may not total 100.0%. HIC: High-income countries. IQR: Interquartile range. LIC: Low-income countries. MIC: Middle-income countries.

# Supplementary Table 5: Characteristics, perioperative care, surgical interventions, and outcomes for patients with exomphalos/omphalocele

Variable	Total (n=325)	HIC (n=70)	MIC (n=241)	LIC (n=14)	P value
Patient Characteristics:	(1 020)				
Median gestational age at birth (IQR), weeks	38 (3)	38 (4)	38 (3)	37 (2)	0.472
Median age at presentation (IQR), hours	3 (23)	0 (2)	6 (24)	13 (40)	<0.001
Sex:	192 (56 20/)	42 ((1 40/)	121 (54 40/)	0 (64 20/)	
Male	183 (56·3%)	43 (61.4%)	131 (54.4%)	9 (64·3%) 5 (25·7%)	0.780
Female Ambiguous	141 (43·4%) 1 (0·3%)	27 (38·6%) 0 (0·0%)	109 (45·2%) 1 (0·4%)	5 (35·7%) 0 (0·0%)	-
Median weight at presentation (IQR), kg	2.8 (0.9)	2.8 (0.9)	2.7 (0.9)	2.7 (0.7)	0.589
Does the patient have another anomaly in addition to the study condition?	20(0))	20(0))	27(0))	27(07)	0 507
Yes: Cardiovascular	114 (35.1%)	29 (41.4%)	85 (35.3%)	0 (0.0%)	0.012
Yes: Respiratory	16 (4.9%)	8 (11.4%)	8 (3.3%)	0 (0.0%)	0.012
Yes: Gastrointestinal	49 (15.1%)	11 (15.7%)	37 (15.4%)	1 (7.1%)	0.696
Yes: Neurological	21 (6.5%)	8 (11.4%)	11 (4.6%)	2 (14·3%)	0.028
Yes: Genito-urinary	52 (16.0%)	12 (17.1%)	38 (15.8%)	2 (14·3%)	0.947
Yes: Musculoskeletal	27 (8.3%)	8 (11.4%)	17 (7.1%)	2 (14·3%)	0.359
Yes: Down syndrome	4 (1.2%)	1 (1.4%)	1 (0.4%)	2 (14·3%)	<0.001
Yes: Beckwith Wiedemann syndrome	6 (1.8%)	3 (4·3%)	3 (1.2%)	0 (0.0%)	0.218
Yes: Cystic fibrosis	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Yes: Chromosomal	11 (3·4%)	5 (7.1%)	5 (2.1%)	1 (7.1%)	0.087
Yes: Other	24 (7.4%)	7 (10.0%)	17 (7.1%)	0 (0.0%)	0.396
No	137 (42.2%)	27 (38.6%)	103 (42.7%)	7 (50.0%)	0.685
Median distance from patient's home to hospital (IQR), km*	13 (68)	0 (17)	16 (77)	56 (111)	<0.001
Type of delivery:	116 (25 70/)	1((22,00/)	80 (2( 00/)	11 (79 (0/)	
Vaginal (spontaneous)	116 (35.7%)	16 (22.9%)	89 (36.9%)	11 (78.6%)	0.012
Vaginal (induced)	12(3.7%)	4(5.7%)	7(2.9%)	1(7.1%)	-
Caesarean section (elective)	130 (40·0%) 66 (20·3%)	33 (47·1%) 17 (24·3%)	96 (39·8%) 48 (19·9%)	1 (7·1%) 1 (7·1%)	-
Caesarean section (urgent/non-elective) Unknown	1(0.3%)	0(0.0%)	1 (0.4%)	0(0.0%)	-
Was the patient septic on arrival to your hospital?	1 (0 370)	0 (0 070)	1 (0 470)	0 (0 070)	-
Yes	40 (12.3%)	1 (1.4%)	35 (14.5%)	4 (28.6%)	0.002
No	285 (87.7%)	69 (98·6%)	206 (85.5%)	10 (71.4%)	-
Was the patient hypovolaemic on arrival to your hospital?		× /	× /	· /	
Yes	29 (8.9%)	5 (7.1%)	22 (9.1%)	2 (14·3%)	0.002
No	296 (91.1%)	65 (92.9%)	219 (90.9%)	12 (85.7%)	-
Was the patient hypothermic on arrival to your hospital?					
Yes	32 (9.8%)	4 (5.7%)	25 (10.4%)	3 (21.4%)	0.002
No	293 (90.2%)	66 (94·3%)	216 (89.6%)	11 (78.6%)	-
American Society of Anaesthesiologists (ASA) Score at the time of primary intervention:					
1. Healthy person	48 (14.8%)	6 (8.6%)	39 (16.2%)	3 (21.4%)	<0.001
2. Mild systemic disease	125 (38.5%)	19 (27.1%)	104 (43.2%)	2 (14.3%)	-
3. Severe systemic disease	72 (22.2%)	24 (34.3%)	48 (19.9%)	0 (0.0%)	-
4. Severe systemic disease that is a constant threat to life	15 (4.6%)	5 (7.1%)	10 (4.1%)	0 (0.0%)	-
5. A moribund patient who is not expected to survive without the operation	8 (2.5%)	1 (1.4%)	7 (2.9%)	0 (0.0%)	-
Not applicable - no intervention	55 (16.9%)	14 (20.0%)	32 (13.3%)	9 (64.3%)	-
Missing	2 (0.6%)	1 (1.4%)	1 (0.4%)	0 (0.0%)	-
What study condition does the patient have?					
Oesophageal atresia	3 (0.9%)	1 (1.4%)	2 (0.8%)	0 (0.0%)	0.840
Congenital diaphragmatic hernia	1 (0.3%)	1 (1.4%)	0 (0.0%)	0 (0.0%)	0.161
Intestinal atresia	8 (2·3%)	3 (4·3%)	5 (2.1%)	0 (0.0%)	-
Gastroschisis	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Exomphalos/Omphalocele	325(100.0%)	70(100.0%)	241 (100.0%)	14(100.0%)	-
Anorectal malformation	15 (4·6%) 0 (0·0%)	3 (4·3%) 0 (0·0%)	12 (5·0%) 0 (0·0%)	0 (0·0%) 0 (0·0%)	0.681
Hirschsprung's Disease	0 (0 070)	0 (0 070)	0 (0 070)	0 (0 0%)	-
Type of Exomphalos?			116 (10)		
Major	148 (45.5%)	28 (40·0%)	116 (48.1%)	4(28.6%)	0.190
Minor	175(53.8%)	42 (60.0%)	123(51.0%)	10(71.4%)	-
Missing	2 (0.6%)	0 (0.0%)	2 (0.8%)	0 (0.0%)	-
Hypoglycaemic on arrival?	20 (12 00/)	15 (21 40/)	24 (10,00/)	0 (0 00/)	<0.001
Yes No	39(12.0%)	15(21.4%) 53(75.7%)	24 (10.0%) 182 (75.0%)	0 (0.0%)	<0.001
Blood glucose not measured	242 (74·5%) 43 (13·2%)	53 (75·7%) 2 (2·9%)	183 (75·9%) 33 (13·7%)	6 (42·9%) 8 (57·1%)	-
Missing	1 (0.3%)	2 (2·9%) 0 (0·0%)	1 (0.4%)	8(37.1%) 0(0.0%)	-
Did the patient have a ruptured sac?	1 (0 570)	0 (0 070)	1 (0 7/0)	0 (0 070)	-
Dia die padelit have a fuptured sue.					

No	288 (88.6%)	64 (91.4%)	212 (88.0%)	12 (85.7%)	
Missing	288 (88 <sup>.6</sup> %) 3 (0.9%)	0(0.0%)	2 (0.8%)	12(83.7%) 1(7.1%)	-
Care prior to presentation at the paediatric surgery centre:		( )			
Antenatal ultrasound undertaken?					
Yes: study condition diagnosed	158 (48.6%)	57 (81.4%)	101 (41.9%)	0 (0.0%)	<0.001
Yes: problem identified but study condition not diagnosed	24 (7.4%)	8 (11.4%)	16 (6.6%)	0 (0.0%)	-
Yes: no problem identified	95 (29·2%)	4 (5.7%)	85 (35·3%)	6 (42.9%)	-
No Median gestational age of study condition diagnosis if diagnosis was antenatal	48 (14.8%)	1 (1.4%)	39 (16·2%)	8 (57.1%)	-
(IQR), weeks	23 (15)	21 (18)	24 (13)	-	0.999
Mode of transport to hospital:					
Ambulance	118 (36·3%)	20 (28.6%)	89 (36.9%)	9 (64·3%)	<0.001
Other transport provided by the health service	17 (5.2%)	6 (8.6%)	10 (4.1%)	1 (7.1%)	-
Patient's own transport	79 (24·3%)	0 (0.0%)	75 (31.1%)	4 (28.6%)	-
Born within the study hospital	111 (34·2%)	44 (62.9%)	67 (27.8%)	0 (0.0%)	-
If out born, where did the patient present from?	21 (9.8%)	0 (0.0%)	21 (12.1%)	0 (0.0%)	0.036
Home Community Clinic/General Practice	35 (16.4%)	0 (0.0%)	32(18.4%)	3 (21.4%)	0.020
District Hospital	155 (72.4%)	26 (100·0%)	118 (67.8%)	11 (78.6%)	-
Unknown	2 (0.9%)	0 (0.0%)	2 (1.1%)	0 (0.0%)	-
Missing	1(0.5%)	0 (0.0%)	1 (0.6%)	0 (0.0%)	-
Perioperative care at the paediatric surgery centre:	. ,	. ,	( )		
If septic, were appropriate antibiotics administered?					
Yes within 1 hour of arrival	27 (67.5%)	1 (100.0%)	23 (65.7%)	3 (75.0%)	0.73
Yes: within the first day of arrival	13 (32.5%)	0 (0.0%)	12 (34·3%)	1 (25.0%)	-
No	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
If hypovolaemic, was an intravenous fluid bolus given?	10 (65 50/)	2 (40,00/)	16 (72 70/)	1 (50,00/)	
Yes within 1 hour of arrival	19 (65·5%) 9 (31·0%)	2 (40·0%) 2 (40·0%)	16 (72·7%) 6 (27·3%)	1 (50·0%) 1 (50·0%)	0.200
Yes: within the first day of arrival No	1 (3.4%)	2(40.0%) 1(20.0%)	$0(2^{-3}\%)$ 0(0.0%)	0(0.0%)	-
If hypovolaemic, how much intravenous fluid was given?	1 (5 470)	1 (20 070)	0 (0 070)	0 (0 070)	-
10 - 20mls/kg	22 (78.6%)	2 (50.0%)	18 (81.8%)	2 (100.0%)	0.270
Above 20mls/kg	6 (21.4%)	2 (50.0%)	4 (18.2%)	0 (0.0%)	-
If hypothermic, was the patient warmed on arrival to your hospital to within a					
normal temperature range?					
Yes No	25(78.1%)	3 (75·0%) 1 (25·0%)	19 (76·0%) 6 (24·0%)	3 (100·0%) 0 (0·0%)	0.630
Did the patient receive central venous access?	7 (21.9%)	1 (23.076)	0 (24.0%)	0 (0.076)	-
Yes: umbilical catheter	6 (1.8%)	4 (5.7%)	2 (0.8%)	0 (0.0%)	0.025
Yes: peripherally inserted central catheter (PICC)	103 (31.7%)	35 (50.0%)	67 (27.8%)	1 (7.1%)	<0.001
Yes: percutaneously inserted central line with ultrasound guidance	24 (7.4%)	13 (18.6%)	11 (4.6%)	0 (0.0%)	<0.001
Yes: surgically placed central line (open insertion)	16 (4.9%)	2 (2.9%)	14 (5.8%)	0 (0.0%)	0.413
No	184 (56.6%)	21 (30.0%)	150 (62.2%)	13 (92.9%)	<0.001
Median total duration of antibiotics following primary intervention (IQR), days	7 (10)	3 (12)	7 (11)	4 (7)	0.001
Did the patient receive a blood transfusion?	4 (1 20/)	2 (2,00/)	2(0.80/)	0 (0.0%)	0 200
Yes: not cross-matched	4(1.2%)	2(2.9%)	2 (0·8%) 65 (27·0%)	1(7.1%)	0.380
Yes: cross-matched. No: not required.	83 (25·5%) 233 (71·7%)	17 (24·3%) 51 (72·9%)	169 (70·1%)	13 (92.9%)	-
No: not required. No: it was required but not available.	4 (1.2%)	0(0.0%)	4 (1.7%)	0(0.0%)	-
Missing	1(0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Did the patient require ventilation?	····/	× · · · · ·	< <i>7</i>	</td <td></td>	
Yes: and it was given	144 (44·3%)	48 (68.6%)	96 (39.8%)	0 (0.0%)	<0.001
Yes, but it was not available	6 (1.8%)	0 (0.0%)	6 (2.5%)	0 (0.0%)	
No	175 (53.8%)	22 (31.4%)	139 (57.7%)	14 (100.0%)	
Median time patient remained on ventilation if given (IQR), days	4 (10)	6 (11)	4 (8)	-	0.389
Median time to first enteral feed (post-primary intervention) (IQR), days	3 (4)	3 (7)	3 (4)	3 (2)	0.821
Median time to full enteral feeds (post-primary intervention) (IQR), days	6 (12)	12 (22)	5 (9)	30 (29)	0.001
Did the patient require parenteral nutrition?	154 (47.4%)	54 (77.1%)	100 (41.5%)	0 (0.0%)	<0.001
Yes: and it was given Yes: and it was sometimes available, but less than required	154 (47·4%) 8 (2·5%)	54 (77.1%) 0 (0.0%)	8 (3.3%)	0 (0.0%) 0 (0.0%)	~0.001
Yes: but it was not available	5 (1·5%)	0 (0.0%)	4 (1·7%)	1 (7·1%)	-
No	158 (48.6%)	16 (22.9%)	129 (53.5%)	13 (92.9%)	-
Median time patient received parenteral nutrition if received (IQR), days	11 (15)	13 (24)	10 (14)	-	0.199
Surgical intervention:	()	- ()			
		12 (21)	10 (27)	10 (70)	0.000
Median time from arrival at your hospital to primary intervention (IQR), hours	11 (23)	12 (21)	10 (27)	10 (58)	0.902
Primary intervention:	164 (50 504)	41 (20 201)	110 (40 40/)	4 (00, (01)	0.001
Primary operative closure	164 (50·5%)	41 (58.6%)	119 (49.4%)	4 (28·6%)	0.081
	120 (36.9%)	18 (25.7%)	97 (40.2%)	5 (35.7%)	-
Conservative management Staged closure	32 (9.8%)	11 (15.7%)	21 (8.7%)	0 (0.0%)	

If conservative management, was a topical treatment applied to the exomphalos					
sac?					
Yes: silver sulfadiazine	39 (32.5%)	4 (22.2%)	35 (36.1%)	0 (0.0%)	0.310
Yes: betadine	9 (7.5%)	2 (11.1%)	6 (6.2%)	1 (20.0%)	-
Yes: honey	11 (9.2%)	1 (5.6%)	10 (10.3%)	0 (0.0%)	-
Yes: merbromide tannage	2 (1.7%)	0 (0.0%)	2 (2.1%)	0 (0.0%)	-
Yes: other	45 (37.5%)	7 (38.9%)	36 (37.1%)	2 (40.0%)	-
No	14 (11.7%)	4 (22.2%)	8 (8.2%)	2 (40.0%)	-
If staged closure, median time from primary intervention to closure, IQR days	19 (22)	8 (18)	22 (16)	-	0.021
What is the plan for future management?					
No further surgery planned	22 (18.3%)	7 (38.9%)	12 (12.4%)	3 (60.0%)	0.036
Delayed closure at this hospital	88 (73.3%)	10 (55.6%)	76 (78.4%)	2 (40.0%)	-
Delayed closure at another hospital	2 (1.7%)	0 (0.0%)	2 (2.1%)	0 (0.0%)	-
Patient died during primary admission	8 (6.7%)	1 (5.6%)	7 (7.2%)	0 (0.0%)	-
What type of anaesthesia was used for the primary intervention?					
General anaesthesia with endotracheal tube	200 (61.5%)	47 (67.1%)	149 (61.8%)	4 (28.6%)	<0.001
General anaesthesia with laryngeal airway	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Ketamine anaesthesia	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Spinal/caudal anaesthesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Local anaesthesia only	2 (0.6%)	0 (0.0%)	2 (0.8%)	0 (0.0%)	-
No anaesthesia, just analgesia	14 (4·3%)	10 (14·3%)	4 (1.7%)	0 (0.0%)	-
No anaesthesia, no analgesia	42 (12.9%)	3 (4·3%)	39 (16·2%)	0 (0.0%)	-
Not applicable: no surgery or primary intervention undertaken.	65 (20.0%)	10 (14·3%)	45 (18.7%)	10 (71.4%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Who undertook the anaesthetic for the primary intervention?	102 (22				
Anaesthetic doctor	193 (59.4%)	45 (64.3%)	147 (61.0%)	1 (7.1%)	<0.001
Anaesthetic nurse	4 (1.2%)	0 (0.0%)	1 (0.4%)	3 (21.4%)	-
Medical officer	1 (0.3%)	1 (1.4%)	0 (0.0%)	0 (0.0%)	-
Surgeon	2 (0.6%)	1 (1.4%)	1 (0.4%)	0 (0.0%)	-
Other healthcare professional	7 (2.2%)	2 (2.9%)	5 (2.1%)	0 (0.0%)	-
No anaesthetic undertaken	117 (36.0%)	21 (30.0%)	86 (35.7%)	10 (71.4%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Who undertook the primary intervention?	228 (72, 20/)	(1, (97, 10/))	17( (72,00/)	1 (7 10/)	-0.001
Paediatric surgeon (or junior with paediatric surgeon assisting/in the room)	238 (73.2%)	61 (87.1%)	176 (73.0%)	1(7.1%)	<0.001
General surgeon (or junior with general surgeon assisting/in the room)	2 (0.6%)	0 (0.0%)	0 (0.0%)	2 (14·3%)	-
Junior doctor, medical officer or other (without a paediatric or general surgeon assisting/in the room)	12 (3.7%)	1 (1.4%)	11 (4.6%)	0 (0.0%)	-
Trainee surgeon (without a paediatric or general surgeon assisting or in the room)	8 (2.5%)	0 (0.0%)	7 (2.9%)	1 (7.1%)	-
Not applicable - no surgery or primary intervention undertaken.	64 (19.7%)	8 (11.4%)	46 (19.1%)	10(71.4%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Was a Surgical Safety Checklist used at the time of primary intervention?		• (• ••••)	- (*)	• (• • • •)	
Yes	171 (52.6%)	48 (68.6%)	120 (49.8%)	3 (21.4%)	<0.001
No: but it was available	24 (7.4%)	2 (2.9%)	22 (9.1%)	0 (0.0%)	-
No: it was not available	17 (5.2%)	2 (2.9%)	14 (5.8%)	1 (7.1%)	-
Not applicable: a conservative primary intervention was undertaken	57 (17.5%)	11 (15.7%)	46 (19.1%)	0 (0.0%)	-
Not applicable: no surgery or primary intervention undertaken	55 (16.9%)	7 (10.0%)	38 (15.8%)	10 (71.4%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Outcomes:	. ,	. ,	. ,	· · ·	
Did the patient survive to discharge (or 30-days if still an in-patient 30-days					
following primary intervention)?					
Yes	260 (80.0%)	58 (82.9%)	192 (79.7%)	10 (71.4%)	0.600
No	65 (20.0%)	12 (17.1%)	49 (20.3%)	4 (28.6%)	
If the patient was discharged prior, were they still alive at 30-days following		()	. (== = / *)	(== = = = = = )	
primary intervention?					
Yes	231 (89.2%)	53 (91.4%)	176 (92.1%)	2 (20.0%)	<0.001
No	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Not followed-up after discharge	17 (6.6%)	2 (3.4%)	7 (3.7%)	8 (80.0%)	-
Followed-up, but not until 30-days post primary intervention	11 (4·2%)	3 (5.2%)	8 (4.2%)	0 (0.0%)	-
Cause of mortality:					
Sepsis	21 (32.3%)	0 (0.0%)	20 (40.8%)	1 (25.0%)	0.069
Cardiac failure	15 (23.1%)	3(25.0%)	10(20.4%)	2(50.0%)	-
Respiratory failure	13(20.0%)	3(25.0%)	10(20.4%)	0 (0.0%)	-
Aspiration pneumonia Haemorrhage	4 (6·2%) 3 (4·6%)	0 (0·0%) 1 (8·3%)	4 (8·2%) 2 (4·1%)	0 (0.0%) 0 (0.0%)	-
Ruptured exomphalos sac	2 (3.1%)	1 (8.3%)	1(2.0%)	0 (0.0%)	-
Electrolyte disturbance	1 (1.5%)	1 (8.3%)	0 (0.0%)	0 (0.0%)	-
Syndrome incompatible with life	1 (1.5%)	1 (8.3%)	0 (0.0%)	0 (0.0%)	-
Other	4 (6.2%)	2 (16.7%)	1 (2.1%)	1 (25.0%)	-
	· /	· /			
Missing	1 (1.5%)	0 (0.0%)	1(2.0%)	0(0.0%)	-
Missing Median duration of hospital stays, (IQR) days	· /	· /	1 (2·0%) 12 (15·0)	0 (0·0%) 10 (8·0)	0.059
Missing Median duration of hospital stays, (IQR) days Did the patient have a surgical site infection?	1 (1·5%) 13 (15·0)	0 (0·0%) 16 (22·0)	12 (15.0)	10 (8.0)	
Missing Median duration of hospital stays, (IQR) days	1 (1.5%)	0 (0.0%)			0.059 0.025

Not applicable, no surgical wound	101 (31.1%)	13 (18.6%)	80 (33.2%)	8 (57.1%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Did the patient have a full thickness wound dehiscence?					
Yes	11 (3·4%)	2 (2.9%)	9 (3.7%)	0 (0.0%)	0.034
No	214 (65.8%)	55 (78.6%)	153 (63.5%)	6 (42.9%)	-
Not applicable, no surgical wound	99 (30.5%)	13 (18.6%)	78 (32.4%)	8 (57.1%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
Did the patient require a further unplanned intervention?					
Yes – percutaneous	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	<0.001
Yes – surgical intervention	30 (9.2%)	8 (11.4%)	21 (8.7%)	1 (7.1%)	-
No	243 (74.8%)	56 (80.0%)	183 (75.9%)	4 (28.6%)	-
Not applicable – no primary intervention undertaken	50 (15.4%)	6 (8.6%)	35 (14.5%)	9 (64·3%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-
If central line access required, did the patient acquire central line sepsis?					
Yes, diagnosed clinically	4 (2.9%)	0 (0.0%)	4 (4.4%)	0 (0.0%)	0.520
Yes, confirmed on microbiology	9 (6.4%)	2 (4.1%)	7 (7.8%)	0 (0.0%)	-
No	127 (90.7%)	47 (95.9%)	79 (87.8%)	1 (100.0%)	-
Was the patient followed up at 30-days post primary surgery or intervention to a assess for complications?					
Yes: reviewed in person	165 (63.5%)	33 (56.9%)	130 (67.7%)	2 (20.0%)	<0.001
Yes: via telephone consultation	19 (7.3%)	1 (1.7%)	18 (9.4%)	0 (0.0%)	-
Yes: via other means	2 (0.8%)	1 (1.7%)	1 (0.5%)	0 (0.0%)	-
Yes: still an in-patient at 30-days	31 (11.9%)	13 (22.4%)	18 (9.4%)	0 (0.0%)	-
No: data is based on in-patient observations only	24 (9.2%)	5 (8.6%)	13 (6.8%)	6 (60.0%)	-
No: follow-up was done, but prior to 30-days	19 (7.3%)	5 (8.6%)	12 (6.3%)	2 (20.0%)	-
If the patient had a complication, when was it diagnosed?					
During the primary admission	69 (21.2%)	18 (25.7%)	49 (20.3%)	2 (14·3%)	0.660
As an emergency re-attender	6 (1.8%)	1 (1.4%)	5 (2.1%)	0 (0.0%)	-
At routine follow-up as an out-patient	7 (2.2%)	0 (0.0%)	7 (2.9%)	0 (0.0%)	-
Not applicable, no complications	242 (74.5%)	51 (72.9%)	179 (74.3%)	12 (85.7%)	-
Missing	1 (0.3%)	0 (0.0%)	1 (0.4%)	0 (0.0%)	-

\*Patients born in hospital = 0. Percentages have been rounded to 1 decimal place and may not total  $100 \cdot 0\%$ . HIC: High-income countries. IQR: Interquartile range. LIC: Low-income countries. MIC: Middle-income countries.

## Supplementary Table 6: Characteristics, perioperative care, surgical interventions, and outcomes for patients with anorectal malformation

Variable	Total (n=991)	HIC (n=178)	MIC (n=788)	LIC (n=25)	P value
Patient Characteristics:					
Median gestational age at birth (IQR), weeks	38 (2)	39(3)	38(2)	38(3)	0.003
Median age at presentation (IQR), hours	24 (68)	7 (27)	24 (67)	96 (696)	<0.001
Sex:	575 (59 00/)	106 (59.6%)	454 (57 60/)	15 (60,00/)	0.050
Male	575 (58·0%) 398 (40·2%)	71 (39.9%)	454 (57·6%) 317 (40·2%)	15 (60·0%) 10 (40·0%)	0.820
Female Ambiguous	17 (1.7%)	1 (0.6%)	16(2.0%)	0 (0.0%)	-
Unknown	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
Median weight at presentation (IQR), kg	3.0 (1.0)	3.0 (0.9)	3.0 (1.0)	3.2 (1.4)	0.125
Does the patient have another anomaly in addition to the study condition?	5 0 (1 0)	5 0 (0 ))	5 0 (1 0)	52(11)	0 125
Yes: Cardiovascular	324 (32.7%)	88 (49.4%)	232 (29.4%)	4 (16.0%)	<0.001
Yes: Respiratory	25 (2.5%)	6 (3.4%)	19 (2.4%)	0 (0.0%)	-
Yes: Gastrointestinal	93 (9.4%)	15 (8.4%)	78 (9.9%)	0 (0.0%)	-
Yes: Neurological	66 (6.7%)	27 (15.2%)	37 (4.7%)	2 (8.0%)	<0.001
Yes: Genito-urinary	191 (19.3%)	56 (31.5%)	133 (16.9%)	2 (8.0%)	<0.001
Yes: Musculoskeletal	109 (11.0%)	34 (19.1%)	73 (9.3%)	2 (8.0%)	<0.001
Yes: Down syndrome	57 (5.8%)	11 (6.2%)	46 (5.8%)	0 (0.0%)	-
Yes: Beckwith Wiedemann syndrome	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
Yes: Cystic fibrosis	1 (0.1%)	0 (0.0%)	1(0.1%)	0 (0.0%)	-
Yes: Chromosomal	24 (2.4%)	3 (1.7%)	21 (2.7%)	0 (0.0%)	-
Yes: Other	67 (6.8%)	8 (4.5%)	59 (7.5%)	0 (0.0%)	_
No	441 (44.5%)	58 (32.6%)	365 (46.3%)	18 (72.0%)	<0.001
Median distance from patient's home to hospital (IQR), km*	32 (93)	20 (76)	35 (100)	80 (113)	<0.001
Type of delivery:	- ()				
Vaginal (spontaneous)	520 (52.5%)	92 (51.7%)	410 (52.0%)	18 (72.0%)	0.003
Vaginal (induced)	42 (4.2%)	12 (6.7%)	30 (3.8%)	0 (0.0%)	-
Caesarean section (elective)	240 (24.2%)	27 (15.2%)	208 (26.4%)	5 (20.0%)	-
Caesarean section (urgent/non-elective)	177 (17.9%)	44 (24.7%)	132 (16.8%)	1 (4.0%)	-
Unknown	12 (1.2%)	3 (1.7%)	8 (1.0%)	1 (4.0%)	-
Was the patient septic on arrival to your hospital?					
Yes	112 (11.3%)	2 (1.1%)	107 (13.6%)	3 (12.0%)	<0.001
No	879 (88.7%)	176 (98.9%)	681 (86.4%)	22 (88.0%)	-
Was the patient hypovolaemic on arrival to your hospital? Yes	71 (7.2%)	10 (5.6%)	61 (7.7%)	0 (0.0%)	0.230
No	919 (92·7%)	168 (94·4%)	726 (92.1%)	25 (100.0%)	
Missing	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
Was the patient hypothermic on arrival to your hospital?	1 (0 170)	0 (0 070)	1 (0 170)	0 (0 070)	-
Yes	60 (6.1%)	5 (2.8%)	53 (6.7%)	2 (8.0%)	0.130
No	930 (93.8%)	173 (97.2%)	734 (93.1%)	23 (92.0%)	-
Missing	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
American Society of Anaesthesiologists (ASA) Score at the time of primary intervo					
1. Healthy person	276 (27.9%)	43 (24.2%)	222 (28.2%)	11 (44.0%)	0.180
2. Mild systemic disease	357 (36.0%)	73 (41.0%)	277 (35.2%)	7 (28.0%)	-
3. Severe systemic disease	172 (17.4%)	32 (18.0%)	136 (17.3%)	4 (16.0%)	-
4. Severe systemic disease that is a constant threat to life	58 (5·9%)	14(7.9%)	44 (5.6%)	0 (0.0%)	-
5. A moribund patient who is not expected to survive without the operation	32(3.2%)	2(1.1%)	30 (3.8%)	0(0.0%)	-
Not applicable - no intervention	93 (9·4%) 3 (0·3%)	12 (6·7%) 2 (1·1%)	78 (9·9%) 1 (0·1%)	3 (12·0%) 0 (0·0%)	-
Missing What study condition does the patient have?	3 (0.3%)	2 (1176)	1 (0.1%)	0 (0.0%)	-
Oesophageal atresia	53 (5.3%)	10 (5.6%)	42 (5.3%)	1 (4.0%)	0.940
Congenital diaphragmatic hernia	1 (0.1%)	10(0.6%)	0 (0.0%)	0 (0.0%)	0.100
Intestinal atresia	12 (1.2%)	3 (1.7%)	9 (1.1%)	0 (0.0%)	0.710
Gastroschisis	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Exomphalos/Omphalocele	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Anorectal malformation	991 (100.0%)	178 (100.0%)	788 (100.0%)	25 (100.0%)	-
Hirschsprung's Disease	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Type of anorectal malformation (Krickenbeck classification)					
Low ARM: Perineal (cutaneous) fistula	327 (33.0%)	73 (41.0%)	252 (32.0%)	2 (8.0%)	<0.001
High ARM: Rectourethral fistula (bulbar)	67 (6.8%)	13 (7.3%)	53 (6.7%)	1 (4.0%)	-
High ARM: Rectourethral fistula (prostatic)	33 (3.3%)	16 (9.0%)	17 (2.2%)	0 (0.0%)	-
High ARM: Rectovesical fistula	18 (1.8%)	5 (2.8%)	12 (1.5%)	1 (4.0%)	-
High ARM: Vestibular fistula	152 (15.3%)	24 (13.5%)	127 (16.1%)	1 (4.0%)	-
High ARM: Cloaca	53 (5.3%)	9 (5.1%)	42 (5.3%)	2 (8.0%)	-
High ARM: No fistula	135 (13.6%)	13 (7.3%)	117 (14.8%)	5 (20.0%)	-
High ARM: Type unknown at present	134 (13.5%)	13 (7.3%)	116 (14.7%)	5 (20.0%)	-

Rare variant: Pouch colon	10 (1.0%)	0 (0.0%)	10 (1.3%)	0 (0.0%)	-
Rare variant: Rectal atresia/ stenosis	12 (1.2%)	4 (2.2%)	7 (0.9%)	1 (4.0%)	-
Rare variant: Rectovaginal fistula	16 (1.6%)	3 (1.7%)	9 (1.1%)	4 (16.0%)	-
Rare variant: H fistula	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
Other	32 (3.2%)	5 (2.8%)	24 (3.0%)	3 (12.0%)	-
Missing	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
Did the neonate have pre-operative bowel perforation?					
Yes	37 (3.7%)	1 (0.6%)	36 (4.6%)	0 (0.0%)	0.023
No	951 (96.0%)	177 (99·4%)	749 (95·1%)	25 (100.0%)	-
Missing	3 (0.3%)	0 (0.0%)	3 (0.4%)	0 (0.0%)	-
Care prior to presentation at the paediatric surgery centre:					
Antenatal ultrasound undertaken?	10 (1 00()				0.004
Yes: study condition diagnosed	40 (4.0%)	14 (7.9%)	26 (3.3%)	0 (0.0%)	<0.001
Yes: problem identified but study condition not diagnosed	121 (12·2%)	35 (19.7%)	85 (10.8%)	1 (4.0%)	-
Yes: no problem identified	662 (66.8%)	117 (65.7%)	527 (66.9%)	18 (72.0%)	-
No	166 (16.8%)	12 (6.7%)	148 (18.8%)	6 2(4.0%)	-
Missing	2 (0.2%)	0 (0.0%)	2 (0.3%)	0 (0.0%)	-
Median gestational age of study condition antenatal diagnosis (IQR), weeks	28 (12)	27.5 (10)	27.5 (13)	-	0.243
Mode of transport to hospital:					
Ambulance	404 (40.8%)	97 (54.5%)	300 (38.1%)	7 (28.0%)	<0.001
Other transport provided by the health service	48 (4.8%)	18 (10.1%)	26 (3.3%)	4 (16.0%)	-
Patient's own transport	383 (38.6%)	24 (13.5%)	346 (43.9%)	13 (52.0%)	-
Born within the hospital	156 (15.7%)	39 (21.9%)	116 (14.7%)	1 (4.0%)	-
If outborn, where did the patient present from?					
Home	173 (20.7%)	11 (7.9%)	159 (23.7%)	3 (12.5%)	<0.001
Community Clinic/General Practice	130 (15.6%)	22 (15.8%)	102 (15.2%)	6 (25.0%)	-
District Hospital	519 (62.2%)	106 (76.3%)	398 (59·2%)	15 (62.5%)	-
Unknown	12 (1.4%)	0 (0.0%)	12 (1.8%)	0 (0.0%)	-
Missing	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	-
Perioperative care at the paediatric surgery centre:					
If septic, were appropriate antibiotics administered?					
Yes within 1 hour of arrival	84 (75.0%)	1 (50%)	81 (75.7%)	2 (66.7%)	0.898
Yes within the first day of arrival	26(23.2%)	1 (50%)	24 (4.0%)	1 (33.3%)	-
No	2 (1.8%)	0 (0%)	2 (1.9%)	0 (0.0%)	-
If hypovolaemic, was an intravenous fluid bolus given?					
Yes within 1 hour of arrival	57 (80.3%)	5 (50%)	52 (85.3%)	0 (0.0%)	0.008
Yes within the first day of arrival	11 (15.5%)	3 (30%)	8 (13.1%)	0 (0.0%)	-
No	3 (4·3%)	2 (20%)	1 (1.6%)	0 (0.0%)	-
If hypovolaemic, how much intravenous fluid was given?					
10 - 20mls/kg	50 (73.5%)	7 (87.5%)	43 (71.7%)	0 (0.0%)	0.340
Above 20mls/kg	18 (26.5%)	1 (12.5%)	17 (28.3%)	0 (0.0%)	-
If hypothermic, was the patient warmed on arrival to your hospital to within a norma					
Yes	54 (90.0%)	5 (100.0%)	47 (88.7%)	2 (100.0%)	0.644
No Dildantintariana dalamana 2	6 (10%)	0 (0.0%)	6 (11.3%)	0 (0.0%)	-
Did the patient receive central venous access?	78 (7.9%)	24 (13.5%)	54 (6.9%)	0 (0.0%)	0.004
Yes: umbilical catheter	173 (17.5%)	42 (23·6%)	129 (16·4%)	2 (8·0%)	0.004
Yes: peripherally inserted central catheter (PICC)	50 (5.0%)	42 (23·6%) 22 (12·4%)	28 (3·6%)	2 (8·0%) 0 (0·0%)	<0.033 <0.001
Yes: percutaneously inserted central line with ultrasound guidance	. ,	. ,	28 (3·8%) 26 (3·3%)	· ,	
Yes: surgically placed central line (open insertion)	26(2.6%)	0 (0.0%)	( )	0 (0.0%)	0.032
No Madien total duration of antihistics following primary	690 (69·6%)	99 (55·6%)	568 (72.1%)	23 (92.0%)	<0.001
Median total duration of antibiotics following primary intervention (IQR), days	5 (6)	3 (4)	6 (5)	5 (5)	0.001
Did the patient receive a blood transfusion?					
Yes: not cross-matched	7 (0.7%)	0 (0.0%)	7 (0.9%)	0 (0.0%)	<0.001
Yes: cross-matched.	187 (18.9%)	15 (8.4%)	166 (21.1%)	6 (24.0%)	
No: not required.	783 (79.0%)	162 (91.0%)	604 (76·6%)	17 (68.0%)	-
No: it was required but not available.	12 (1.2%)	1 (0.6%)	9 (1.1%)	2 (8.0%)	-
Missing	2 (0.2%)	0 (0.0%)	2 (0.3%)	0 (0.0%)	_
Did the patient require ventilation?	= (* =/*)		= (* 270)	- (0 0/0)	
Yes and it was given	321 (32.4%)	81 (45.5%)	238 (30.2%)	2 (8.0%)	<0.001
Yes, but it was not available	12 (1.2%)	0 (0.0%)	10 (1.3%)	2 (8.0%)	_
No	657 (66.3%)	97 (54.5%)	539 (68.4%)	21 (84.0%)	
Missing	1 (0.1%)	0 (0.0%)	1 (0.1%)	0 (0.0%)	
Median time patient remained on ventilation if given (IQR), days	2 (3)	2 (2)	2 (4)	3 (3)	0.980
Median time patient remained on ventilation in given (IQR), days Median time to first enteral feed (post-primary intervention) (IQR), days	2 (3)	2 (2)	2 (3)	1 (1)	0.003
Median time to full enteral feeds (post-primary intervention) (IQR), days	4 (5)	5 (6)	4 (5)	2 (1)	0.013
meaning the to run enter a recus (post-primary intervention) (IQK), uays	• (3)	5 (0)	1(3)	~ (1)	0 010
Did the patient require parenteral nutrition?					
Did the patient require parenteral nutrition? Yes and it was given	358 (36.1%)	87 (48.9%)	271 (34.4%)	0(0.0%)	< 0.001
Yes and it was given	358 (36·1%) 12 (1·2%)	87 (48·9%) 0 (0·0%)	271 (34·4%) 12 (1·5%)	0 (0·0%) 0 (0·0%)	<0.001
Yes and it was given Yes and it was sometimes available, but less than required	12 (1.2%)	0 (0.0%)	12 (1.5%)	0 (0.0%)	<0·001 -
Yes and it was given			· · ·		<0·001 - -

Mailan integration reactival generated nutrition if reactival (QR), days         77.9         6.8.9         77.70         9.0.9.0         9.930           Single Intervention         366 (20.93)         54 (10.33)         52 (10.34)         52 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         97.01.930         1800 (20.95)         121.01.930 </th <th>Missing</th> <th>2 (0.2%)</th> <th>0 (0.0%)</th> <th>2 (0.3%)</th> <th>0 (0.0%)</th> <th>_</th>	Missing	2 (0.2%)	0 (0.0%)	2 (0.3%)	0 (0.0%)	_
Pringer leaves for the set of the	Median time patient received parenteral nutrition if received (IQR), days	. ,	. ,	. ,	· · · ·	0.980
Diside dynamia closhomy       36 (6 0+%)       54 (6 0.5%)       27 (2 1.5%)       5 (2 0.5%)       6 (2 0.5%) <t< td=""><td>Surgical intervention:</td><td></td><td></td><td></td><td></td><td></td></t<>	Surgical intervention:					
Apoptagionencetoplasy         223 (22 5%)         37 (20 5%)         180 (22 5%)         97 (21 5%)         97 (24 5%)	Primary intervention:					
Lop signal closion         12 (16 5%)         23 (15 5%)         62 (17 9%)         32 (16 9%)         92 (16 9%)         92 (16 9%)         62 (17 9%)         32 (16 9%)         69 (16 9%)         90 (16 9%)         90 (16 9%)         90 (17 9%)         32 (16 9%)         62 (17 9%)         32 (16 9%)         62 (17 9%)         32 (16 9%)         62 (17 9%)         32 (16 9%)         62 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%)         90 (17 9%)         11 (16 9%) <td< td=""><td></td><td>· · · · ·</td><td>· · · ·</td><td>· · · ·</td><td>. ,</td><td></td></td<>		· · · · ·	· · · ·	· · · ·	. ,	
Finds diston and/or visibor visibitity on the final (no surgery)         94 (975)         22 (12 75)         62 (2795)         21 (2905)         000           Distaire surgit antervention (NR)         63 (4496)         51 (175)         21 (4205)         0000           Distaire surgit antervention (NR)         61 (4495)         51 (175)         51 (1205)         11 (405)         000075)           Other storm         30 (176)         51 (175)         20 (295)         00 (095)         10 (175)         00 (095)		· · ·	· · · ·	· · · ·	· /	
Paterian canadaption (PSARP)         \$1,6,4*b,         \$2,6 (14, b),         \$0,0 095           Lop transverae colosiony         \$1,0 (14, b),         \$1,1 (75, b),         \$1,0 (14, 5),         \$1,		· · · · ·		· /	. ,	
Pallace varies intervention         46 (4+%)         3 (1,7%)         3 (1,7%)         3 (1,7%)         3 (1,7%)         3 (1,7%)         3 (1,4%)         0.00           Other storm         30 (1,0%)         3 (1,7%)         3 (1,4%)         0.00         0.01           Other storm         30 (1,0%)         3 (1,7%)         3 (1,4%)         0.00         0.	· • • • ·	. ,	· · · ·	· · · ·	· /	
Loop reasoner colotancy         11 (4-150)         37 (4-750)         37 (4-976)         1 (4-976)         0-190           Dorical transvence colotancy         39 (3-976)         31 (2-756)         25 (3-256)         0.0 0+050         0-555           Abdomisoperimal pull-through         10 (115)         0.0 0+050         10 (155)         0.0 0+050         0-880           Abdomisoperimal pull-through         10 (115)         0.0 0+050         10 (156)         0.0 0+050         0.880           Abdomisoperimal pull-through planed at study hospital         155 (54 0+06)         43 (12 5+36)         430 (14 0+05)         0.12 0+00         0+00           Soma clower planed at study hospital         120 (27 1+5)         313 (16 0+50)         212 (2+50)         0.400         0+05         0+06           Soma clower planed at study hospital         23 (2-850)         14 (14 0+0)         0+06		. ,	. ,		. ,	
Divide functions Divide functions Allorins price and pull-forcing functions Allorins functions Allorins functions Allorins f	Loop transverse colostomy	41 (4.1%)	3 (1.7%)	37 (4.7%)	1 (4.0%)	0.19
Aldominoperimed pull-through       9(0,9%)       9(1,7%)       6(0,9%)       9(0,9%)		30 (3.0%)	3 (1.7%)	26 (3.3%)	1 (4.0%)	0.500
1.quancepic.assind pull-hough         1.0 <sup>-15</sup> ,0         0.0 <sup>0</sup> ,0 <sup>5</sup> ,0         0.0 <sup>0</sup> ,0 <sup>5</sup> ,0         0.0 <sup>0</sup> ,0 <sup>5</sup> ,0           Other         1.4(1-8)         6.3.45,0         0.0 <sup>0</sup> ,0 <sup>5</sup> ,0         0.0 <sup>0</sup> ,0 <sup>5</sup> ,0           Other is find find future management?		· · ·	. ,	( )	. ,	
Absolutions       10 (195)       0 (0 (095) <td>· · · ·</td> <td>· · ·</td> <td>· /</td> <td>. ,</td> <td>. ,</td> <td></td>	· · · ·	· · ·	· /	. ,	. ,	
Other       14(1-4%)       6 (3 -4%)       9 (0 0 0)       0 (0 0)         Mark is the plane future management?       300 (3 0)       14 (4 0)       0 (5 0)       0 (5 0)       0 (0 0		. ,	· /	· /	. ,	
What is be plan for future management?       555 (54 0%)       94 (52 %)       430 (54 0%)       11 (44 0%)       0.550         Stoma closure planned at study hospital       160 (77 1%)       33 (18 5%)       133 (16 5%)       13 (16 0%)       3 (10 0%)       0.600       0.600       0.600       0.600       0.600       0.6100       0.6100       0.6100       0.6100       0.6100       0.6100       0.6100       0.6100       0.6100       0.6000       0.6100       0.6000       0.6100       0.6000       0.6100       0.60000       0.60000       0.60000       0.60000       0.6		. ,	. ,	. ,	. ,	
Anoplazy 'pull-brough planed at study hospital       535 (54-0%)       94 (52.8%)       430 (54-6%)       114 (4-0%)       0-550         Some alowster planed at study hospital       67 (6.8%)       133 (7.3%)       50 (3.5%)       41 (4.0%)       0-690         No further operative management       67 (6.8%)       133 (7.3%)       50 (3.5%)       41 (4.0%)       0.600         Anoplazy 2011-brough planed at mother hospital       28 (2.5%)       52 (2.8%)       14 (4.8%)       22 (4.9%)       0.00.0%)       0.600         Ana dilatation       40.04%)       10 (7.5%)       14 (4.9%)       0.00.0%)       0.600         Stema closure planed at another hospital       9.00.9%)       3 (1.7%)       50 (2.5%)       14 (4.9%)       0.00.0%)       0.00.0%)         No: the equipment was not available       67 (21.9%)       3 (4.7%)       20 (5.7%)       14 (2.5%)       10 (2.5%)       4 (50.9%)       10 (2.5%)       4 (50.9%)       10 (2.5%)       11 (2.5%)       -0.001         Moit the eprimary intervention (QR), hours       24 (3.6)       24 (1.9%)       24 (3.5%)       13 (1.5%)       2.0 (3.6%)       10 (1.5%)       10 (2.5%)       4 (4.6%)       -0.001         General anosethesia with adorated anal bus       82 (63.4%)       15 (2.5%)       16 (54.0%)       -0.001       -0.001		14 (1.470)	0 (3 4 %)	8 (1.0%)	0 (0.0%)	0.040
Secure closure planned at anyly hospital         169 (17:15)         33 (18:75)         133 (16:95)         31		535 (54·0%)	94 (52.8%)	430 (54·6%)	11 (44.0%)	0.550
No further openative management       67 (6 %%)       13 (7 3%)       69 (6 3%)       41 (6 %%)       0.0 0 %)         Anoplasty full-freeque planned at anoher hospital       28 (2 %)       5 (2 8%)       12 (2 1%)       16 (2 8%)       21 (2 1%)       16 (2 8%)       00 (0 %)       0.690         Distinct disc of left against medical advice       18 (1 8%)       2 (1 1%)       16 (2 9%)       0 (0 9%)       0.690         Stoma closure planned at anoher hospital       2 00 (67 3%)       16 (1 6 %)       0 (1 4 %)       0 (1 4 %)         Noc ciquipment was not available       67 (1 2 %)       3 (1 6 %)       1 (1 6 %)       1 (1 6 %)       1 (1 6 %)       1 (1 6 %)       1 (1 6 %)       0 (1 6 %)       0 (1 4 %)       0 (1 4 %)       0 (1 4 %)       0 (1 4 %)       0 (1 4 %)       0 (1 4 %)       0 (1 4 %)       0 (1 5 %)       1 (1 2 7%)       1 (1 0 7%)       1 (1 0 7%)       1 (1 0 7%)       1 (1 0 7%)       1 (1 0 7%)				× /		
Anoplaxy pull-brough planed at another hospital         28 (2.8%)         5 (2.8%)         41 (1.8%)         2 (2.9%)         00.0%)         0.960           Patient disk or left against medical advice         18 (1.8%)         2 (1.1%)         5 (2.8%)         14 (1.8%)         0.00.0%)         0.960           Soma closure planed at another hospital         9 (0.9%)         3 (1.0 %)         6 (0.9%)         3 (1.0 %)         0.02.3%)         14 (1.9%)         0.00.0%)         0.900           No: equipment was neat variable but not used         67 (2.19%)         3 (4.7%)         60 (2.5 %)         4 (5.0 %)         1 (1.2 %)         1         0.0000         0.000         0.000		· · · · ·	· · · · ·	· /	. ,	
Patient data or left against modical advice         18 (1.8%)         2 (1.7%)         16 (2.0%)         0.00%)         0.450           Stoma closure planned at another hospital         4 (0.4%)         1 (0.6%)         2 (0.3%)         1 (4.0%)         0.014           If primary amorectal reconstruction was undertaken, was a Peña stimulator or equivalent used to identify the position of the mascle complex intra-operatively?         Ye         2 (0.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5%)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 (2.5 %)         4 (3.0 %)         5 (3.6 %)         1 (5.1 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         1 (1.5 %)         0 (0.0 %)         -           Canacitacita maschesia with languad ainway         1 (1.5 %)         0 (0.0 %)         1 (1.5 %)         0 (0.0 %)         -         -         -         -	· · ·	28 (2.8%)	5 (2.8%)	23 (2.9%)	0 (0.0%)	
Stoma closure planued at another hospital         9 0 9/9)         10 475)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)         10 4076)	•					
Anal disation       4 (0.4%)       1 (0.6%)       2 (0.3%)       1 (4.0%)       0         Ip rimary subcectal reconstruction was undertaken, was a Petra stimulator or equivalent the position of the musech complex inter-periatvely?         Yes       206 (67.3%)       56 (87.5%)       27 (16.5%)       3 (47.5%)       60 (25.6%)       4 (50.0%)       -         No: the equipment was available but not used       67 (21.9%)       3 (47.5%)       67 (12.5%)       27 (11.5%)       11.05.5%)       -         Median time from arrival at your hospital to primary intervention?       2       24 (37)       36 (72)       0.004         General anasethesia with largeed anore the primary intervention?       2       21.1%)       10.13%)       3 (10.7%)       -         General anasethesia with largeed anivay       15 (1.5%)       12 (1.5%)       0.10.13%)       3 (10.7%)       -         Spinal/caudial anesthesia       10 (1.0%)       0 (0.0%)       18 (1.23%)       0 (0.0%)       -         Local anaesthesia on only       10 (1.0%)       0 (0.0%)       10 (1.3%)       3 (0.0%)       -         Local anaesthesia on only       10 (1.0%)       0 (0.0%)       12 (4.8%)       -       -         No anaesthesia on only       10 (1.0%)       0 (0.0%)       10 (1.3%)       3 (0.0%)       -		· · · ·	· · · ·		. ,	
If primary anorectal reconstruction was undertaken, was a Peña stimulator or equivalent used to identify the position of the muscle complex intro-operatively? Yes 206 (67.3%) 56 (87.5%) 417 (62.8%) 3 (37.5%) 40001 . No: chip primary intervention (IQR), hours 24 (36) 57.8%) 47 (11.5%) 1 (12.5%) . 10000 . 10000 . 10000 . 1000 . 1000 . 1000 . 10		· /				
Yes       206 (67.3%)       56 (87.9%)       147 (62.8%)       3 (37.5%)       0-001         No: cequipment was available but not used       67 (21.9%)       3 (47.7%)       60 (25.6%)       4 (50.0%)       .         No: the equipment was available but not used       33 (10.8%)       57 (7.8%)       27 (11.5%)       11(2.5%)       .         Median time from arrival at your hospital to primary intervention?       E <td< td=""><td></td><td>· · · · ·</td><td>· /</td><td>· /</td><td>· · ·</td><td>0.014</td></td<>		· · · · ·	· /	· /	· · ·	0.014
No: equipment was not available67 (21-9%) 33 (10.9%)3 (4.7%) 5 (7.8%)60 (25-6%) 27 (11-5%)1 (12-5%) 1 (12-5%).No: the equipment was available but not used33 (10.9%)5 (7.8%)27 (11-5%)1 (12-5%).General anaesthesia with endotracheal tube24 (63)24 (19)24 (63)General anaesthesia with endotracheal tube826 (83.4%)658 (83.5%)16 (64.0%)<			*		1 2	0.001
No: the equipment was available but not used       33 (10 %%)       57 (11 %%)       1 (12 .5%)       .         Median time from arrival at your hospital to primary intervention (IQR), hours       24 (36)       24 (19)       24 (37)       36 (72)       0.094         Median time from arrival at your hospital to primary intervention?       50 (58 (33 - 4%)       155 (15 %)       2 (1 + 1%)       10 (1 - 3%)       3 (10 - 4%)       52 (83 - 5%)       16 (64 - 0%)       <0.094		· · · ·	· · · ·	· · · ·	· /	0.001
Median time from arrival at your hospital to primary intervention (IQR), hours       24 (36)       24 (19)       24 (37)       36 (72)       0.094         What type of anasethesia was used for the primary intervention?       General anasethesia with adottancheal tube       826 (83.4%)       152 (85.4%)       658 (83.5%)       16 (64.0%)       <0001		. ,		. ,	· /	-
What type of anaesthesia was used for the primary intervention?       826 (83-4%)       152 (85-4%)       658 (83-5%)       16 (64-0%)       <0001						0.094
General anaesthesia with endotracheal tube       \$26 (83-4%)       \$15 (85-4%)       \$68 (83-5%)       \$16 (64-0%)       <0+001		21(30)	- ()	_ (())		
Ketamine anaesthesia $3(0.3\%)$ $0(0.0\%)$ $1(0.1\%)$ $2(8.0\%)$ $-$ Spinal/caudal anaesthesia $18(1.8\%)$ $0(0.0\%)$ $18(2.3\%)$ $0(0.0\%)$ $-$ Local anaesthesia only $10(1.0\%)$ $0(0.0\%)$ $10(1.3\%)$ $0(0.0\%)$ $-$ No anaesthesia, just analgesia $8(0.8\%)$ $3(1.7\%)$ $5(0.6\%)$ $0(0.0\%)$ $-$ No anaesthesia, no analgesia $24(2.4\%)$ $12(6.7\%)$ $12(1.5\%)$ $0(0.0\%)$ $-$ No tapplicable: no surgery or primary intervention undertaken. $8(6.7\%)$ $9(5.1\%)$ $73(0.3\%)$ $4(16.0\%)$ $-$ Mos angesthe tic for the primary intervention? $    -$ Anaesthetic doctor $847(85.5\%)$ $155(87.1\%)$ $680(66.3\%)$ $12(48.0\%)$ $-$ Anaesthetic nurse $14(1.4\%)$ $0(0.0\%)$ $1(0.1\%)$ $2(6.0\%)$ $-$ Medical officer $3(0.3\%)$ $0(0.0\%)$ $1(0.1\%)$ $0(0.0\%)$ $-$ Surgeon $9(0.9\%)$ $0(0.0\%)$ $1(0.1\%)$ $0(0.0\%)$ $-$ No anaesthetic undertaken $114(1.5\%)$ $22(0.2\%)$ $0(0.0\%)$ $-$ Mbo undertook the primary intervention? $  -$ Pacidiatric surgeon (or junior with general surgeon assisting/in the room) $877(88.5\%)$ $167(93.8\%)$ $696(88.3\%)$ $14(56.0\%)$ $-$ No anaesthetic undertaken $3(0.3\%)$ $0(0.0\%)$ $10(1.3\%)$ $3(12.0\%)$ $-$ Museageon (or junior with general surgeon assisting or in the room) $16(1.6\%)$ $0(0$		826 (83.4%)	152 (85.4%)	658 (83.5%)	16 (64.0%)	<0.001
Spinal/caudal annesthesia       18 (1.8%)       0.0.0%)       18 (2.3%)       0.0.0%)          Local annesthesia only       10 (1.0%)       0.00%)       10 (1.3%)       0.0.0%)          No annesthesia, just analgesia       8.0.8%)       3.1.7%)       5.0.6%)       0.0.0%)          No annesthesia, no analgesia       24 (2.4%)       12 (1.5%)       7.3.0.3%)       4.1.6%)          Not applicable: no surgery or primary intervention undertaken.       86 (8.7%)       9.5.1%       7.0.9%)       4.0.6.0%)          Annesthetic doctor	General anaesthesia with laryngeal airway	15 (1.5%)	2 (1.1%)	10 (1.3%)	3 (12.0%)	-
Local anaesthesia only10 (1 0%)0 (0 0%)10 (1 3%)0 (0 0%)-No anaesthesia, just analgesia8 (0 8%)3 (1 7%)5 (0 6%)0 (0 0%)-Not anaesthesia, no analgesia24 (2 4%)12 (6 7%)12 (1 5%)0 (0 0%)-Not applicable: no surgery or primary intervention undertaken.86 (8 7%)9 (5 1%)73 (9 3%)4 (16 0%)-Missing1 (0 1%)0 (0 0%)1 (0 1%)0 (0 0%)Anaesthetic doctor847 (85 5%)155 (87 1%)680 (86 3%)12 (48 0%)Maesthetic nurse14 (1 4%)0 (0 0%)1 (0 1%)2 (8 0%)Medical officer3 (0 3%)0 (0 0%)1 (0 1%)0 (0 0%)Surgeon9 (0 9%)0 (0 0%)1 (0 1%)0 (0 0%)No anaesthetic undertaken114 (1 15%)22 (1 2 4%)8 (1 1 2%)0 (0 0%)-No anaesthetic undertaken114 (1 15%)22 (1 2 4%)8 (1 1 2%)4 (16 0%)-No anaesthetic undertaken114 (1 1 5%)22 (1 2 4%)8 (1 1 2%)4 (1 6 0%)-No undertok the primary intervention?Paediatric surgeon assisting/in the room)13 (1 3%)0 (0 0%)10 (1 3%)3 (1 2 0%)Junor doctor, medical officer or other (without a paediatric or general surgeon assisting or in the room)16 (1 6%)0 (0 0%)13 (1 6%)3 (1 2 0%)Nois but it as av	Ketamine anaesthesia	3 (0.3%)	0 (0.0%)	1 (0.1%)	2 (8.0%)	-
No anaesthesia, just analgesia8 (0.8%)3 (1.7%)5 (0.6%)0 (0.0%)-No anaesthesia, no analgesia24 (2.4%)12 (6.7%)12 (1.5%)0.00.0%)-Mo stapplicable: no surgery or primary intervention undertaken.86 (8.7%)9 (5.1%)73 (0.3%)4 (16.0%)-Mo anaesthetic ico the primary intervention?Anaesthetic doctor847 (85.5%)155 (87.1%)680 (86.3%)12 (48.0%)Anaesthetic doctor847 (85.5%)0 (0.0%)7 (0.9%)7 (28.0%)Medical officer3 (0.3%)0 (0.0%)7 (0.9%)7 (28.0%)Surgeon9 (0.9%)0 (0.0%)1 (0.1%)0 (0.0%)No anaesthetic undertaken114 (11.5%)22 (12.4%)88 (11.2%)4 (16.0%)-No anaesthetic undertaken134 (1.3%)0 (0.0%)10 (1.3%)0 (0.0%)-No anaesthetic undertaken114 (11.5%)22 (12.4%)88 (11.2%)4 (16.0%)-No anaesthetic undertaken134 (1.3%)0 (0.0%)10 (1.3%)3 (12.0%)-Paediatric surgeon (or junior with general surgeon assisting/in the room)13 (1.3%)0 (0.0%)10 (1.3%)3 (12.0%)-Junior doctor, medical officer or other (without a paediatric or general surgeon assisting or in the room)16 (1.6%)0 (0.0%)10 (1.3%)3 (12.0%)-Junior doctor, medical officer or general surgeon assisting or in the room)16 (1.6%)0 (0.0%)1	*	. ,	. ,	· ,	· · · ·	-
No anaesthesia, no analgesia $24(2.4\%)$ $12(6.7\%)$ $12(1.5\%)$ $0(0.0\%)$ -         Not applicable: no surgery or primary intervention undertaken. $86(8.7\%)$ $9(5.1\%)$ $73(9.3\%)$ $4(16.0\%)$ -         Who undertook the anaesthetic for the primary intervention?       -       -       -       -         Anaesthetic doctor $847(85.5\%)$ $155(87.1\%)$ $680(86.3\%)$ $12(48.0\%)$ -         Anaesthetic narse $14(1.4\%)$ $0(0.0\%)$ $1(0.1\%)$ $2(8.0\%)$ -         Surgeon $9(0.9\%)$ $0(0.0\%)$ $1(0.1\%)$ $2(8.0\%)$ -         Other healthcare professional $2(0.2\%)$ $0(0.0\%)$ $1(0.1\%)$ $0(0.0\%)$ -         No anaesthetic undertaken $114(11.5\%)$ $22(12.4\%)$ $88(11.2\%)$ $4(16.0\%)$ -         No undertook the primary intervention?       -       -       -       -       -         Paediatric surgeon ori junior with paediatric surgeon assisting/in the room) $877(88.5\%)$ $167(93.8\%)$ $696(88.3\%)$ $14(56.0\%)$ -         Junior doctor, medical officer or other (without a paediatric or general surgeon assisting/in the room) $13(1.3\%)$ $0(0.0\%)$ $10(1.3\%)$	·	. ,	. ,	· ,	. ,	-
Not applicable: no surgery or primary intervention undertaken. $86 (8.7\%)$ $9 (5 \cdot 1\%)$ $73 (9 \cdot 3\%)$ $4 (16 \cdot 0\%)$ .Missing $1 (0 \cdot 1\%)$ $0 (0 \cdot 0\%)$ $1 (0 \cdot 1\%)$ $0 (0 \cdot 0\%)$ .Mue dudter took the anaesthetic for the primary intervention? $847 (85 \cdot 5\%)$ $155 (87 \cdot 1\%)$ $680 (86 \cdot 3\%)$ $12 (48 \cdot 0\%)$ -0001Anaesthetic doctor $14 (1 \cdot 4\%)$ $0 (0 \cdot 0\%)$ $7 (0 \cdot 9\%)$ $7 (28 \cdot 0\%)$ -Anaesthetic nurse $14 (1 \cdot 4\%)$ $0 (0 \cdot 0\%)$ $7 (0 \cdot 9\%)$ $7 (28 \cdot 0\%)$ -Medical officer $3 (0 \cdot 3\%)$ $0 (0 \cdot 0\%)$ $1 (0 \cdot 1\%)$ $2 (8 \cdot 0\%)$ -Surgeon $9 (0 \cdot 9\%)$ $0 (0 \cdot 0\%)$ $9 (1 \cdot 1\%)$ $0 (0 \cdot 0\%)$ -No an aesthetic undertaken $114 (11 \cdot 5\%)$ $22 (12 \cdot 4\%)$ $4 (16 \cdot 0\%)$ -Mosingeron (or junior with pacetalistric surgeon assisting/in the room) $877 (88 \cdot 5\%)$ $167 (93 \cdot 8\%)$ $696 (88 \cdot 3\%)$ $14 (56 \cdot 0\%)$ -Junior doctor, medical officer or other (without a paediatric or general surgeon $3 (0 \cdot 3\%)$ $0 (0 \cdot 0\%)$ $1 (0 \cdot 1\%)$ $2 (8 \cdot 0\%)$ -Trainee surgeon (or junior with paediatric or general surgeon $3 (0 \cdot 3\%)$ $0 (0 \cdot 0\%)$ $1 (0 \cdot 1\%)$ $2 (8 \cdot 0\%)$ -Mot applicable - no surgery or primary intervention $16 (1 \cdot 6\%)$ $0 (0 \cdot 0\%)$ $1 (0 \cdot 1\%)$ $2 (8 \cdot 0\%)$ -Missing $2 (0 \cdot 2\%)$ $1 (0 \cdot 6\%)$ $5 (3 (8 \cdot 0\%)$ $5 (3 (8 \cdot 0\%)$ $5 (3 (6 \cdot 5\%)$ $9 (3 \cdot 0\%)$ -No applicable: no surg	· · ·	. ,	· · ·	. ,	. ,	
Missing1 (0-1%)0 (0-0%)1 (0-1%)0 (0-0%)-Who undertook the anaesthetic for the primary intervention?-Anaestheti doctor847 (85-5%)155 (87-1%)680 (86-3%)12 (48-0%)<0-0001	-			· ,	· · · ·	-
Who undertook the anaesthetic for the primary intervention?       847 (85-5%)       155 (87-1%)       680 (86-3%)       12 (48.0%)       <0001		. ,	· · · ·	. ,	· /	-
Anasetheric nurse14 (1-4%)0 (0-0%)7 (0-9%)7 (28-0%).Medical officer3 (0-3%)0 (0-0%)1 (0-1%)2 (8-0%).Surgeon9 (0-9%)0 (0-0%)9 (1-1%)0 (0-0%).Other healthcare professional2 (0-2%)1 (0-6%)1 (0-1%)0 (0-0%).No anaesthetic undertaken114 (11-5%)22 (12-4%)88 (11-2%)4 (16-0%).Missing2 (0-2%)0 (0-0%)2 (0-3%)0 (0-0%).Who undertook the primary intervention?Paediatric surgeon (or junior with gaediatric or general surgeon assisting/in the room)13 (1-3%)0 (0-0%)10 (1-3%)3 (12-0%).Junior doctor, medical officer or other (without a paediatric or general surgeon3 (0-3%)0 (0-0%)10 (1-9%)2 (8-0%).Trainee surgeon (without a paediatric or general surgeon assisting or in the room)16 (1-6%)0 (0-0%)13 (1-6%)3 (12-0%).Trainee surgeon (without a paediatric or general surgeon assisting or in the room)16 (1-6%)0 (0-0%)13 (1-6%)3 (12-0%).Missing2 (0-2%)1 (0-6%)1 (0-1%)0 (0-0%)Not applicable - no surgery or primary intervention20 (20%)1 (0-6%)1 (0-1%)0 (0-0%).No: but was available103 (10-4%)3 (1-7%)93 (11-8%)7 (28-0%).No: but was not available17 (17-2%)1 (0-6%)65 (8-2%)5 (20-0%).No: it was not available13 (1-3%)0	Who undertook the anaesthetic for the primary intervention?	1 (0 1/0)	0 (0 070)	1 (0 170)	0 (0 070)	
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Surgeon       9 (0.9%)       0 (0.0%)       9 (1.1%)       0 (0.0%)       .         Other healthcare professional       2 (0.2%)       1 (0.6%)       1 (0.1%)       0 (0.0%)       .         No anaesthetic undertaken       114 (11.5%)       22 (12.4%)       88 (11.2%)       4 (16.0%)       .         No undertook the primary intervention?       2 (0.2%)       0 (0.0%)       10 (1.3%)       0 (0.0%)       .         General surgeon (or junior with general surgeon assisting/in the room)       13 (1.3%)       0 (0.0%)       10 (1.3%)       3 (12.0%)       .         Junior doctor, medical officer or other (without a paediatric or general surgeon assisting/in the room)       13 (1.3%)       0 (0.0%)       1 (0.1%)       2 (8.0%)       .         Trainee surgeon (without a paediatric or general surgeon assisting or in the room)       16 (1.6%)       0 (0.0%)       1 (0.1%)       2 (8.0%)       .         Not applicable - no surgery or primary intervention undertaken.       80 (8.1%)       10 (5.6%)       540 (68.5%)       9 (36.0%)       .         No: but it was available       103 (10.4%)       3 (1.7%)       93 (11.8%)       7 (28.0%)       .         No: but it was available       103 (10.4%)       3 (1.7%)       93 (12.0%)       .       .         No: but it was available       103 (		· · · ·	· · ·	· · · ·	· · · · ·	-
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Missing $2 (0.2\%)$ $0 (0.0\%)$ $2 (0.3\%)$ $0 (0.0\%)$ .Who undertook the primary intervention?Pacdiatric surgeon (or junior with paediatric surgeon assisting/in the room) $877 (88.5\%)$ $167 (93.8\%)$ $696 (88.3\%)$ $14 (56.0\%)$ $<0.001$ General surgeon (or junior with general surgeon assisting/in the room) $13 (1.3\%)$ $0 (0.0\%)$ $10 (1.3\%)$ $3 (12.0\%)$ -Junior doctor, medical officer or other (without a paediatric or general surgeon assisting/in the room) $3 (0.3\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $2 (8.0\%)$ -Trainee surgeon (without a paediatric or general surgeon assisting or in the room) $16 (1.6\%)$ $0 (0.0\%)$ $13 (1.0\%)$ $3 (12.0\%)$ -Not applicable - no surgery or primary intervention undertaken. $80 (8.1\%)$ $10 (5.6\%)$ $67 (8.5\%)$ $3 (12.0\%)$ -Was a Surgical Safety Checklist used at the time of primary intervention? $702 (70.8\%)$ $153 (86.0\%)$ $540 (68.5\%)$ $9 (36.0\%)$ -Ves $702 (70.8\%)$ $153 (86.0\%)$ $540 (68.5\%)$ $9 (36.0\%)$ No: it was not available $71 (7.2\%)$ $1 (0.6\%)$ $65 (8.2\%)$ $5 (20.0\%)$ -No tapplicable: a conservative primary intervention was undertaken $31 (3.3\%)$ $8 (4.5\%)$ $69 (8.8\%)$ $4 (16.0\%)$ -Missing $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $0 (0.0\%)$ -Outcomes: $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $2 (0.0\%)$ $-$ <tr< td=""><td>*</td><td></td><td></td><td></td><td>· · · ·</td><td>-</td></tr<>	*				· · · ·	-
Who undertook the primary intervention?Paediatric surgeon (or junior with paediatric surgeon assisting/in the room) $877 (88.5\%)$ $167 (93.8\%)$ $696 (88.3\%)$ $14 (56.0\%)$ $<0001$ General surgeon (or junior with general surgeon assisting/in the room) $13 (1.3\%)$ $0 (0.0\%)$ $10 (1.3\%)$ $3 (12.0\%)$ $-$ Junior doctor, medical officer or other (without a paediatric or general surgeon assisting/in the room) $3 (0.3\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $2 (8.0\%)$ $-$ Trainee surgeon (without a paediatric or general surgeon assisting or in the room) $16 (1.6\%)$ $0 (0.0\%)$ $13 (1.6\%)$ $3 (12.0\%)$ $-$ Not applicable - no surgery or primary intervention undertaken. $80 (8.1\%)$ $10 (5.6\%)$ $67 (8.5\%)$ $3 (12.0\%)$ $-$ Was a Surgical Safety Checklist used at the time of primary intervention? $2 (0.2\%)$ $1 (0.6\%)$ $1 (0.1\%)$ $0 (0.0\%)$ $-$ No: but it was available $103 (10.4\%)$ $3 (1.7\%)$ $93 (11.8\%)$ $7 (28.0\%)$ $-$ No: but it was available $71 (7.2\%)$ $1 (0.6\%)$ $540 (68.5\%)$ $9 (36.0\%)$ $-$ No: but it was available $71 (7.2\%)$ $1 (0.6\%)$ $540 (68.5\%)$ $9 (36.0\%)$ $-$ No: but it was available $71 (7.2\%)$ $1 (0.6\%)$ $5 (20.0\%)$ $-$ No: thit was not available $71 (7.2\%)$ $1 (0.6\%)$ $2 (2.5\%)$ $0 (0.0\%)$ $-$ No: applicable: a conservative primary intervention was undertaken $31 (3.3\%)$ $3 (7.3\%)$ $20 (2.5\%)$ $-$ Missing $1 (0$		· · · · · ·	· · · ·	· /	· · · · · · · · · · · · · · · · · · ·	-
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Junior doctor, medical officer or other (without a paediatric or general surgeon assisting/in the room) $3 (0.3\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $2 (8.0\%)$ Traince surgeon (without a paediatric or general surgeon assisting or in the room) $16 (1.6\%)$ $0 (0.0\%)$ $13 (1.6\%)$ $3 (12.0\%)$ .Not applicable - no surgery or primary intervention undertaken. $80 (8.1\%)$ $10 (5.6\%)$ $67 (8.5\%)$ $3 (12.0\%)$ .Missing $2 (0.2\%)$ $1 (0.6\%)$ $1 (0.1\%)$ $0 (0.0\%)$ Was a Surgical Safety Checklist used at the time of primary intervention?Yes $702 (70.8\%)$ $153 (86.0\%)$ $540 (68.5\%)$ $9 (36.0\%)$ .No: but it was available $103 (10.4\%)$ $3 (1.7\%)$ $93 (11.8\%)$ $7 (28.0\%)$ .No: it was not available $71 (7.2\%)$ $1 (0.6\%)$ $65 (8.2\%)$ $5 (20.0\%)$ .Not applicable: a conservative primary intervention was undertaken $33 (3.3\%)$ $13 (7.3\%)$ $20 (2.5\%)$ $0 (0.0\%)$ .Not applicable: no surgery or primary intervention undertaken $81 (8.2\%)$ $8 (4.5\%)$ $69 (8.8\%)$ $4 (16.0\%)$ .Missing $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $0 (0.0\%)$ Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)? $75 (98.3\%)$ $693 (87.9\%)$ $20 (80.0\%)$ $40.001$ No $103 (10.4\%)$ $3 (1.7\%)$ $95 (12.1\%)$ $5 (20.0\%)$ .No $103 (10.4\%)$ $3 (1.7\%)$ $95 (12.1\%)$ $5 (20.0\%)$	Paediatric surgeon (or junior with paediatric surgeon assisting/in the room)	· ,	· /	696 (88.3%)	14 (56.0%)	<0.001
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Traince surgeon (without a paediatric or general surgeon assisting or in the room) $16(1.6\%)$ $0(0.0\%)$ $13(1.6\%)$ $3(12.0\%)$ .Not applicable - no surgery or primary intervention undertaken. $80(8.1\%)$ $10(5.6\%)$ $67(8.5\%)$ $3(12.0\%)$ .Missing $2(0.2\%)$ $1(0.6\%)$ $1(0.1\%)$ $0(0.0\%)$ .Was a Surgical Safety Checklist used at the time of primary intervention?Yes $702(70.8\%)$ $153(86.0\%)$ $540(68.5\%)$ $9(36.0\%)$ $<0.001$ No: but it was available $103(10.4\%)$ $3(1.7\%)$ $93(11.8\%)$ $7(28.0\%)$ .No: it was not available $71(7.2\%)$ $1(0.6\%)$ $65(8.2\%)$ $5(20.0\%)$ .Not applicable: a conservative primary intervention undertaken $33(3.3\%)$ $13(7.3\%)$ $20(2.5\%)$ $0(0.0\%)$ .Not applicable: no surgery or primary intervention undertaken $81(8.2\%)$ $8(4.5\%)$ $69(8.8\%)$ $4(16.0\%)$ .Missing $1(0.1\%)$ $0(0.0\%)$ $1(0.1\%)$ $0(0.0\%)$ Outcomes:Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?Yes $88(89.6\%)$ $175(98.3\%)$ $693(87.9\%)$ $20(80.0\%)$ $<0.001$ No $103(10.4\%)$ $3(1.7\%)$ $95(12.1\%)$ $5(20.0\%)$ .If the patient was discharged prior, were they still alive at 30-days following primary intervention? $10.60\%$ $10.60\%$ $10.60\%$ $10.60\%$		3 (0.3%)	0 (0.0%)	1 (0.1%)	2 (8.0%)	
Not applicable - no surgery or primary intervention undertaken. $80(8\cdot1\%)$ $10(5\cdot6\%)$ $67(8\cdot5\%)$ $3(12\cdot0\%)$ .Missing $2(0\cdot2\%)$ $1(0\cdot6\%)$ $1(0\cdot1\%)$ $0(0\cdot0\%)$ .Was a Surgical Safety Checklist used at the time of primary intervention? $702(70\cdot8\%)$ $153(86\cdot0\%)$ $540(68\cdot5\%)$ $9(36\cdot0\%)$ $<0\cdot001$ No: but it was available $103(10\cdot4\%)$ $3(1\cdot7\%)$ $93(11\cdot8\%)$ $7(28\cdot0\%)$ .No: it was not available $71(7\cdot2\%)$ $1(0\cdot6\%)$ $65(8\cdot2\%)$ $5(20\cdot0\%)$ .Not applicable: a conservative primary intervention was undertaken $33(3\cdot3\%)$ $13(7\cdot3\%)$ $20(2\cdot5\%)$ $0(0\cdot0\%)$ .Not applicable: no surgery or primary intervention undertaken $81(8\cdot2\%)$ $8(4\cdot5\%)$ $69(8\cdot8\%)$ $4(16\cdot0\%)$ .Missing $1(0\cdot1\%)$ $0(0\cdot0\%)$ $1(0\cdot1\%)$ $0(0\cdot0\%)$ Outcomes: $103(10\cdot4\%)$ $3(1\cdot7\%)$ $93(87\cdot9\%)$ $20(80\cdot0\%)$ $<0\cdot001$ No $103(10\cdot4\%)$ $3(1\cdot7\%)$ $95(12\cdot1\%)$ $5(20\cdot0\%)$ .No $103(10\cdot4\%)$ $3(1\cdot7\%)$ $95(12\cdot1\%)$ $5(20\cdot0\%)$ .If the patient was discharged prior, were they still alive at 30-days following primary intervention? $100(1\cdot4\%)$ $100(1\cdot4\%)$ $5(10\cdot1\%)$ $5(20\cdot0\%)$ .		16 (1.6%)	0 (0.0%)	13 (1.6%)	3 (12.0%)	-
Missing $2 (0.2\%)$ $1 (0.6\%)$ $1 (0.1\%)$ $0 (0.0\%)$ .         Was a Surgical Safety Checklist used at the time of primary intervention?       Yes $702 (70.8\%)$ $153 (86.0\%)$ $540 (68.5\%)$ $9 (36.0\%)$ $<0.001$ No: but it was available $103 (10.4\%)$ $3 (1.7\%)$ $93 (11.8\%)$ $7 (28.0\%)$ .         No: it was not available $71 (7.2\%)$ $1 (0.6\%)$ $65 (8.2\%)$ $5 (20.0\%)$ .         Not applicable: a conservative primary intervention was undertaken $33 (3.3\%)$ $13 (7.3\%)$ $20 (2.5\%)$ $0 (0.0\%)$ .         Not applicable: no surgery or primary intervention undertaken $81 (8.2\%)$ $8 (4.5\%)$ $69 (8.8\%)$ $4 (16.0\%)$ .         Missing $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $0 (0.0\%)$ .       .         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?       Yes $888 (89.6\%)$ $175 (98.3\%)$ $693 (87.9\%)$ $20 (80.0\%)$ $<0.001$ No $103 (10.4\%)$ $3 (1.7\%)$ $95 (12.1\%)$ $5 (20.0\%)$ .         If the patient was discharged prior, were they still alive at 30-days following primary intervention? $10.0.$		( )	. ,	. ,	. ,	-
Was a Surgical Safety Checklist used at the time of primary intervention?       702 (70.8%)       153 (86.0%)       540 (68.5%)       9 (36.0%)       <0.001		. ,	. ,	· · · ·	· · ·	-
No: but it was available $103 (10.4\%)$ $3 (1.7\%)$ $93 (11.8\%)$ $7 (28.0\%)$ .         No: it was not available $71 (7.2\%)$ $1 (0.6\%)$ $65 (8.2\%)$ $5 (20.0\%)$ .         Not applicable: a conservative primary intervention was undertaken $33 (3.3\%)$ $13 (7.3\%)$ $20 (2.5\%)$ $0 (0.0\%)$ .         Not applicable: no surgery or primary intervention undertaken $81 (8.2\%)$ $8 (4.5\%)$ $69 (8.8\%)$ $4 (16.0\%)$ .         Missing $1 (0.1\%)$ $0 (0.0\%)$ $1 (0.1\%)$ $0 (0.0\%)$ .         Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes $888 (89.6\%)$ $175 (98.3\%)$ $693 (87.9\%)$ $20 (80.0\%)$ $<0.001$ No $103 (10.4\%)$ $3 (1.7\%)$ $95 (12.1\%)$ $5 (20.0\%)$ .         If the patient was discharged prior, were they still alive at 30-days following primary intervention? $10.200.000 \pm 10.200.000  \pm 10.200.000 \pm 10.200.000 \pm 10.200.000 \pm 10.200.0000$	Was a Surgical Safety Checklist used at the time of primary intervention?					
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Not applicable: a conservative primary intervention was undertaken $33$ ( $3\cdot3\%$ ) $13$ ( $7\cdot3\%$ ) $20$ ( $2\cdot5\%$ ) $0$ ( $0\cdot0\%$ ).Not applicable: no surgery or primary intervention undertaken $81$ ( $8\cdot2\%$ ) $8$ ( $4\cdot5\%$ ) $69$ ( $8\cdot8\%$ ) $4$ ( $16\cdot0\%$ ).Missing $1$ ( $0\cdot1\%$ ) $0$ ( $0\cdot0\%$ ) $1$ ( $0\cdot1\%$ ) $0$ ( $0\cdot0\%$ ).Outcomes:Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?Yes $888$ ( $89\cdot6\%$ ) $175$ ( $98\cdot3\%$ ) $693$ ( $87\cdot9\%$ ) $20$ ( $80\cdot0\%$ ) $<0\cdot001$ No $103$ ( $10\cdot4\%$ ) $3$ ( $1\cdot7\%$ ) $95$ ( $12\cdot1\%$ ) $5$ ( $20\cdot0\%$ ).If the patient was discharged prior, were they still alive at 30-days following primary intervention? $10\cdot0\%$ $10\cdot0\%$ $10\cdot0\%$ $10\cdot0\%$					. ,	-
Not applicable: no surgery or primary intervention undertaken $81(8\cdot2\%)$ $8(4\cdot5\%)$ $69(8\cdot8\%)$ $4(16\cdot0\%)$ $.$ Missing $1(0\cdot1\%)$ $0(0\cdot0\%)$ $1(0\cdot1\%)$ $0(0\cdot0\%)$ $.$ Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes $888(89\cdot6\%)$ $175(98\cdot3\%)$ $693(87\cdot9\%)$ $20(80\cdot0\%)$ $<0\cdot001$ No $103(10\cdot4\%)$ $3(1\cdot7\%)$ $95(12\cdot1\%)$ $5(20\cdot0\%)$ $-$ If the patient was discharged prior, were they still alive at 30-days following primary intervention? $V$ $V$ $V$			· · · ·	· /		-
Missing         1 (0·1%)         0 (0·0%)         1 (0·1%)         0 (0·0%)         _           Outcomes:	** * *					-
Outcomes:         Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes       888 (89·6%)       175 (98·3%)       693 (87·9%)       20 (80·0%)       <0·001				. ,		-
Did the patient survive to discharge (or 30-days if still an in-patient 30-days following primary intervention)?         Yes       888 (89·6%)       175 (98·3%)       693 (87·9%)       20 (80·0%)       <0·001	č	1 (0 1 /0)	0 (0 070)	1 (0 170)		
Yes         888 (89·6%)         175 (98·3%)         693 (87·9%)         20 (80·0%)         <0·001           No         103 (10·4%)         3 (1·7%)         95 (12·1%)         5 (20·0%)         -           If the patient was discharged prior, were they still alive at 30-days following primary intervention?         10.000         <		primary interventi	on)?			
No 103 (10·4%) 3 (1·7%) 95 (12·1%) 5 (20·0%) - If the patient was discharged prior, were they still alive at 30-days following primary intervention?				693 (87.9%)	20 (80.0%)	<0.001
	No	103 (10.4%)		95 (12-1%)	5 (20.0%)	-
Yes //9/ (89:8%) 156 (89:1%) 626 (90:3%) 15 (75:0%) 0:001			150 (00 100)	(2)((0) 20/)	15 (75 00/)	0.001
	Yes	/9/ (89·8%)	156 (89.1%)	626 (90.3%)	15 (75.0%)	0.001

No	4 (0.4%)	0 (0.0%)	4 (0.6%)	0 (0.0%)	-
Not followed-up after discharge	40 (4.5%)	5(2.9%)	30 (4.3%)	5(25.0%)	-
Followed-up, but not until 30-days post primary intervention	44 (5·0%) 3 (0·3%)	14 (8·0%) 0 (0·0%)	30 (4·3%) 3 (0·4%)	0 (0·0%) 0 (0·0%)	-
Missing Cause of mortality:	3 (0 370)	0 (0 070)	3 (0 470)	0 (0 070)	-
Sepsis	39 (36.4%)	1 (33.3%)	36 (36.4%)	2 (40.0%)	0.980
Cardiac failure	30 (28.0%)	1 (33.3%)	28 (28.3%)	1 (20.0%)	-
Respiratory failure	20 (18.7%)	1 (33·3%)	18 (18.2%)	1 (20.0%)	-
Other	8 (7·5%) 3 (2·8%)	0 (0·0%) 0 (0·0%)	7 (7·1%) 3 (3·0%)	1 (20·0%) 0 (0·0%)	-
Aspiration pneumonia Electrolyte disturbance	2 (1.9%)	0 (0.0%)	2(2.0%)	0(0.0%)	-
Haemorrhage	2 (1.9%)	0 (0.0%)	2 (2.0%)	0 (0.0%)	-
Ischaemic bowel	1 (0.9%)	0 (0.0%)	1 (1.0%)	0 (0.0%)	-
Enterocolitis Missing	1 (0·9%) 1 (0·9%)	$\begin{array}{c} 0 \ (0 \cdot 0\%) \\ 0 \ (0 \cdot 0\%) \end{array}$	1 (1·0%) 1 (1·0%)	0 (0.0%) 0 (0.0%)	-
Median duration of hospital stay, days	9 (10)	11 (12)	8 (9)	6 (15)	<0.001
Did the patient have a surgical site infection?					
Yes	86 (8.7%)	15 (8.4%)	69 (8.8%)	2 (8.0%)	0.990
No	775 (78.2%)	140 (78.7%)	616 (78.2%)	19 (76.0%)	-
Not applicable, no surgical wound	128 (12.9%)	23 (12.9%)	101 (12.8%)	4 (16.0%)	-
Missing Did the patient have a full thickness wound dehiscence?	2 (0.2%)	0 (0.0%)	2 (0.3%)	0 (0.0%)	-
Yes	38 (3.8%)	5 (2.8%)	32 (4.1%)	1 (4.0%)	0.710
No	829 (83.7%)	150 (84.3%)	660 (83.8%)	19 (76.0%)	_
Not applicable, no surgical wound	122 (12.3%)	23 (12.9%)	94 (11.9%)	5 (20.0%)	-
Missing	2 (0.2%)	0 (0.0%)	2 (0.3%)	0 (0.0%)	-
Did the patient require a further unplanned intervention?	0 (0 00()	2 (1 59()		0 (0 00()	0.000
Yes – percutaneous	9 (0·9%) 91 (9·2%)	3 (1·7%) 10 (5·6%)	6 (0·8%) 79 (10·0%)	0 (0·0%) 2 (8·0%)	0.300
Yes – surgical intervention No	805 (81·2%)	10 (3·6%) 152 (85·4%)	634 (80·5%)	2 (8 <sup>.0</sup> %) 19 (76·0%)	-
Not applicable – no primary intervention undertaken	83 (8.4%)	132 (85 476)	66 (8·4%)	4 (16.0%)	-
Missing	3 (0.3%)	0 (0.0%)	3 (0.4%)	0 (0.0%)	-
If central line access was used, did the patient acquire central line sepsis?					
Yes, diagnosed clinically	7 (2·3%)	0 (0.0%)	7 (3·2%)	0 (0.0%)	0.580
Yes, confirmed on microbiology	9 (3.0%)	2 (2.5%)	7 (3.2%)	0 (0.0%)	-
No	289 (94.8%)	79 (97.5%)	208 (93.7%)	2 (100.0%)	-
Electrolyte disturbance within 30 days of primary intervention					
Yes	84 (9.5%)	19 (10.7%)	62 (7.8%)	3 (13.0%)	<0.001
No	751 (85.1%)	131 (73.6%)	606 (85·8%)	14 (60.9%)	-
Not applicable	48 (5.4%)	4 (2.2%)	38 (5.4%)	6 (26.1%)	-
High output stoma (over 20mls/kg/day) within 30 days of primary intervention		0 (5 00())	C (0, 00()	0 (0 00()	.0.001
Yes	14 (1.6%)	8 (5.2%)	6 (0·8%)	0 (0.0%)	<0.001
No Not applicable	652 (73·9%) 216 (24·5%)	102 (66·2%) 44 (28·6%)	535 (75·8%) 165 (23·4%)	15 (68·2%) 7 (31·8%)	-
	210 (24 570)	++ (20 070)	105 (25 470)	7 (51 670)	-
Stoma prolapse/ retraction/ herniation within 30 days of primary intervention	44 (5.09/)	2(1.09/)	20 (5.5%)	2(0.19/)	0.110
Yes No	44 (5·0%) 622 (70·5%)	3 (1·9%) 107 (69·5%)	39 (5·5%) 503 (71·2%)	2 (9·1%) 12 (54·5%)	0.110
No Not applicable	216(24.5%)	44 (28·6%)	164 (23·2%)	8 (36.4%)	-
Peri-stoma skin breakdown (or perianal if primary reconstructive surgery undertaken wi	· /			. ,	-
Yes	63 (7.1%)	10 (6.5%)	52 (7.4%)	1 (4·3%)	0.590
No	631 (71.5%)	106 (68.8%)	510 (72.3%)	15 (65.2%)	-
Not applicable	188 (21.3%)	38 (24.7%)	143 (20.3%)	7 (30.4%)	-
Anal stenosis (in patients undergoing primary anorectal reconstruction without covering					
Yes	13 (1.5%)	4 (2.6%)	9 (1·3%)	0(0.0%)	<0.001
No Not applicable	551 (62·4%)	106 (68·8%)	441 (62·5%) 256 (26·2%)	4 (17·4%)	-
Not applicable Was the patient followed up at 30-days post primary surgery or intervention to a assess	319 (36.1%)	44 (28.6%)	256 (36.3%)	19 (82.6%)	-
Yes: reviewed in person	531 (59·8%)	112 (64.0%)	415 (59.9%)	4 (20.0%)	<0.001
Yes: via telephone consultation	140 (15.8%)	8 (4.6%)	130 (18.8%)	2 (10.0%)	-
Yes: via other means	32 (3.6%)	2 (1.1%)	29 (4.2%)	1 (5.0%)	-
Yes: still an in-patient at 30-days	42 (4.7%)	16 (9.1%)	24 (3.5%)	2 (10.0%)	-
No: data is based on in-patient observations only	78 (8.8%)	11 (6.3%)	60 (8.7%)	7 (35.0%)	-
No: follow-up was done, but prior to 30-days	65 (7.3%)	26 (14.9%)	35 (5.1%)	4 (20.0%)	-
If the patient had a complication, when was it diagnosed?	140 (14 00/)	22 (12 49/2	101 (15 40/)	5 (20, 00/)	
During the primary admission	148(14.9%)	22(12.4%)	121 (15.4%)	5(20.0%)	0.570
As an emergency re-attender	$12(1\cdot2\%)$ 37(3.7%)	3(1.7%) 5(2.8%)	8(1.0%)	1 (4.0%) 1 (4.0%)	-
At routine follow-up as an out-patient Not applicable, no complications	37 (3·7%) 787 (79·4%)	5 (2·8%) 148 (83·1%)	31 (3·9%) 622 (78·9%)	1 (4·0%) 17 (68·0%)	-
Missing	7 (0.7%)	0 (0.0%)	6 (0.8%)	17(0800%) 1(4.0%)	-
MISSING *Patients born in bosnital = 0. Percentages have been rounded to 1 decimal n	· · · ·	· · · ·	· · · ·	~ /	-

\*Patients born in hospital = 0. Percentages have been rounded to 1 decimal place and may not total 100.0%. ARM: Anorectal malfunction. HIC: High-income countries. IQR: Interquartile range. LIC: Low-income countries. MIC: Middle-income countries.

## Supplementary Table 7: Characteristics, perioperative care, surgical interventions, and outcomes for patients with Hirschsprung's disease

1.4%) (3.7%) 1.5%) (2.3%) 1.4%) (4.4%) 0.2%) 0.6%) (2.1%) (3.3%) (79.1%) 0 (112)	39 (2) 100 (466) 81 (75·7%) 26 (24·3%) 3·5 (0·9) 13 (12·1%) 1 (0·9%) 7 (6·5%) 4 (3·7%) 4 (3·7%) 9 (8·4%) 0 (0·0%) 0 (0·0%) 5 (4·7%) 5 (4·7%) 77 (72·0%) 39 (87)	$\begin{array}{c} 38 (2) \\ 336 (2118) \\ \hline \\ 309 (78 \cdot 6\%) \\ 84 (21 \cdot 4\%) \\ 3 \cdot 5 (2 \cdot 6) \\ \hline \\ 31 (7 \cdot 9\%) \\ 6 (1 \cdot 5\%) \\ 12 (3 \cdot 1\%) \\ 4 (1 \cdot 0\%) \\ 8 (2 \cdot 0\%) \\ 3 (0 \cdot 8\%) \\ 14 (3 \cdot 6\%) \\ 1 (0 \cdot 3\%) \\ 3 (0 \cdot 8\%) \\ 1 (0 \cdot 3\%) \\ 3 (0 \cdot 8\%) \\ 6 (1 \cdot 5\%) \\ 12 (3 \cdot 1\%) \\ 12 (3 \cdot 1\%) \\ 315 (80 \cdot 2\%) \end{array}$	39 (4) $291 (2784)$ $9 (52.9%)$ $8 (47.1%)$ $3.7 (3.8)$ $0 (0.0%)$	<0·001 <0·001 <0·044 <0·999
$\begin{array}{c} 6 \ (1,740) \\ (77\cdot2\%) \\ (22\cdot8\%) \\ \cdot 5 \ (2\cdot1) \\ (8\cdot5\%) \\ 1\cdot4\%) \\ (3\cdot7\%) \\ 1\cdot5\%) \\ (2\cdot3\%) \\ 1\cdot4\%) \\ (2\cdot3\%) \\ 1\cdot4\%) \\ (2\cdot3\%) \\ 1\cdot4\%) \\ (2\cdot3\%) \\ 0\cdot2\%) \\ 0\cdot6\%) \\ (2\cdot1\%) \\ (3\cdot3\%) \\ (79\cdot1\%) \\ 0 \ (112) \end{array}$	100 (466) 81 (75.7%) 26 (24.3%) 3.5 (0.9) 13 (12.1%) 1 (0.9%) 7 (6.5%) 4 (3.7%) 4 (3.7%) 9 (8.4%) 0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%)	$\begin{array}{c} 336 \ (2118) \\ 309 \ (78 \cdot 6\%) \\ 84 \ (21 \cdot 4\%) \\ 3 \cdot 5 \ (2 \cdot 6) \\ \hline \\ 31 \ (7 \cdot 9\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 12 \ (3 \cdot 1\%) \\ 315 \ (80 \cdot 2\%) \end{array}$	$\begin{array}{c} 291 (2784) \\ 9 (52.9\%) \\ 8 (47.1\%) \\ \hline 3.7 (3.8) \\ \hline 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ \end{array}$	<0.001 0.044 0.999 0.166 0.794 0.168 0.113 0.474 0.055 0.065 0.854 0.621 0.112
$(77 \cdot 2\%)$ $(22 \cdot 8\%)$ $(5 \cdot 5\%)$ $(1 \cdot 4\%)$ $(3 \cdot 7\%)$ $(2 \cdot 3\%)$ $(2 \cdot 2\%)$ $(2 \cdot 2\%)$ $(2 \cdot 1\%)$ $(3 \cdot 3\%)$ $(79 \cdot 1\%)$ $(112)$	$81 (75 \cdot 7\%) 26 (24 \cdot 3\%) 3 \cdot 5 (0 \cdot 9) 13 (12 \cdot 1\%) 1 (0 \cdot 9\%) 7 (6 \cdot 5\%) 4 (3 \cdot 7\%) 4 (3 \cdot 7\%) 4 (3 \cdot 7\%) 9 (8 \cdot 4\%) 0 (0 \cdot 0\%) 0 (0 \cdot 0\%) 5 (4 \cdot 7\%) 5 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 77 (72 \cdot 0\%) 8 (4 \cdot 7\%) 7 (6 \cdot 5\%) 9 (6 \cdot 5\%) 9 (6 \cdot 5\%) 9 (6 \cdot 5\%) 9 (7 \cdot 5\%) 9 (7 \cdot 5\%) 9 (8 \cdot 4\%) 9 (7 \cdot 5\%) 9 (8 \cdot 4\%) 9 ($	$\begin{array}{c} 309 \ (78 \cdot 6\%) \\ 84 \ (21 \cdot 4\%) \\ \hline 3 \cdot 5 \ (2 \cdot 6) \\ \hline \\ 31 \ (7 \cdot 9\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 12 \ (3 \cdot 1\%) \\ 315 \ (80 \cdot 2\%) \end{array}$	$9 (52.9\%) \\ 8 (47.1\%) \\ 3.7 (3.8) \\ 0 (0.0\%) \\ 0 (0.0$	0.044 0.999 0.166 0.794 0.168 0.113 0.474 0.055 0.655 0.854 0.621 0.112
(22.8%) (22.8%) (22.8%) (5 (2.1) (8.5%) (1.4%) (2.3%) (1.5%) (2.3%) (1.4%) (4.4%) 0.2%) 0.6%) (2.1%) 0.6%) (2.1%) (3.3%) (79.1%) 0.(112)	26 (24·3%) 3·5 (0·9) 13 (12·1%) 1 (0·9%) 7 (6·5%) 4 (3·7%) 4 (3·7%) 4 (3·7%) 9 (8·4%) 0 (0·0%) 0 (0·0%) 5 (4·7%) 5 (4·7%) 77 (72·0%)	$\begin{array}{c} 84 \ (21 \cdot 4\%) \\ \hline 3 \cdot 5 \ (2 \cdot 6) \\ \hline 31 \ (7 \cdot 9\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ \hline 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ \hline 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 12 \ (3 \cdot 1\%) \\ \hline 315 \ (80 \cdot 2\%) \end{array}$	8 (47·1%) 3·7 (3·8) 0 (0·0%) 0 (0·0%)	0.999 0.166 0.794 0.168 0.113 0.474 0.055 0.655 0.854 0.621 0.112
(22.8%) (22.8%) (22.8%) (5 (2.1) (8.5%) (1.4%) (2.3%) (1.5%) (2.3%) (1.4%) (4.4%) 0.2%) 0.6%) (2.1%) 0.6%) (2.1%) (3.3%) (79.1%) 0.(112)	26 (24·3%) 3·5 (0·9) 13 (12·1%) 1 (0·9%) 7 (6·5%) 4 (3·7%) 4 (3·7%) 4 (3·7%) 9 (8·4%) 0 (0·0%) 0 (0·0%) 5 (4·7%) 5 (4·7%) 77 (72·0%)	$\begin{array}{c} 84 \ (21 \cdot 4\%) \\ \hline 3 \cdot 5 \ (2 \cdot 6) \\ \hline 31 \ (7 \cdot 9\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ \hline 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ \hline 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 12 \ (3 \cdot 1\%) \\ \hline 315 \ (80 \cdot 2\%) \end{array}$	8 (47·1%) 3·7 (3·8) 0 (0·0%) 0 (0·0%)	0.999 0.166 0.794 0.168 0.113 0.474 0.055 0.655 0.854 0.621 0.112
$\begin{array}{c} 5 (2 \cdot 1) \\ (8 \cdot 5\%) \\ 1 \cdot 4\%) \\ (3 \cdot 7\%) \\ 1 \cdot 5\%) \\ (2 \cdot 3\%) \\ 1 \cdot 5\%) \\ (2 \cdot 3\%) \\ 1 \cdot 4\%) \\ (4 \cdot 4\%) \\ 0 \cdot 2\%) \\ 0 \cdot 6\%) \\ (2 \cdot 1\%) \\ 0 \cdot 6\%) \\ (2 \cdot 1\%) \\ (3 \cdot 3\%) \\ (79 \cdot 1\%) \\ 0 \cdot (112) \end{array}$	3.5 (0.9) $13 (12.1%)$ $1 (0.9%)$ $7 (6.5%)$ $4 (3.7%)$ $4 (3.7%)$ $4 (3.7%)$ $9 (8.4%)$ $0 (0.0%)$ $0 (0.0%)$ $5 (4.7%)$ $5 (4.7%)$ $77 (72.0%)$	$\begin{array}{c} 3 \cdot 5 \ (2 \cdot 6) \\ \hline 31 \ (7 \cdot 9\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 12 \ (3 \cdot 1\%) \\ 315 \ (80 \cdot 2\%) \end{array}$	$\begin{array}{c} 3\cdot7 (3\cdot8) \\ 0 (0\cdot0\%) \end{array}$	0.166 0.794 0.168 0.113 0.474 <b>0.055</b> <b>0.065</b> 0.854 0.621 0.112
$(8 \cdot 5\%)$ $1 \cdot 4\%)$ $(3 \cdot 7\%)$ $1 \cdot 5\%)$ $(2 \cdot 3\%)$ $1 \cdot 4\%)$ $(4 \cdot 4\%)$ $0 \cdot 2\%)$ $0 \cdot 6\%)$ $(2 \cdot 1\%)$ $(3 \cdot 3\%)$ $(79 \cdot 1\%)$ $0 (112)$	$13 (12 \cdot 1\%)  1 (0 \cdot 9\%)  7 (6 \cdot 5\%)  4 (3 \cdot 7\%)  4 (3 \cdot 7\%)  4 (3 \cdot 7\%)  9 (8 \cdot 4\%)  0 (0 \cdot 0\%)  0 (0 \cdot 0\%)  5 (4 \cdot 7\%)  5 (4 \cdot 7\%)  77 (72 \cdot 0\%)  10 \cdot 9\%  10 \cdot$	$\begin{array}{c} 31 \ (7 \cdot 9\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 315 \ (80 \cdot 2\%) \end{array}$	$\begin{array}{c} 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ \end{array}$	0.166 0.794 0.168 0.113 0.474 <b>0.055</b> <b>0.065</b> 0.854 0.621 0.112
1.4%) (3.7%) 1.5%) (2.3%) 1.4%) (4.4%) 0.2%) 0.6%) (2.1%) (3.3%) (79.1%) 0 (112)	1 (0.9%) 7 (6.5%) 4 (3.7%) 4 (3.7%) 4 (3.7%) 9 (8.4%) 0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%) 1 (0.9%) 1	$\begin{array}{c} 6 (1.5\%) \\ 12 (3.1\%) \\ 4 (1.0\%) \\ 8 (2.0\%) \\ 3 (0.8\%) \\ 14 (3.6\%) \\ 1 (0.3\%) \\ 3 (0.8\%) \\ 6 (1.5\%) \\ 12 (3.1\%) \\ 315 (80.2\%) \end{array}$	$\begin{array}{c} 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \end{array}$	0.794 0.168 0.113 0.474 <b>0.055</b> <b>0.065</b> 0.854 0.621 0.112
1.4%) (3.7%) 1.5%) (2.3%) 1.4%) (4.4%) 0.2%) 0.6%) (2.1%) (3.3%) (79.1%) 0 (112)	1 (0.9%) 7 (6.5%) 4 (3.7%) 4 (3.7%) 4 (3.7%) 9 (8.4%) 0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%) 1 (0.9%) 1	$\begin{array}{c} 6 (1.5\%) \\ 12 (3.1\%) \\ 4 (1.0\%) \\ 8 (2.0\%) \\ 3 (0.8\%) \\ 14 (3.6\%) \\ 1 (0.3\%) \\ 3 (0.8\%) \\ 6 (1.5\%) \\ 12 (3.1\%) \\ 315 (80.2\%) \end{array}$	$\begin{array}{c} 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \\ 0 & (0 \cdot 0\%) \end{array}$	0.794 0.168 0.113 0.474 <b>0.055</b> <b>0.065</b> 0.854 0.621 0.112
(3.7%) 1.5%) (2.3%) 1.4%) (4.4%) 0.2%) 0.6%) (2.1%) (3.3%) (79.1%) 0 (112)	7 (6.5%) $4 (3.7%)$ $4 (3.7%)$ $4 (3.7%)$ $9 (8.4%)$ $0 (0.0%)$ $0 (0.0%)$ $5 (4.7%)$ $5 (4.7%)$ $77 (72.0%)$	12 (3.1%)  4 (1.0%)  8 (2.0%)  3 (0.8%)  14 (3.6%)  1 (0.3%)  3 (0.8%)  6 (1.5%)  12 (3.1%)  315 (80.2%)	$\begin{array}{c} (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ 0 (0.0\%) \\ \end{array}$	0.168 0.113 0.474 <b>0.055</b> <b>0.065</b> 0.854 0.621 0.112
1.5%) (2:3%) 1.4%) (4.4%) 0.2%) 0.6%) (2:1%) (3:3%) (79.1%) 0 (112)	4 (3.7%) 4 (3.7%) 4 (3.7%) 9 (8.4%) 0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%)	$\begin{array}{c} 4 \ (1 \cdot 0\%) \\ 8 \ (2 \cdot 0\%) \\ 3 \ (0 \cdot 8\%) \\ 14 \ (3 \cdot 6\%) \\ 1 \ (0 \cdot 3\%) \\ 3 \ (0 \cdot 8\%) \\ 6 \ (1 \cdot 5\%) \\ 12 \ (3 \cdot 1\%) \\ 315 \ (80 \cdot 2\%) \end{array}$	0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%)	0.113 0.474 0.055 0.065 0.854 0.621 0.112
(2:3%) 1:4%) (4:4%) 0:2%) 0:6%) (2:1%) (3:3%) (79:1%) 0 (112)	4 (3.7%) 4 (3.7%) 9 (8.4%) 0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%)	8 (2·0%) 3 (0·8%) 14 (3·6%) 1 (0·3%) 3 (0·8%) 6 (1·5%) 12 (3·1%) 315 (80·2%)	0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%)	0·474 0·055 0·065 0·854 0·621 0·112
1·4%)         (4·4%)         0·2%)         0·6%)         (2·1%)         (3·3%)         (79·1%)         0 (112)	4 (3.7%) 9 (8.4%) 0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%)	$\begin{array}{c} 3 \ (0\cdot8\%) \\ 14 \ (3\cdot6\%) \\ 1 \ (0\cdot3\%) \\ 3 \ (0\cdot8\%) \\ 6 \ (1\cdot5\%) \\ 12 \ (3\cdot1\%) \\ 315 \ (80\cdot2\%) \end{array}$	0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%)	<b>0.055</b> <b>0.065</b> 0.854 0.621 0.112
(4·4%) 0·2%) 0·6%) (2·1%) (3·3%) (79·1%) 0 (112)	9 (8·4%) 0 (0·0%) 0 (0·0%) 5 (4·7%) 5 (4·7%) 77 (72·0%)	14 (3.6%) 1 (0.3%) 3 (0.8%) 6 (1.5%) 12 (3.1%) 315 (80.2%)	0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%)	<b>0.065</b> 0.854 0.621 0.112
0·2%) 0·6%) (2·1%) (3·3%) (79·1%) 0 (112)	0 (0.0%) 0 (0.0%) 5 (4.7%) 5 (4.7%) 77 (72.0%)	1 (0·3%) 3 (0·8%) 6 (1·5%) 12 (3·1%) 315 (80·2%)	0 (0.0%) 0 (0.0%) 0 (0.0%) 0 (0.0%)	0·854 0·621 0·112
0.6%) (2.1%) (3.3%) (79.1%) 0 (112)	0 (0·0%) 5 (4·7%) 5 (4·7%) 77 (72·0%)	3 (0.8%) 6 (1.5%) 12 (3.1%) 315 (80.2%)	0 (0·0%) 0 (0·0%) 0 (0·0%)	0·621 0·112
(3·3%) (79·1%) 0 (112)	5 (4·7%) 5 (4·7%) 77 (72·0%)	6 (1·5%) 12 (3·1%) 315 (80·2%)	0 (0.0%)	
(79·1%) 0 (112)	77 (72.0%)	315 (80.2%)	. ,	0.524
(79·1%) 0 (112)	77 (72.0%)	315 (80.2%)	. ,	
· /	39 (87)		17 (100.0%)	0.018
(51 (0/)		51 (125)	17 (74)	0.193
(51 (0/)				
r (51·6%)	56 (52.3%)	202 (51.4%)	9 (52.9%)	0.002
5 (6.8%)	12 (11.2%)	19 (4.8%)	4 (23.5%)	-
5 (28·2%)	22 (20.6%)	124 (31.6%)	0 (0.0%)	-
(11.0%)	14 (13.1%)	41 (10.4%)	2 (11.8%)	-
(1.9%)	3 (2.8%)	6 (1.5%)	1 (5.9%)	-
0.4%)	0 (0.0%)	1 (0.3%)	1 (5.9%)	-
	· /	· /	· /	0.002
(74.5%)	93 (86.9%)	278 (70.7%)	14 (82·4%)	-
(10.0%)	12 (11.204)	95 (21.69/)	1 (5.0%)	0.022
· /	· /	· /	. ,	0.077
· /	· /	· /	· · · ·	-
(0 270)	0 (0 070)	0 (0 070)	1 (5 570)	-
(7.7%)	1 (0.9%)	39 (9.9%)	0 (0.0%)	0.004
(92.1%)	· · · · ·	· /	16 (94.1%)	_
(0.2%)	· · · · ·	· · · · ·	1 (5.9%)	_
	· · /	× /	× /	
(21.9%)	15 (14.0%)	90 (22.9%)	8 (47.1%)	0.007
(29.8%)	42 (39.3%)	111 (28.2%)	1 (5.9%)	-
(23.6%)	32 (29.9%)	87 (22.1%)	3 (17.6%)	-
(3.9%)	1 (0.9%)	19 (4.8%)	0 (0.0%)	-
(1.9%)	2 (1.9%)	8 (2.0%)	0 (0.0%)	-
(19.0%)	15 (14.0%)	78 (19.8%)	5 (29.4%)	-
(0.0%)		× /	0 (0.0%)	-
(0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	0.854
(0.6%)				0.142
(0.2%)	· · ·	· · · ·	· · ·	0.854
	· /	· /		-
. ,				-
(100 070)	107 (100 070)	575 (100 070)	17 (100 070)	-
(15.5%)	20 (18.7%)	58 (14.8%)	2 (11.8%)	0.280
	· · · ·		. ,	-
. ,	· /		. ,	_
· /		. ,	. ,	_
, ,			. ,	-
(= , , , , ,	= (- , , , , ,	(	= ( 0/0)	
) (89·0%)	96 (89.7%)	350 (89.1%)	14 (82.4%)	0.663
(36.8%)	· · · · · ·	· /	. ,	0·021
				0.689
				0·002
	(28.2%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (11.0%)         (7.4%)         (80.9%)         (0.2%)         (21.9%)         (22.1%)         (0.2%)         (21.9%)         (22.1%)         (2.1.9%)         (22.1%)         (2.1.9%)         (23.6%)         (3.9%)         (1.9%)         19.0%)         0.0%)         0.0%)         0.0%)         0.0%)         (10.0%)         (15.5%)         (28.6%)         (36.2%)         (17.0%)         (2.7%)         (89.0%)	$\begin{array}{llllllllllllllllllllllllllllllllllll$	$\begin{array}{llllllllllllllllllllllllllllllllllll$	$\begin{array}{llllllllllllllllllllllllllllllllllll$

Suspected enterocolitis	96 (18.6%)	17 (15.9%)	74 (18.8%)	5 (29.4%)	0.397
Perforation	20 (3.9%)	2 (1.9%)	18 (4.6%)	0 (0.0%)	0.306
Other	56 (10.8%)	9 (8.4%)	43 (10.9%)	4 (23.5%)	0.174
Source of diagnosis of Hirschsprung's disease?					
Genetic	1 (0.2%)	1 (0.9%)	0 (0.0%)	0 (0.0%)	0.147
Mucosal biopsy	173 (33.5%)	74 (69·2%)	98 (24.9%)	1 (5.9%)	<0.001
Full thickness biopsy	175 (33.8%)	27 (25.2%)	148 (37.7%)	0 (0.0%)	0.001
Anorectal manometry	23 (4.4%)	3 (2.8%)	20 (5.1%)	0 (0.0%)	0.396
Barium enema	190 (36.8%)	28 (26.2%)	160 (40.7%)	2 (11.8%)	0.005
Not confirmed: suspected only	83 (16.1%)	5 (4.7%)	65 (16.5%)	13 (76.5%)	<0.001
Other	7 (1·4%)	1 (0.9%)	5 (1.3%)	1 (5.9%)	0.250
If on biopsy, what was the method of histology staining?					
Hemotoxilin and Eosin (H&E)	281 (80.7%)	62 (61.4%)	218 (88.6%)	1 (100.0%)	<0.001
Acetylcholinesterase	71 (20.4%)	53 (52.5%)	18 (7.3%)	0 (0.0%)	<0.001
Calretinin	104 (29.9%)	62 (61.4%)	42 (17.1%)	0 (0.0%)	<0.001
NADH-tetrazolium	6 (1.7%)	6 (5.9%)	0 (0.0%)	0 (0.0%)	<0.001
Other	4 (1.1%)	3 (3.0%)	1 (0.4%)	0 (0.0%)	0.027
Length of aganglionosis?					
Rectal	117 (22.6%)	21 (19.6%)	94 (23.9%)	2 (11.8%)	<0.001
Sigmoid	179 (34.6%)	35 (32.7%)	143 (36.4%)	1 (5.9%)	-
Descending colon	45 (8.7%)	8 (7.5%)	37 (9.4%)	0 (0.0%)	-
Transverse colon	16 (3.1%)	10 (9.3%)	6 (1.5%)	0 (0.0%)	-
Ascending colon	14 (2.7%)	1(0.9%)	13 (3.3%)	0(0.0%)	-
Small bowel	11 (2.1%)	2(1.9%)	9 (2.3%)	0(0.0%)	-
Unknown at present	135 (26.1%)	30 (28.0%)	91 (23·2%)	14 (82.4%)	-
Care prior to presentation at the paediatric surgery centre:					
Antenatal ultrasound undertaken?	5 (1.00/)	1 (0.00/)	4 (1.0%)	0.00.00()	0.046
Yes: study condition diagnosed	5(1.0%)	1 (0.9%)	< / /	0 (0.0%)	0.040
Yes: problem identified but study condition not diagnosed	33 (6·4%)	11 (10.3%)	$21(5\cdot3\%)$	1(5.9%)	-
Yes: no problem identified	390 (75·4%)	87 (81·3%)	293 (74·6%)	10(58.8%)	-
No	88 (17.0%)	8 (7.5%)	75 (19.1%)	5 (29.4%)	-
Missing	1 (0.2%)	0 (0.0%)	0 (0.0%)	1 (5.9%)	-
Median gestational age of study condition diagnosis if diagnosis was antenatal (IQR), weeks	28 (2)	28 (0)	27 (2)	-	0.936
Mode of transport to hospital:					
Ambulance	139 (26.9%)	52 (48.6%)	80 (20.4%)	7 (41.2%)	<0.001
Other transport provided by the health service	23 (4.4%)	14 (13.1%)	9 (2.3%)	0 (0.0%)	-
Patient's own transport	320 (61.9%)	31 (29.0%)	279 (71.0%)	10 (58.8%)	-
Born within the hospital	34 (6.6%)	10 (9.3%)	24 (6.1%)	0 (0.0%)	-
Missing	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
If outborn, where did the patient present from?					
Home	162 (33.6%)	26 (26.8%)	134 (36·4%)	2 (11.8%)	0.006
Community Clinic/General Practice	65 (13.5%)	5 (5.2%)	55 (14.9%)	5 (29.4%)	-
District Hospital	243 (50.4%)	64 (66.0%)	170 (46.2%)	9 (52.9%)	-
From another country	3 (0.6%)	1 (1.0%)	2 (0.5%)	0 (0.0%)	-
Unknown	9 (1.9%)	1 (1.0%)	7 (1.9%)	1 (5.9%)	-
Perioperative care at the paediatric surgery centre:					
If septic, were appropriate antibiotics administered?					
Yes within 1 hour of arrival	91 (68.9%)	12 (85.7%)	78 (67.8%)	1 (33·3%)	0.390
Yes: within the first day of arrival	38 (28.8%)	2 (14·3%)	34 (29.6%)	2 (66.7%)	-
No	3 (2·3%)	0 (0.0%)	3 (2.6%)	0 (0.0%)	-
If hypovolaemic, was an intravenous fluid bolus given?	(0.(70.10))	4 (22, 25)		1 (100 00/)	
Yes within 1 hour of arrival	69 (70·4%)	4 (33.3%)	64 (75·3%)	1 (100.0%)	<0.001
Yes: within the first day of arrival	23(23.5%)	3 (25.0%)	20(23.5%)	0 (0.0%)	-
No Klamenska serie kan much internet og fluid men sinne?	6 (6.1%)	5 (41.7%)	1 (1.2%)	0 (0.0%)	-
If hypovolaemic, how much intravenous fluid was given?	71 (77.204)	2 (28.6%)	68 (81·0%)	1 (100.0%)	0.007
10 - 20mls/kg A hove 20mls/kg	71 (77·2%) 21 (22·8%)	2 (28·6%) 5 (71·4%)	16 (19·0%)	0 (0.0%)	0.006
Above 20mls/kg If hypothermic, was the patient warmed on arrival to your hospital to within a normal ten	· /	5 (/1'4%)	10 (19.0%)	0 (0.0%)	-
Yes	36 (90.0%)	1 (100.0%)	35 (89.7%)	_	0.770
No	3 (7.5%)	0 (0.0%)	3 (7.7%)	-	-
Missing	1 (2.5%)	0 (0.0%)	1 (2.6%)	-	-
Did the patient receive central venous access?					
Yes: umbilical catheter	17 (3.3%)	3 (2.8%)	14 (3.6%)	0 (0.0%)	0.687
Yes: peripherally inserted central catheter (PICC)	. ,		40 (10 20/)	1 (5.9%)	<0.001
Yes: percutaneously inserted central line with ultrasound guidance	81 (15.7%)	40 (37.4%)	40 (10.2%)	. ,	
	81 (15·7%) 28 (5·4%)	10 (9.3%)	18 (4.6%)	0 (0.0%)	0.094
Yes: surgically placed central line (open insertion)	81 (15.7%)	· /	. ,	. ,	0.773
Yes: surgically placed central line (open insertion) No	81 (15·7%) 28 (5·4%) 12 (2·3%) 389 (75·2%)	10 (9·3%) 3 (2·8%) 55 (51·4%)	18 (4·6%) 9 (2·3%) 318 (80·9%)	0 (0·0%) 0 (0·0%) 16 (94·1%)	0·773 < <b>0·001</b>
Yes: surgically placed central line (open insertion) No Median total duration of antibiotics following primary intervention (IQR), days	81 (15·7%) 28 (5·4%) 12 (2·3%)	10 (9·3%) 3 (2·8%)	18 (4·6%) 9 (2·3%)	0 (0·0%) 0 (0·0%)	0.773
Yes: surgically placed central line (open insertion) No	81 (15·7%) 28 (5·4%) 12 (2·3%) 389 (75·2%)	10 (9·3%) 3 (2·8%) 55 (51·4%)	18 (4·6%) 9 (2·3%) 318 (80·9%)	0 (0·0%) 0 (0·0%) 16 (94·1%)	0·773 < <b>0·001</b>

<b></b>					
Yes: cross-matched.	140 (27.1%)	18 (16.8%)	121 (30.8%)	1 (5.9%)	-
No: not required.	366 (70.8%)	88 (82.2%)	263 (66.9%)	15 (88.2%)	-
No: it was required but not available.	3 (0.6%)	0 (0.0%)	2 (0.5%)	1 (5.9%)	-
Missing	1 (0.2%)	1 (0.9%)	0 (0.0%)	0 (0.0%)	-
Did the patient require ventilation?	82 (15 00/)	28(26,20/)	51 (12,00/)	2(17.60/)	<0.001
Yes: and it was given	82 (15.9%)	28 (26·2%)	51 (13.0%)	3(17.6%)	<0.001
Yes, but it was not available	2 (0.4%)	0 (0.0%)	1(0.3%)	1(5.9%)	-
No	433 (83.8%)	79 (73.8%)	341 (86.8%)	13 (76.5%)	-
Median time patient remained on ventilation if given (IQR), days	2 (3)	3 (4)	2 (3)	1 (1)	0.279
Median time to first enteral feed (post-primary intervention) (IQR), days	3 (3)	3 (4)	3 (3) 4 (4)	1(0)	0·023 0·046
Median time to full enteral feeds (post-primary intervention) (IQR), days Did the patient require parenteral nutrition?	4 (5)	5 (7)	4 (4)	3 (16)	0.040
Yes: and it was given	167 (32.3%)	50 (46.7%)	117 (29.8%)	0 (0.0%)	<0.001
Yes: and it was sometimes available, but less than required	38 (7.4%)	0 (0.0%)	38 (9.7%)	0 (0.0%)	-
Yes: but it was not available	8 (1.5%)	0 (0.0%)	7 (1.8%)	1 (5.9%)	_
No	303 (58.6%)	56 (52.3%)	231 (58.8%)	16 (94.1%)	_
Missing	1 (0.2%)	1 (0.9%)	0 (0.0%)	0 (0.0%)	-
Median time patient received parenteral nutrition if received (IQR), days	6 (7.0)	7 (13.0)	5 (6.0)	-	0.015
Surgical intervention:		( )	× ,		
	45 (115)	29 (164)	48 (115)	16 (37)	0.186
Median time from arrival at your hospital to primary intervention (IQR), hours Primary intervention:	45 (115)	29 (164)	48 (115)	10(57)	0.190
Conservative: regular rectal washouts/ enemas	144 (27.9%)	29 (27.1%)	113 (28.8%)	2 (11.8%)	0.001
Primary stoma (with or without pre-operative washouts or enemas prior to planned	, í	· · ·		· /	0 001
stoma placement)	142 (27.5%)	32 (29.9%)	105 (26.7%)	5 (29.4%)	-
Primary pull-through (Soave)	62 (12.0%)	13 (12.1%)	49 (12.5%)	0 (0.0%)	-
Failed conservative management followed by a stoma during the same hospital	54 (10, 49/)	7 (6.50/)	47 (12.09/)	0 (0.0%)	
admission.	54 (10.4%)	7 (6.5%)	47 (12.0%)	0 (0.0%)	-
Primary pull-through (Swenson)	24 (4.6%)	9 (8.4%)	15 (3.8%)	0 (0.0%)	-
Conservative: including digital stimulation and laxatives	22 (4.3%)	2 (1.9%)	16 (4.1%)	4 (23.5%)	-
Primary pull-through (Other)	22 (4.3%)	4 (3.7%)	17 (4.3%)	1 (5.9%)	-
Conservative: no treatment	21 (4.1%)	7 (6.5%)	11 (2.8%)	3 (17.6%)	-
Transanal posterior anorectal myectomy	7 (1.4%)	0 (0.0%)	7 (1.8%)	0 (0.0%)	-
Palliative care	2 (0.4%)	0 (0.0%)	2 (0.5%)	0 (0.0%)	-
Primary pull-through (Duhamel)	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	-
Other	16 (3.1%)	4 (3.7%)	10 (2.5%)	2 (11.8%)	-
Was it laparoscopic assisted?					
Yes	55 (50.5%)	21 (80.8%)	34 (41.5%)	0 (0.0%)	0.001
No	54 (49.5%)	5 (19·2%)	48 (58.5%)	1 (100%)	-
If primary pull-through was undertaken, did the patient have a covering stoma?					
Yes	3 (2.8%)	2 (7.7%)	1 (1.2%)	0 (0.0%)	0.210
No	106 (97.2%)	24 (92.3%)	81 (98.8%)	1 (100.0%)	-
What type of anaesthesia was used for the primary intervention?	221 ((2, 10/)		247 (62,00())	7 (41 00/)	
General anaesthesia with endotracheal tube	321 (62.1%)	67 (62·6%)	247 (62.8%)	7 (41.2%)	0.009
General anaesthesia with laryngeal airway	10(1.9%)	3 (2.8%)	7 (1.8%)	0 (0.0%)	-
Ketamine anaesthesia	3(0.6%)	0 (0.0%)	2(0.5%)	1(5.9%)	-
Spinal/caudal anaesthesia	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	-
Local anaesthesia only	0 (0.0%)	0 (0·0%) 6 (5·6%)	0 (0.0%) 5 (1.3%)	0 (0·0%) 0 (0·0%)	-
No anaesthesia, just analgesia No anaesthesia, no analgesia	11 (2·1%) 86 (16·6%)	6 (5·6%) 14 (13·1%)	5 (1·3%) 69 (17·6%)	. ,	-
No anaesthesia, no analgesia Not applicable: no surgery or primary intervention undertaken.	86 (16·6%) 86 (16·6%)	14 (13·1%) 17 (15·9%)	63 (16·0%)	3 (17·6%) 6 (35·3%)	-
Who undertook the anaesthetic for the primary intervention?	00 (10 070)	17 (15 970)	05 (10 070)	0 (33 370)	-
Anaesthetic doctor	330 (63.8%)	70 (65.4%)	253 (64.4%)	7 (41.2%)	0.130
Anaesthetic nurse	4 (0.8%)	0 (0.0%)	3 (0.8%)	1 (5.9%)	-
Medical officer	1 (0.2%)	0 (0.0%)	1 (0.3%)	0 (0.0%)	_
Surgeon	1 (0.2%)	1 (0.9%)	0 (0.0%)	0 (0.0%)	_
Other healthcare professional	2 (0.4%)	1 (0.9%)	1 (0.3%)	0 (0.0%)	_
No anaesthetic undertaken	179 (34.6%)	35 (32.7%)	135 (34.4%)	9 (52.9%)	-
Who undertook the primary intervention?		. ,	. ,		
Paediatric surgeon (or junior with paediatric surgeon assisting/in the room)	394 (76·2%)	86 (80.4%)	300 (76·3%)	8 (47.1%)	0.007
General surgeon (or junior with general surgeon assisting/in the room)	5 (1.0%)	2 (1.9%)	2 (0.5%)	1 (5.9%)	-
Junior doctor, medical officer or other (without a paediatric or general surgeon	37 (7.2%)	4 (3.7%)	32 (8.1%)	1 (5.9%)	
assisting/in the room)				, ,	-
Trainee surgeon (without a paediatric or general surgeon assisting or in the room)	11(2.1%)	3(2.8%)	8 (2.0%)	0(0.0%)	-
Not applicable - no surgery or primary intervention undertaken.	70 (13.5%)	12 (11·2%)	51 (13.0%)	7 (41·2%)	-
Was a Surgical Safety Checklist used at the time of primary intervention?	220 (46.20/)	71 (66.49/)	162 (41.204)	6 (25.20/)	<0.001
Yes	239 (46·2%) 65 (12:6%)	71 (66·4%) 1 (0·9%)	$162 (41 \cdot 2\%)$ 63 (16:0%)	6(35.3%)	<0.001
No: but it was available	65 (12·6%) 42 (8·1%)	1 (0.9%)	63 (16·0%) 40 (10·2%)	1 (5·9%) 1 (5·9%)	-
No: it was not available	42 (8·1%) 102 (19·7%)	24 (22.4%)	40 (10·2%) 75 (19·1%)	3(17.6%)	-
Not applicable: a conservative primary intervention was undertaken Not applicable: no surgery or primary intervention undertaken	69 (13·3%)	10 (9.3%)	53 (13.5%)	6 (35.3%)	-
intervention undertaken	0) (15 570)	10 (9 570)	35 (15 570)	0 (35 370)	-
What is the plan for future management?					

No further average along a	37 (7.2%)	5 (4.7%)	31 (7.9%)	1 (5.9%)	0.509
No further surgery planned Anorectal pull-through at your hospital	299 (57·8%)	67 (62.6%)	224 (57.0%)	8 (47·1%)	0.382
Anorectal pull-through at a different hospital	8 (1.5%)	2 (1.9%)	5 (1.3%)	1 (5.9%)	0.307
Stoma closure	32 (6.2%)	7 (6.5%)	23 (5.9%)	2 (11.8%)	0.604
Other	27 (5.2%)	2 (1.9%)	23 (5.9%)	2 (11.8%)	0.121
Unknown	24 (4.6%)	7 (6.5%)	14 (3.6%)	3 (17.6%)	0.015
Outcomes:					
Did the patient survive to discharge (or 30-days if still an in-patient 30-days following	primary intervention	on)?			
Yes	487 (94.2%)	105 (98.1%)	367 (93.4%)	15 (88.2%)	0.100
No	30 (5.8%)	2 (1.9%)	26 (6.6%)	2 (11.8%)	-
If the patient was discharged prior, were they still alive at 30-days following primary in		100 (05 00()	221 (00.20()	12 (0( 70()	
Yes	444 (91.2%)	100 (95·2%) 0 (0·0%)	331 (90.2%)	13 (86.7%)	0.140
No Not fellowed up often discharge	1 (0·2%) 24 (4·9%)	0 (0.0%)	1 (0·3%) 22 (6·0%)	0 (0·0%) 2 (13·3%)	-
Not followed-up after discharge Followed-up, but not until 30-days post primary intervention	18 (3.7%)	5 (4.8%)	13 (3.5%)	0 (0.0%)	-
Cause of mortality:	10 (5 770)	5 (+ 070)	15 (5 570)	0 (0 070)	-
Sepsis	10 (32.3%)	2 (100.0%)	7 (25.9%)	1 (50.0%)	0.870
Enterocolitis	7 (22.6%)	0 (0.0%)	7 (25.9%)	0 (0.0%)	-
Respiratory failure	4(12.9%)	0(0.0%)	4 (14.8%)	0(0.0%)	-
Electrolyte disturbance Malnutrition	4 (12·9%) 3 (9·7%)	$0(0.0\%) \\ 0(0.0\%)$	$3(11\cdot1\%)$ $3(11\cdot1\%)$	1 (50·0%) 0 (0·0%)	-
Aspiration pneumonia	1(3.2%)	0 (0.0%)	1 (3.7%)	0 (0.0%)	-
Cardiac failure	1 (3.2%)	0 (0.0%)	1 (3.7%)	0 (0.0%)	-
Ischaemic bowel	1 (3.2%)	0(0.0%)	1 (3.7%)	0 (0.0%)	-
Median duration of hospital stays, (IQR) days Did the patient have a surgical site infection?	11 (10)	13 (12)	10 (9)	5 (7)	0.001
Yes	29 (5.6%)	5 (4.7%)	24 (6.1%)	0 (0.0%)	0.840
No	324 (62.7%)	68 (63·6%)	245 (62.3%)	11 (64.7%)	-
Not applicable, no surgical wound	164 (31.7%)	34 (31.8%)	124 (31.6%)	6 (35.3%)	_
Did the patient have a full thickness wound dehiscence?		- ( )	( )	. (	
Yes	12 (2.3%)	0 (0.0%)	12 (3.1%)	0 (0.0%)	0.340
No	343 (66·3%)	76 (71.0%)	256 (65.1%)	11 (64.7%)	-
Not applicable, no surgical wound	162 (31.3%)	31 (29.0%)	125 (31.8%)	6 (35·3%)	-
Did the patient require a further unplanned intervention?	5 (1 00()	4 (2 70()	1 (0.20()	0 (0 00()	0.000
Yes – percutaneous	5(1.0%)	4 (3·7%)	1(0.3%)	0 (0.0%)	0.029
Yes – surgical intervention No	64 (12·4%) 387 (74·9%)	13 (12·1%) 76 (71·0%)	50 (12·7%) 299 (76·1%)	1 (5·9%) 12 (70·6%)	-
No Not applicable – no primary intervention undertaken	61(11.8%)	14 (13.1%)	43 (10.9%)	4 (23.5%)	-
If central line access used, did the patient acquire central line sepsis?	01 (11 070)	14 (15 170)	45 (10 570)	4 (25 570)	-
Yes, diagnosed clinically	3 (2.3%)	0 (0.0%)	3 (3.9%)	0 (0.0%)	0.670
Yes, confirmed on microbiology	6 (4.6%)	3 (5.8%)	3 (3.9%)	0 (0.0%)	-
No	121 (93.1%)	49 (94.2%)	71 (92.2%)	1 (100.0%)	-
Did the patient have any condition specific complications within 30-days of primary in					
Hirschsprung's associated enterocolitis (HAEC)	69 (13·3%)	13 (12.1%)	55 (14.0%)	1 (5.9%)	0.579
Electrolyte disturbance	47 (9.1%)	3 (2.8%)	41 (10.4%)	3 (17.6%)	0.024
Peri-stoma skin breakdown (or perianal if primary pull-through was undertaken without a covering stoma)	17 (3·3%)	2 (1.9%)	15 (3.8%)	0 (0.0%)	0.449
High stoma output (over 20mls/kg/day)	15 (2.9%)	6 (5.6%)	9 (2.3%)	0 (0.0%)	0.149
Stoma prolapse/ retraction/ herniation	14 (2.7%)	4 (3.7%)	9 (2.3%)	1 (5.9%)	0.511
Post-operative obstruction	14 (2.7%)	5 (4.7%)	9 (2.3%)	0 (0.0%)	0.316
Anastomotic leak (if primary pull-through was undertaken without a covering	3 (0.6%)	1 (0.9%)	2 (0.5%)	0 (0.0%)	0.832
stoma)	· /	· /		· · · ·	
Anal stenosis	2(0.4%)	1 (0.9%)	1(0.3%)	0 (0.0%) 8 (47.1%)	0.583
Other Was the patient followed up at 30-days post primary surgery or intervention to a assess	118 (22.8%)	8 (7.5%)	102 (26.0%)	8 (47.1%)	<0.001
Yes: reviewed in person	307 (63·0%)	69 (65·7%)	234 (63.8%)	4 (26.7%)	<0.001
Yes: via telephone consultation	58 (11.9%)	4 (3.8%)	52 (14.2%)	2 (13.3%)	-
Yes: via other means	14 (2.9%)	3 (2.9%)	10 (2.7%)	1 (6.7%)	-
Yes: still an in-patient at 30-days	22 (4.5%)	11 (10.5%)	10 (2.7%)	1 (6.7%)	-
No: data is based on in-patient observations only	51 (10.5%)	10 (9.5%)	35 (9.5%)	6 (40.0%)	-
No: follow-up was done, but prior to 30-days	35 (7.2%)	8 (7.6%)	26 (7.1%)	1 (6.7%)	-
If the patient had a complication, when was it diagnosed?					
During the primary admission	62 (12.0%)	17 (15.9%)	45 (11.5%)	0 (0.0%)	0.018
As an emergency re-attender	27 (5.2%)	7 (6.5%)	17 (4.3%)	3 (17.6%)	-
At routine follow-up as an out-patient	25 (4.8%)	1 (0.9%)	24 (6.1%)	0 (0.0%)	-
Not applicable, no complications	400(77.4%)	82 (76.6%)	305(77.6%)	13(76.5%)	-
Missing *Patients born in hospital = 0. Percentages have been rounded to 1 decimal n	3 (0.6%)	0 (0.0%)	2 (0.5%)	1 (5.9%)	-

\*Patients born in hospital = 0. Percentages have been rounded to 1 decimal place and may not total  $100 \cdot 0\%$ . HIC: High-income countries. IQR: Interquartile range. LIC: Low-income countries. MIC: Middle-income countries.

#### Supplementary Table 8: Patient follow-up

Variable	Total n, % (95% CI)	HIC n, % (95% CI)	MIC n, % (95% CI)	LIC n, % (95% CI)	P value*
If the patient was discharged prior, were they still alive at 30-days post-intervention? <sup>†</sup>	n=2761	n=651	n=2057	n=53	
Yes	2486, <b>90·3%</b> (89·1, 91·3)	606, <b>93.4%</b> (91.2, 95.1)	1848, 90.0% (88.7, 91.2)	32, <b>60.3%</b> (46.4, 72.8)	< 0.001
No	9, <b>0·3%</b> (0·2, 0·6)	0, <b>0.0%</b>	9, <b>0.4%</b> (0.2, 0.8)	0, <b>0.0%</b>	
Not followed-up after discharge	135, <b>4·9%</b> (4.2, 5.8)	13, <b>2.0%</b> (1.2%, 3.4%)	102, <b>5.0%</b> (4.1, 6.0)	20, 37.7% (25.6, 51.7)	
Followed-up, but not until 30-days post primary intervention	124, 4.5% (3.8, 5.3)	30 4.6% (3.2%, 6.5%)	93, 4.5% (3.7, 5.5)	1, 1.9% (0.3, 12.7)	
Missing	7	2	5	0	
If the patient survived to discharge, were they					
followed-up to 30-days post-intervention to	n=3179	n=846	n=2277	n=56	
assess for complications?					
Yes: reviewed in person	1829, <b>57.8%</b> (56.0, 59.5)	467, <b>55.3%</b> (52.0, 58.7)	1350, <b>59.6%</b> (57.5, 61.6)	12, <b>21.4%</b> (12.4, 34.4)	0.001
Yes: via telephone consultation	341, <b>10.8%</b> (9.7, 11.8)	32 <b>, 3.8%</b> (2.5, 5.1)	304, <b>13.4%</b> (12.0, 14.8)	5, <b>8.9%</b> (3.7, 20.0)	
Yes: via other means	90, <b>2.8%</b> (2.3, 3.4)	15, <b>1.8%</b> (0.9, 2.7)	73, <b>3.2%</b> (2.5, 3.9)	2, <b>3.6%</b> (0.9, 13.6)	
Yes: still an in-patient at 30-days	418, <b>13.2%</b> (12.1, 14.4)	195, <b>23.1%</b> (20.3, 26.0)	220, <b>9.7%</b> (8.5, 10.9)	3, <b>5.4%</b> (1.7, 15.7)	
No: data is based on in-patient observations only	303, <b>9,6%</b> (8.5, 10.6)	74, <b>8.8%</b> (6.9, 10.7)	205, <b>9.0%</b> (7.9, 10.2)	24, <b>42.9%</b> (30.4, 56.3)	
No: follow-up was done, but prior to 30-days	186 <b>5,9%</b> (5.1, 6.7)	61, <b>7.2%</b> (5.5, 9.0)	115, <b>5.1%</b> (4.2, 6.0)	10, <b>17.9%</b> (9.8, 30.4)	
Missing	12	2	10	0	
If the patient had a complication, when was it	n=3849	n=896	n=2860	n=93	
diagnosed?					
During the primary admission	901, <b>23·5%</b> (22·2, 24·9)	203, <b>22·7%</b> (20·0, 25·5)	678, <b>23·8%</b> (22·3, 25·4)	20, <b>22·0%</b> (14·5, 31·8)	0.277
As an emergency re-attender	91, <b>2·4%</b> (1·9, 2·9)	22, <b>2·5%</b> (1·6, 3·7)	63, <b>2·2%</b> (1·7, 2·8)	6, <b>6·6%</b> (2·9, 14·1)	
At routine follow-up as an out-patient	101, <b>2·6%</b> (2·2, 3·2)	9, <b>1·0%</b> (0·5, 1·9)	90, <b>3·2%</b> (2·6, 3·9)	2, <b>2·2%</b> (0·5, 8·6)	
Not applicable, no complications	2738, <b>71·5%</b> (70·0, 72·9)	662, <b>73·9%</b> (70·9, 76·7)	2013, <b>70·8%</b> (69·1, 72·4)	63, <b>69·2%</b> (58·8, 78·0)	
Missing	18	0	16	2	

\*Calculated using Chi-squared analysis and Fisher's exact as appropriate. †Includes those who survived to discharge (n=3179) minus those still an inpatient at 30-days (n=418). CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries.

		Ν	Died	%	Lower CI*	Upper CI*	LIC p value†	MIC p value†	LIC, RR (95% CI)	MIC RR (95% CI)	HIC RR (95% CI)
All	LIC	93	37	39.8%	30%	50%	-	- p value	-	0.51 (0.40 to 0.66)	0.14 (0.10 to 0.20)
	MIC	2860	583	20.4%	19%	22%	< 0.001	-	1.95 (1.50 to 2.53)	-	0.27 (0.21 to 0.36)
	HIC	896	50	5.6%	4%	7%	< 0.001	< 0.001	7.13 (4.94 to 10.30)	3.65 (2.76 to 4.83)	-
Gastroschisis	LIC	10	9	90.0%	87%	93%	-	-	-	0.35 (0.27 to 0.46)	0.02 (0.00 to 0.06)
	MIC	304	97	31.9%	28%	36%	< 0.001	-	2.82 (2.17 to 3.67)	-	0.05 (0.01 to 0.18)
	HIC	139	2	1.4%	0%	5%	< 0.001	< 0.001	62.55 (15.56 to 251.47)	22.18 (5.55 to 88.65)	-
Congenital diaphragmatic hernia	LIC	1	0	0.0%	-	-	-	-	-	-	-
	MIC	299	115	38.5%	34%	43%	-	-	-	-	0.37 (0.24 to 0.56)
	HIC	148	21	14.2%	11%	17%	-	< 0.001	-	2.71 (1.78 to 4.13)	-
Oesophageal atresia	LIC	7	6	85.7%	83%	89%	-	-	-	0.34 (0.24 to 0.48)	0.08 (0.04 to 0.16)
	MIC	412	121	29.4%	26%	33%	0.04	-	2.92 (2.08 to 4.09)	-	0.24 (0.13 to 0.45)
	HIC	141	10	7.1%	5%	9%	< 0.001	< 0.001	12.09 (6.19 to 23.61)	4.14 (2.24 to 7.67)	-
Intestinal atresia	LIC	20	12	60.0%	56%	64%	-	-	-	0.36 (0.24 to 0.53)	0.05 (0.02 to 0.14)
	MIC	509	109	21.4%	18%	24%	< 0.001	-	2.80 (1.89 to 4.16)	-	0.15 (0.06 to 0.37)
	HIC	152	5	3.3%	1%	8%	< 0.001	< 0.001	18.24 (7.17 to 46.38)	6.51 (2.71 to 15.66)	-
Anorectal malformation	LIC	25	5	20.0%	7%	41%	-	-	-	0.60 (0.27 to 1.35)	0.08 (0.02 to 0.33)
	MIC	788	95	12.1%	10%	14%	0.219	-	1.66 (0.74 to 3.72)	-	0.14 (0.04 to 0.44)
	HIC	178	3	1.7%	0%	5%	0.001	< 0.001	11.87 (3.02 to 46.64)	7.15 (2.29 to 22.32)	-
Hirschsprung's Disease‡	LIC	17	2	11.8%	1%	36%	-	-	-	0.56 (0.15 to 2.18)	0.16 (0.02 to 1.05)
	MIC	393	26	6.6%	4%	9%	0.326	-	1.78 (0.46 to 6.89)	-	0.28 (0.07 to 1.17)
	HIC	107	2	1.9%	0%	7%	0.09	0.06	6.29 (0.95 to 41.75)	3.54 (0.85 to 14.68)	-
Exomphalos/ Omphalocele‡	LIC	14	4	28.6%	8%	58%	-	-	-	0.71 (0.30 to 1.69)	0.60 (0.23 to 1.59)
	MIC	241	49	20.3%	16%	25%	0.498	-	1.41 (0.59 to 3.34)	-	0.84 (0.48 to 1.49)
	HIC	70	12	17.1%	13%	21%	0.454	0.554	1.67 (0.63 to 4.42)	1.19 (0.67 to 2.10)	-

Supplementary table 9: All-cause in hospital mortality rates for all patients and by condition

\*Wald confidence interval for a proportion formula used when n>5; Exact binomial confidence intervals used when  $n\le5$ . †Chi-squared test for n>5 and Fishers exact test for  $n\le5$ . ‡For Hirschsprung's disease there was no significant difference in mortality between LMIC (28/410, 6.8%) and HIC (2/107, 1.9%), p=0.0611. For exomphalos there was no significant difference between LMIC (53/255, 20.8%) and HIC (12/70, 17.1%), p=0.5000. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. LMIC: Low- and middle-income countries. MIC: Middle-income countries. N: Total number of patients. RR: Risk ratio.

#### Supplementary Table 10: Univariable analysis of factors affecting mortality for all patients and by country income status (high-income or low- and middle-income)

	All (N=3849)							HIC (N=896)								LMIC (N=2953)						
	Ν	Die	ed (%)	RR	95%	6 CI	P-	N	Die	ed (%)	RR	959	% CI	P-	Ν	Died (%)		RR	95% CI		Р-	
							value							value							value	
Sex:																						
Male	2231	375	(17%)	base	-	-	-	528	29	(5%)	base	-	-	-	1703	346	(20%)	base	-	-	-	
Female	1596	284	(18%)	1.06	0.92	1.22	0.43	367	21	(6%)	1.04	0.60	1.80	0.88	1229	263	(21%)	1.05	0.91	1.21	0.48	
Ambiguous	21	10	(48%)	2.83	1.79	4.48	<0.001	1*	0*	(0%)	-	-	-	-	20	10	(50%)	2.46	1.57	3.85	<0.001	
Gestational age at birth:	3846	-	-	0.91	0.89	0.93	<0.001	896	-	-	0.81	0.76	0.88	<0.001	2913	-	-	0.91	0.89	0.93	<0.001	
Age at presentation (in hours):	3838	-	-	1.00	1.00	1.00	0.01	893	-	-	0.98	0.94	1.02	0.34	2944	-	-	1.00	1.00	1.00	0.01	
Weight at presentation (kg):	3840	-	-	0.53	0.47	0.59	<0.001	894	-	-	0.33	0.23	0.48	<0.001	2946	-	-	0.56	0.50	0.63	<0.001	
Does the patient have another anomaly or another study condition?																						
No	2071	267	(13%)	base	-	-	-	448	8	(2%)	base	-	-	-	1623	259	(16%)	base	-	-	-	
Yes	1778	403	(23%)	1.76	1.53	2.02	<0.001	448	42	(9%)	5.25	2.49	11.06	<0.001	1330	361	(27%)	1.70	0.14	0.18	<0.001	
Antenatal diagnosis?																						
No: either no ultrasound or ultrasound with no problem identified	2503	419	(17%)	base	-	-	-	387	7	(2%)	base	-	-	-	2116	412	(19%)	base	-	-	-	
Yes: study condition diagnosed or problem identify	1338	250	(19%)	1.12	0.97	1.29	0.13	506	43	(8%)	4.70	2.14	10.33	<0.001	832	207	(25%)	1.28	1.10	1.48	0.001	
Distance from the patient's home to the study centre (km):	3844	-	-	1.00	1.00	1.00	0.03	896	-	-	0.99	0.99	1.00	0.19	2948	-	-	1.00	1.00	1.00	0.01	
Born at the study centre?																						
No	2833	497	(18%)	base	-	-	-	504	14	(3%)	base	-	-	-	2329	483	(21%)	base	-	-	-	
Yes	1011	173	(17%)	0.98	0.83	1.14	0.76	391	36	(9%)	3.31	1.81	6.06	<0.001	620	137	(22%)	1.07	0.90	1.26	0.46	
Type of delivery:																						
Vaginal (spontaneous)	1767	333	(19%)	base	-	-	-	373	19	(5%)	base	-	-	-	1394	314	(23%)	base	-	-	-	
Vaginal (induced)	194	16	(8%)	0.44	0.22	0.71	<0.001	97	2	(2%)	0.41	0.10	1.71	0.22	97	14	(14%)	0.64	0.39	1.05	0.08	
Caesarean section (elective)	1022	150	(15%)	0.78	0.62	0.93	0.01	185	9	(5%)	0.96	0.44	2.07	0.91	837	141	(17%)	0.75	0.63	0.89	0.001	
Caesarean section (urgent/non-elective)	825	169	(20%)	1.09	0.92	1.28	0.32	226	20	(9%)	1.74	0.95	3.18	0.07	599	149	(25%)	1.10	0.93	1.31	0.25	
Was the patient septic on arrival to your hospital?																						
No	3187	428	(13%)	base	-	-	-	857	47	(5%)	base	-	-	-	2330	381	(16%)	base	-	-	-	
Yes	659	242	(37%)	2.73	2.39	3.12	<0.001	38	3	(8%)	1.44	0.47	4.42	0.52	621	239	(38%)	2.35	2.06	2.69	<0.001	
Was the patient hypothermic and/or hypovolaemic on arrival to your hospital?																						
No	3112	402	(13%)	base	-	-	-	797	34	(4%)	base	-	-	-	2315	368	(16%)	base	-	-	-	
Yes	737	268	(36%)	2.82	2.47	3.21	<0.001	99	16	(16%)	3.79	2.17	6.61	<0.001	638	252	(39%)	2.48	2.17	2.84	<0.001	
Did the patient receive an umbilical vein catheter?																						
No	3447	557	(16%)	base		-		743	27	(4%)	base		-	-	2704	530	(20%)	base		-	-	
Yes	402	113	(28%)	1.74	1.46	2.07	<0.001	153	23	(15%)	4.14	2.44	7.02	<0.001	249	90	(36%)	1.84	1.54	2.21	<0.001	
Did the patient receive a peripherally inserted central catheter (PICC)?			(*****						•													
No	2729	552	(20%)	base	-	-	-	460	30	(7%)	base	-	-	-	2269	522	(23%)	base	-	-	-	
Yes	1120	118	(11%)	0.52	0.43	0.63	<0.001	436	20	(5%)	0.70	0.41	1.22	0.21	684	98	(14%)	0.62	0.51	0.76	<0.001	
Did the patient receive a percutaneously inserted direct central line?	2424	(20)	(100()					700	40	((0))					0705		(220)()					
No	3434	629	(18%)	base	-	-	-	709	40	(6%)	base	-	-	-	2725	589	(22%)	base	-	-	-	
Yes	415	41	(10%)	0.54	0.40	0.73	<0.001	187	10	(5%)	0.95	0.48	1.86	0.88	228	31	(14%)	0.63	0.45	0.88	0.01	
Did the patient receive a surgically placed direct central line?	2505	(15	(170/)	1				960	40	((0))	h				2726	5//	(210/)	1				
No	3595	615	(17%)	base	-	-	-	869	49	(6%)	base	-	-	-	2726	566	(21%)	base	-	-	-	
Yes	254	55	(22%)	1.00	0.99	1.62	0.06	27 826	1	(4%)	0.66	0.09 1.00	4·59 1·00	0.67	227	54	(24%)	1.15	0.90	1.46	0·28 0·02	
Time from arrival at study centre to primary intervention (hours)†	3432	-	-	1.00	1.00	1.00	0.02	826	-	-	1.00	1.00	1.00	0.65	2606	-	-	1.00	1.00	1.00	0.07	
American Society of Anesthesiologists (ASA) Score at the time of primary															1							
intervention:	1072	146	(00/)	1				275	4	(10/)	h				1400	1.42	(00/)	1				
1 or 2 3	1873	146	(8%)	base	1.02	-	-	375	4	(1%)	base	-	- 0.50	-	1498	142	(9%)	base	2.05	-	-	
-	1046	183	(17%)	2.24	1.83	2.75	<0.001	316‡	9‡	(3%)	2.67	0.83	8·59	0.10	730	174	(24%)	2.51	2.05	3.08	<0.001	
4 or 5	526	195	(37%)	4.76	3.93	5.76	<0.001	137‡	19‡	(14%)	13.00	4.50	37.56	<0.001	389	176	(45%)	4.77	3.94	5.78	<0.001	
N/A: no intervention	395	144	(36%)	4.68	3.82	5.73	<0.001	62	18	(29%)	27.22	9.52	77.79	<0.001	333	126	(38%)	3.99	3.24	4.92	<0.001	
What type of anaesthesia was used for the primary intervention?	2154	444	(1.40/)	1				7728	248	(20/)	1				2282	420	(100/)	1				
General anaesthesia with endotracheal tube or laryngeal airway	3154	444	(14%)	base	0.82	-	- 0.57	772§	24§	(3%)	base	-	-	-	2382	420	(18%)	base	0.72	-	- 0.89	
No general anaesthesia	301	46	(15%)	1.09	0.82	1.44	0.57	69§	6§	(9%)	2.80	1.19	6.61	0.05	232	40	(17%)	0.98	0.73	1.31	0.88	

Matchesistic inclusions         Matchesistic i	N/A: no surgery or primary intervention undertaken.	392	179	(46%)	3.24	2.83	3.72	<0.001	55§	20§	(36%)	11.62	6.86	19.68	<0.001	337	159	(47%)	2.68	2.32	3.09	<0.001
Amendemic scatter       111       315       33       0470       base       -       -       -       -       -       -       100       100       0.00        0.00<				()			• /=		3	3	(0000)							(1,1-)			• • • •	
Non-standard       11       13       13       13       13       14       2       2       2       2       15       15       14       14       2       15       14		3115	433	(14%)	base	-	-	-	741	22	(3%)	base	-	-	-	2374	411	(17%)	base	-	-	-
Name         Name         Constraint         Since         Since         Constraint				(27%)	1.96	1.45	2.66	<0.001					1.13	8.69	0.03			(37%)	2.15	1.59	2.90	<0.001
Pacha         Pacha <th< td=""><td>No anaesthetic undertaken</td><td></td><td></td><td></td><td>2.38</td><td></td><td></td><td>&lt;0.001</td><td></td><td>24</td><td></td><td></td><td></td><td>12.43</td><td>&lt;0.001</td><td></td><td></td><td></td><td></td><td></td><td></td><td>&lt;0.001</td></th<>	No anaesthetic undertaken				2.38			<0.001		24				12.43	<0.001							<0.001
Pacha         Pacha <th< td=""><td></td><td></td><td></td><td>()</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>()</td><td></td><td></td><td></td><td></td></th<>				()														()				
Non-point for the number of the num		3345	475	(14%)	base	-	-	-	8258	328	(4%)	base	-	-	-	2520	443	(18%)	base	-	-	-
NA: ho surgery or primary intervention underside model primary intervention       310       174       489       189       188       175       189       189       188       175       189       189       188       175       189       180 </td <td>Non-paediatric surgeon</td> <td>140</td> <td>20</td> <td>(14%)</td> <td>1.01</td> <td>0.66</td> <td>1.52</td> <td>0.98</td> <td></td> <td></td> <td>(0%)</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>199</td> <td>20</td> <td>(10%)</td> <td>0.96</td> <td>0.64</td> <td>1.44</td> <td>0.83</td>	Non-paediatric surgeon	140	20	(14%)	1.01	0.66	1.52	0.98			(0%)	-	-	-	-	199	20	(10%)	0.96	0.64	1.44	0.83
Name a general ships Checking used and the time of prime yintervations         Set of the set of the		361	174	(48%)				<0.001				9.47	5.74	15.62	<0.001				2.84		3.27	<0.001
Yes       Y				. ,					0	0	. ,							. ,				
No       No <th< td=""><td></td><td>2569</td><td>275</td><td>(11%)</td><td>base</td><td>-</td><td>-</td><td>-</td><td>747</td><td>25</td><td>(3%)</td><td>base</td><td>-</td><td>-</td><td>-</td><td>1822</td><td>250</td><td>(14%)</td><td>base</td><td>-</td><td>-</td><td>-</td></th<>		2569	275	(11%)	base	-	-	-	747	25	(3%)	base	-	-	-	1822	250	(14%)	base	-	-	-
Cond       Cond	No	693	210	(30%)	2.83	2.41	3.32	<0.001	39	3	(8%)	2.30	0.72	7.29	0.16	654	207	(32%)	2.31	1.96	2.71	<0.001
Cond       Cond	N/A: a conservative primary intervention was undertaken / no surgery undertaken	584	184	(32%)	2.94	2.50	3.47	<0.001	109	22	(20%)	6.03	3.53	10.32	<0.001	475	162	(34%)	2.49	2.10	2.95	<0.001
No. in frequenci.       144       276       179       277       278       1450       No. i       No. i <t< td=""><td>Total duration of antibiotics following primary intervention (days):</td><td>3802</td><td>-</td><td></td><td>0.96</td><td>0.94</td><td>0.97</td><td>&lt;0.001</td><td>887</td><td></td><td>-</td><td>0.96</td><td>0.91</td><td>1.02</td><td>0.19</td><td>2915</td><td>-</td><td></td><td>0.94</td><td>0.93</td><td>0.96</td><td>&lt;0.001</td></t<>	Total duration of antibiotics following primary intervention (days):	3802	-		0.96	0.94	0.97	<0.001	887		-	0.96	0.91	1.02	0.19	2915	-		0.94	0.93	0.96	<0.001
Ye: constrainteded or not constraintede.       134       37       250       248       210       470       149       470       149       470       149       470       149       470       149       470       149       470       149       470       149       470       149       470       149       470       149       149       140	Did the patient receive a blood transfusion?																					
No. it was required but not sequelable.       47       17       130       3. 21       2. 4       47.7       4. 000       9*       1*       11%       3.92       0.92       2.02       1.01       3.02       0.02       1.02 <td>No: not required.</td> <td>2448</td> <td>276</td> <td>(11%)</td> <td>base</td> <td>-</td> <td>-</td> <td>-</td> <td>671</td> <td>19</td> <td>(3%)</td> <td>base</td> <td>-</td> <td>-</td> <td>-</td> <td>1777</td> <td>257</td> <td>(14%)</td> <td>base</td> <td>-</td> <td>-</td> <td>-</td>	No: not required.	2448	276	(11%)	base	-	-	-	671	19	(3%)	base	-	-	-	1777	257	(14%)	base	-	-	-
bid the partial require ventilation?VVV <td>Yes: cross-matched or not cross-matched.</td> <td>1348</td> <td>377</td> <td>(28%)</td> <td>2.48</td> <td>2.16</td> <td>2.85</td> <td>&lt;0.001</td> <td>213</td> <td>30</td> <td>(14%)</td> <td>4.97</td> <td>2.86</td> <td>8.66</td> <td>&lt;0.001</td> <td>1135</td> <td>347</td> <td>(31%)</td> <td>2.11</td> <td>1.83</td> <td>2.44</td> <td>&lt;0.001</td>	Yes: cross-matched or not cross-matched.	1348	377	(28%)	2.48	2.16	2.85	<0.001	213	30	(14%)	4.97	2.86	8.66	<0.001	1135	347	(31%)	2.11	1.83	2.44	<0.001
Did the patient require venilation?NoVV <td>No: it was required but not available.</td> <td>47</td> <td>17</td> <td>(36%)</td> <td>3.21</td> <td>2.16</td> <td>4.77</td> <td>&lt;0.001</td> <td>9*</td> <td>1*</td> <td>(11%)</td> <td>3.92</td> <td>0.59</td> <td>26.27</td> <td>0.16</td> <td>38</td> <td>16</td> <td>(42%)</td> <td>2.91</td> <td>1.97</td> <td>4.30</td> <td>&lt;0.001</td>	No: it was required but not available.	47	17	(36%)	3.21	2.16	4.77	<0.001	9*	1*	(11%)	3.92	0.59	26.27	0.16	38	16	(42%)	2.91	1.97	4.30	<0.001
No       No       Uses       I. J. S.       J.	Did the patient require ventilation?			, í							. /							. /				
Yes. but it was not available       S <t< td=""><td></td><td>1755</td><td>179</td><td>(10%)</td><td>base</td><td>-</td><td>-</td><td>-</td><td>258</td><td>3</td><td>(1%)</td><td>base</td><td>-</td><td>-</td><td>-</td><td>1497</td><td>176</td><td>(12%)</td><td>base</td><td>-</td><td>-</td><td>-</td></t<>		1755	179	(10%)	base	-	-	-	258	3	(1%)	base	-	-	-	1497	176	(12%)	base	-	-	-
bid the patient require partient quirtino? $V = V = V = V = V = V = V = V = V = V =$	Yes and it was given	2008	416	(21%)	2.03	1.73	2.39	<0.001	637	47	(7%)	6.35	1.99	20.23	<0.001	1371	369	(27%)	2.29	1.94	2.70	<0.001
No.       1476       278       (1976)       28       (1976)       50       75 <td></td> <td>85</td> <td>75</td> <td>(88%)</td> <td>8.65</td> <td>7.38</td> <td>10.14</td> <td>&lt;0.001</td> <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>84</td> <td></td> <td></td> <td></td> <td>6.49</td> <td>8.89</td> <td>&lt;0.001</td>		85	75	(88%)	8.65	7.38	10.14	<0.001				-	-	-	-	84				6.49	8.89	<0.001
Yes and it was given212213(125)0.640.550.750.00168336(55)0.800.441450.461419217(155)0.730.200.860.901Ves and it was sometimes available.Uses thit was not ava	Did the patient require parenteral nutrition?																					
Yes and it was sometimes available, but less than required14352 $2363$ $1.93$ $1.52$ $2.46$ $0.001$ $0^{+}$ $    1.43$ $52$ $(36\%)$ $1.73$ $2.22$ $c0.001$ Durnt on fospital stay (days)?* $3541$ $ 0.92$ $0.91$ $0.93$ $0.001$ $757$ $   -$ <	No	1476	278	(19%)	base	-	-	-	212	14	(7%)	base	-	-	-	1264	264	(21%)	base	-	-	-
Yes, but i was not available1258669%3.653.124.286.9010* $\cdot$ <	Yes and it was given	2102	253	(12%)	0.64	0.55	0.75	<0.001	683	36	(5%)	0.80	0.44	1.45	0.46	1419	217	(15%)	0.73	0.62	0.86	<0.001
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Yes and it was sometimes available, but less than required	143	52	(36%)	1.93	1.52	2.46	<0.001	0*	0*	-	-	-	-	-	143	52	(36%)	1.74	1.37	2.22	<0.001
Did the patient have a surgical site infection?       Very association?       Very	Yes, but it was not available	125	86	(69%)	3.65	3.12	4.28	<0.001	0*	0*	-	-	-	-	-	125	86	(69%)	3.29	2.81	3.86	<0.001
No       Yes       Ye	Duration of hospital stay (days):**	3541	-	-	0.92	0.91	0.93	<0.001	757	-	-	0.89	0.86	0.93	<0.001	2784	-	-	0.93	0.91	0.94	<0.001
YesYes33563(19)41.341.051.700.02762 $(3)45$ 0.660.162.720.5725961 $(24)5$ 1.361.701.720.01NA': no surgical wound569193 $(34)6$ 2.422.092.79 $<$ 00019219 $(21)5$ 5.183.088.87 $<$ 0.07477 $(36)5$ 2.101.812.44 $<$ 0001Did the patient have a full thickness wound dehiscence?1022.4 $(24)6$ 1.681.724.00112.98 $(90)6$ $=$ $-$ 2.38 $0.24$ $(24)5$ 1.581.082.18 $0.02$ $0.02$ $0.02$ $0.05$ $0.07$ <td>Did the patient have a surgical site infection?</td> <td></td>	Did the patient have a surgical site infection?																					
NA: no surgical wound       569       193       (34%)       2:42       2:09       2:79       <0-001       92       19       (21%)       5:18       3:03       8:87       <0-001       477       174       (36%)       2:10       1:81       2:44       <0-001         Did the patient have a full thickness wound dehiscence?       3178       445       (14%)       base       -       -       -       2386       415       (17%)       base       -       -       2386       415       (17%)       base       -       -       -       2386       415       (17%)       base       -       -       -       -       2386       415       (17%)       base       -       -       -       -       2386       415       (17%)       base       -       -       -       2386       415       (17%)       base       -       -       -       2386       4100       (17%)       base       -       -       -       238       368       201       4001       117       10       976       2554       001       336       88       26%0       1:61       1:32       1:97       40001       1:41       10       976       1:34       46	No	2942	413	(14%)	base	-	-	-	728	29	(4%)	base	-	-	-	2214	384	(17%)	base	-	-	-
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Yes	335	63	(19%)	1.34	1.05	1.70	0.05	76	2	(3%)	0.66	0.16	2.72	0.57	259	61	(24%)	1.36	1.07	1.72	0.01
NoNo3178445(14%)base $\cdot$ $\cdot$ 722308(4%)base $\cdot$ $\cdot$ 2386415(17%)base $\cdot$ </td <td>N/A: no surgical wound</td> <td>569</td> <td>193</td> <td>(34%)</td> <td>2.42</td> <td>2.09</td> <td>2.79</td> <td>&lt;0.001</td> <td>92</td> <td>19</td> <td>(21%)</td> <td>5.18</td> <td>3.03</td> <td>8.87</td> <td>&lt;0.001</td> <td>477</td> <td>174</td> <td>(36%)</td> <td>2.10</td> <td>1.81</td> <td>2.44</td> <td>&lt;0.001</td>	N/A: no surgical wound	569	193	(34%)	2.42	2.09	2.79	<0.001	92	19	(21%)	5.18	3.03	8.87	<0.001	477	174	(36%)	2.10	1.81	2.44	<0.001
Yes10224 $(24\%)$ $1-68$ $1.17$ $2\cdot41$ $<0\cdot001$ $12$ $0$ $0$ $\cdot$ $\cdot$ $\cdot$ $\cdot$ $\cdot$ $\cdot$ $\cdot$ $0$ $24$ $(27\%)$ $1-53$ $1-08$ $2\cdot18$ $0\cdot02$ NA: no surgical wound56200 $(35\%)$ $2:52$ $2:19$ $2:91$ $<0\cdot001$ $92$ $20$ $(22\%)$ $5.74$ $3.40$ $9.68$ $-0\cdot01$ $474$ $180$ $(38\%)$ $2:18$ $1-89$ $2:52$ $<0\cdot001$ Old he patient require a further unplanned intervention? $345$ $400$ $(13\%)$ base $  728$ $23$ $(3\%)$ base $  2317$ $377$ $(16\%)$ base $    236$ $8.46$ $<0\cdot001$ $236$ $88$ $(26\%)$ $161$ $132$ $1.97$ $<0\cdot001$ NA: no primary intervention undertaken $347$ $171$ $49\%$ $3.75$ $3:26$ $4:32$ $0:001$ $51$ $17$ $(33\%)$ $155$ $6:03$ $8:46$ $<0\cdot001$ $296$ $154$ $(26\%)$ $3:20$ $2:77$ $3:69$ $0:001$ Congenital diaphragmatic hernia $560$ $137$ $(24\%)$ $1:51$ $1:28$ $0:40$ $1:52$ $6:40$ $0:69$ $2:61$ $0:40$ $19$ $127$ $3:69$ $0:01$ Congenital diaphragmatic hernia $681$ $1:26$ $1:97$ $(1:51)$ $1:28$ $0:40$ $1:52$ $5$ $(3\%)$ $0:54$ $0:22$ $1:55$ <	Did the patient have a full thickness wound dehiscence?																					
N/A: no surgical wound566200 $(35\%)$ $2 \cdot 52$ $2 \cdot 19$ $2 \cdot 91$ $< 0 \cdot 001$ $92$ $20$ $5 \cdot 74$ $3 \cdot 40$ $9 \cdot 68$ $< 0 \cdot 001$ $474$ $180$ $(38\%)$ $2 \cdot 18$ $1 \cdot 89$ $2 \cdot 52$ $< 0 \cdot 001$ Did the patient require a further unplanned intervention? $3045$ $400$ $(13\%)$ $base$ $   231$ $377$ $(16\%)$ $base$ $   231$ $377$ $(16\%)$ $base$ $  -$ <td>No</td> <td>3178</td> <td>445</td> <td>(14%)</td> <td>base</td> <td>-</td> <td>-</td> <td>-</td> <td>792§</td> <td>30§</td> <td>(4%)</td> <td>base</td> <td>-</td> <td>-</td> <td>-</td> <td>2386</td> <td>415</td> <td>(17%)</td> <td>base</td> <td>-</td> <td>-</td> <td>-</td>	No	3178	445	(14%)	base	-	-	-	792§	30§	(4%)	base	-	-	-	2386	415	(17%)	base	-	-	-
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Yes	102	24	(24%)	1.68	1.17	2.41	<0.001	12§	0§	(0%)	-	-	-	-	90	24	(27%)	1.53	1.08	2.18	0.02
No <td>N/A: no surgical wound</td> <td>566</td> <td>200</td> <td>(35%)</td> <td>2.52</td> <td>2.19</td> <td>2.91</td> <td>&lt;0.001</td> <td>92§</td> <td>20§</td> <td>(22%)</td> <td>5.74</td> <td>3.40</td> <td>9.68</td> <td>&lt;0.001</td> <td>474</td> <td>180</td> <td>(38%)</td> <td>2.18</td> <td>1.89</td> <td>2.52</td> <td>&lt;0.001</td>	N/A: no surgical wound	566	200	(35%)	2.52	2.19	2.91	<0.001	92§	20§	(22%)	5.74	3.40	9.68	<0.001	474	180	(38%)	2.18	1.89	2.52	<0.001
Yes - percutaneous or surgical intervention $453$ 98 $(22\%)$ $1.65$ $1.35$ $2.01$ $<0.001$ $117$ $10$ $(9\%)$ $2.71$ $1.32$ $5.54$ $0.01$ $336$ $88$ $(26\%)$ $1.61$ $1.32$ $1.97$ $<0.001$ N/A: no primary intervention undertaken $347$ $171$ $(49\%)$ $3.75$ $3.26$ $4.32$ $<0.001$ $51$ $17$ $(33\%)$ $10.55$ $6.03$ $18.46$ $<0.001$ $296$ $154$ $(52\%)$ $3.20$ $2.77$ $3.69$ $<0.001$ Condition $$	Did the patient require a further unplanned intervention?																					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	No	3045	400		base	-	-	-	728			base	-	-	-	2317	377		base	-	-	-
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		453																			1.97	<0.001
Oesophageal atresia       560       137       (24%)       1·51       1·28       1·78       <0·001       141       10       (7%)       1·34       0·69       2·61       0·40       419       127       (30%)       1·56       1·32       1·84       <0·001         Congenital diaphragmatic hernia       448       136       (30%)       1·93       1·65       2·27       <0·001       148       21       (14%)       3·66       2·15       6·24       <0·001       300       115       (38%)       2·01       1·71       2·37       <0·001         Intestinal atresia       681       1/26       (19%)       1·44       1/20       1·37       <0·001       152       5       (3%)       0·54       0·22       1·35       0·19       50       1·31       1·32       1·34       <0·01         Gastroschisis       681       1/26       (19%)       1·47       0·19       70       1/2       (17%)       3·73       2·04       6/80       <0·001       1/25       53       (21%)       0·13       0·42       0·63       0·44       ·0·01       1/78       3       (2%)       0·21       (17%)       3·73       2·04       6/80       <0·001       1/25		347	171	(49%)	3.75	3.26	4.32	<0.001	51	17	(33%)	10.55	6.03	18.46	<0.001	296	154	(52%)	3.20	2.77	3.69	<0.001
Congenital diaphragmatic hernia $448$ $136$ $(30\%)$ $1 \cdot 93$ $1 \cdot 65$ $2 \cdot 27$ $< 0 \cdot 001$ $148$ $21$ $(14\%)$ $3 \cdot 66$ $2 \cdot 15$ $6 \cdot 24$ $< 0 \cdot 001$ $300$ $115$ $(38\%)$ $2 \cdot 01$ $1 \cdot 71$ $2 \cdot 37$ $< 0 \cdot 001$ Intestinal atresia $681$ $126$ $(19\%)$ $1 \cdot 08$ $0 \cdot 90$ $1 \cdot 28$ $0 \cdot 40$ $152$ $5$ $(3\%)$ $0 \cdot 54$ $0 \cdot 22$ $1 \cdot 35$ $0 \cdot 19$ $529$ $121$ $(23\%)$ $1 \cdot 11$ $0 \cdot 93$ $1 \cdot 32$ $0 \cdot 24$ Gastroschisis453 $108$ $(24\%)$ $1 \cdot 44$ $1 \cdot 20$ $1 \cdot 73$ $< 0 \cdot 001$ $139$ $2$ $(1\%)$ $0 \cdot 22$ $0 \cdot 66$ $0 \cdot 92$ $0 \cdot 04$ $314$ $106$ $(34\%)$ $1 \cdot 33$ $1 \cdot 46$ $2 \cdot 06$ $< 0 \cdot 001$ Exomphalos/ Omphalocele $325$ $65$ $(20\%)$ $1 \cdot 16$ $0 \cdot 93$ $1 \cdot 47$ $0 \cdot 19$ $70$ $12$ $(17\%)$ $3 \cdot 73$ $2 \cdot 04$ $6 \cdot 80$ $< 0 \cdot 001$ $255$ $53$ $(21\%)$ $0 \cdot 42$ $0 \cdot 63$ Anorectal malformation $991$ $103$ $(10\%)$ $0 \cdot 52$ $0 \cdot 43$ $0 \cdot 64$ $< 0 \cdot 001$ $178$ $3$ $(2\%)$ $0 \cdot 26$ $0 \cdot 80$ $0 \cdot 82$ $0 \cdot 02$ $813$ $100$ $(12\%)$ $0 \cdot 42$ $0 \cdot 62$ $< 0 \cdot 001$ Hirschsprung's Disease $517$ $30$ $(6\%)$ $0 \cdot 32$ $0 \cdot 43$ $< 0 \cdot 011$ $177$ $2$ $(2\%)$ $0 \cdot 31$ $0 \cdot 8$ <td>Condition</td> <td></td>	Condition																					
Intestinal atresia $681$ $126$ $(19\%)$ $1\cdot08$ $0\cdot90$ $1\cdot28$ $0\cdot40$ $152$ $5$ $(3\%)$ $0\cdot54$ $0\cdot22$ $1\cdot35$ $0\cdot19$ $529$ $121$ $(23\%)$ $1\cdot11$ $0\cdot93$ $1\cdot32$ $0\cdot24$ Gastroschisis453 $108$ $(24\%)$ $1\cdot44$ $1\cdot20$ $1\cdot73$ $<0\cdot001$ $139$ $2$ $(1\%)$ $0\cdot22$ $0\cdot66$ $0\cdot92$ $0\cdot04$ $314$ $106$ $(34\%)$ $1\cdot73$ $1\cdot46$ $2\cdot06$ $<0\cdot001$ Exomphaloc/ele $325$ $65$ $(20\%)$ $1\cdot16$ $0\cdot93$ $1\cdot47$ $0\cdot19$ $70$ $12$ $(17\%)$ $3\cdot73$ $2\cdot04$ $6\cdot80$ $<0\cdot001$ $255$ $53$ $(21\%)$ $0\cdot93$ $1\cdot27$ $0\cdot93$ Anorectal malformation991 $103$ $(10\%)$ $0\cdot52$ $0\cdot43$ $0\cdot64$ $<0\cdot001$ $178$ $3$ $(2\%)$ $0\cdot26$ $0\cdot08$ $0\cdot82$ $0\cdot02$ $813$ $100$ $(12\%)$ $0\cdot42$ $0\cdot62$ $<0\cdot001$ Hirschsprung's Disease $517$ $30$ $(6\%)$ $0\cdot21$ $0\cdot43$ $<0\cdot01$ $177$ $2$ $(2\%)$ $0\cdot31$ $0\cdot08$ $1\cdot25$ $0\cdot10$ $410$ $28$ $(7\%)$ $0\cdot29$ $0\cdot22$ $0\cdot40$ Country income status:HIC $896$ $50$ $(6\%)$ $base$ $                     -$ <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																						
Gastroschisis453108 $(24\%)$ $1\cdot44$ $1\cdot20$ $1\cdot73$ $<0\cdot01$ $139$ $2$ $(1\%)$ $0\cdot22$ $0\cdot06$ $0\cdot92$ $0\cdot04$ $314$ $106$ $(34\%)$ $1\cdot73$ $1\cdot46$ $2\cdot06$ $<0\cdot01$ Exomphalos/Omphalocele32565 $(20\%)$ $1\cdot16$ $0\cdot93$ $1\cdot47$ $0\cdot19$ $70$ $12$ $(17\%)$ $3\cdot73$ $2\cdot04$ $6\cdot80$ $<0\cdot01$ $255$ $53$ $(21\%)$ $0\cdot99$ $0\cdot78$ $1\cdot27$ $0\cdot93$ Anorectal malformation991 $103$ $(10\%)$ $0\cdot52$ $0\cdot43$ $<0\cdot01$ $178$ $3$ $(2\%)$ $0\cdot26$ $0\cdot08$ $0\cdot82$ $0\cdot02$ $813$ $100$ $(12\%)$ $0\cdot42$ $0\cdot62$ $<0\cdot001$ Hirschsprung's Disease $517$ $30$ $(6\%)$ $0\cdot32$ $0\cdot04$ $<0\cdot01$ $177$ $2$ $(2\%)$ $0\cdot31$ $0\cdot08$ $1\cdot25$ $0\cdot10$ $410$ $28$ $(7\%)$ $0\cdot29$ $0\cdot20$ $0\cdot42$ $<0\cdot01$ Country income status:HIC $896$ $50$ $(6\%)$ $base$ $   -$ <td></td> <td></td> <td></td> <td>()</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td>				()					-													
Examplalos/Omphalocele $325$ $65$ $(20\%)$ $1 \cdot 16$ $0 \cdot 93$ $1 \cdot 47$ $0 \cdot 19$ $70$ $12$ $(17\%)$ $3 \cdot 73$ $2 \cdot 04$ $6 \cdot 80$ $< 0 \cdot 001$ $255$ $53$ $(21\%)$ $0 \cdot 99$ $0 \cdot 78$ $1 \cdot 27$ $0 \cdot 93$ Anorectal malformation       991       103 $(10\%)$ $0 \cdot 52$ $0 \cdot 43$ $0 \cdot 64$ $< 0 \cdot 001$ $178$ $3$ $(2\%)$ $0 \cdot 26$ $0 \cdot 08$ $0 \cdot 82$ $0 \cdot 02$ $813$ $100$ $(12\%)$ $0 \cdot 42$ $0 \cdot 64$ $< 0 \cdot 001$ Hirschsprung's Disease $517$ $30$ $(6\%)$ $0 \cdot 30$ $0 \cdot 21$ $0 \cdot 43$ $< 0 \cdot 01$ $107$ $2$ $(2\%)$ $0 \cdot 31$ $0 \cdot 68$ $1 \cdot 25$ $0 \cdot 10$ $(12\%)$ $0 \cdot 42$ $0 \cdot 62$ $< 0 \cdot 01$ Country income status:       HIC       866       50 $(6\%)$ base $                  -$		681		( )						-												
Anorectal malformation       991       103       (10%)       0·52       0·43       0·64       <0·01       178       3       (2%)       0·26       0·08       0·82       0·02       813       100       (12%)       0·51       0·42       0·62       <0·01         Hirschsprung's Disease       517       30       (6%)       0·30       0·21       0·43       <0·001																						
Hirschsprung's Disease       517       30       6%       0·30       0·21       0·43       <001       107       2       (2%)       0·31       0·08       1·25       0·10       410       28       (7%)       0·29       0·20       0·42       <001         Country income status:       HIC       896       50       (6%)       base       - <td></td> <td></td> <td></td> <td>( )</td> <td></td> <td>· · ·</td> <td></td> <td></td> <td></td> <td></td>				( )														· · ·				
Country income status: HIC 896 50 (6%) base				· · ·							· · ·							· · ·				
HIC       896       50       (6%)       base       - <t< td=""><td></td><td>517</td><td>30</td><td>(6%)</td><td>0.30</td><td>0.21</td><td>0.43</td><td>&lt;0.001</td><td>107</td><td>2</td><td>(2%)</td><td>0.31</td><td>0.08</td><td>1.25</td><td>0.10</td><td>410</td><td>28</td><td>(7%)</td><td>0.29</td><td>0.20</td><td>0.42</td><td>&lt;0.001</td></t<>		517	30	(6%)	0.30	0.21	0.43	<0.001	107	2	(2%)	0.31	0.08	1.25	0.10	410	28	(7%)	0.29	0.20	0.42	<0.001
MIC 2860 583 (20%) 3·65 2·76 4·83 <0·001	Country income status:																					
						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LIC 93 37 (40%) 7·13 4·94 10·30 <0·001									-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LIC			( ! )		-		0 0 0 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Category/patients excluded from multivariable analysis due to no or low counts. †Sub-group therefore excluded from multivariable analysis. ‡Categories collapsed for multivariable analysis. §Variable excluded from multivariable analysis due to low or no counts. \*\*Excluded from multivariable analysis due to missing data. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. N/A: Not applicable. RR: Risk Ratio.

# Supplementary Table 11: Univariable analysis of factors affecting mortality for patients with oesophageal atresia

Generic variables	N (total = 560)	Died, n	Died, %	RR	95%	CI	P value
Sex: Male	314	75	24%	Reference			
Female	314 242	75 61	24% 25%	Reference 1.06	- 0·79	- 1·42	- 0·719
Ambiguous*	242 4	1	25% 25%	1.06	0.19	1·42 5·79	0.958
Gestational age at birth:	557	-	-	0.91	0.19	0.94	< <u>0.938</u>
Age at presentation (in hours):	560	-	-	1.00	1.00	1.00	0.001
	558			0.51	0.41	0.64	< <u>0.078</u>
Weight at presentation (kg): Does the patient have another anomaly or another study condition?	338	-	-	0.31	0.41	0.04	<0.001
	190	26	1.40/	Deference		-	
No Yes	370	26 111	14% 30%	Reference 2.19	-		- <0·001
	370	111	30%	2.19	1.48	3.24	<0.001
Antenatal diagnosis?	269	05	260/	Deference			
No: either no ultrasound or ultrasound with no problem identified	368	95 42	26%	Reference	-	-	-
Yes: study condition diagnosed or problem identified	191	42	22%	0.85	0.62	1.17	0.324
Distance from the patients home to the study centre (km):	560	-	-	1.00	1.00	1.00	0.333
Born at the study centre?	100	105	2.50/	D.C			
No	426	105	25%	Reference	-	-	-
Yes	133	32	24%	0.98	0.69	1.38	0.891
Type of delivery:							
Vaginal (spontaneous)	222	56	25%	Reference	-	-	-
Vaginal (induced)	32	4	13%	0.50	0.19	1.28	0.145
Caesarean section (elective)	145	32	22%	0.87	0.60	1.28	0.492
Caesarean section (urgent/non-elective)	157	44	28%	1.11	0.79	0.1.56	0.542
Was the patient septic on arrival to your hospital?							
No	436	81	19%	Reference	-	-	-
Yes	124	56	45%	2.43	1.84	3.20	<0.001
Was the patient hypothermic and/or hypovolaemic on arrival to your hospital?							
No	449	82	18%	Reference			
Yes	111	55	50%	2.71	2.07	3.56	<0.001
Did the patient receive an umbilical vein catheter?	111	55	5070	2 / 1	201	5 50	-0 001
No	486	122	25%	Reference	_	_	_
Yes	74	15	20%	0.81	0.50	1.30	0.380
	/4	15	2070	0.91	0.30	1.20	0.380
Did the patient receive a peripherally inserted central catheter (PICC)?	201	115	200/	D.C			
No	381	115	30%	Reference	-	-	-
Yes	179	22	12%	0.41	0.27	0.62	<0.001
Did the patient receive a percutaneously inserted central line?							
No	468	131	28%	Reference	-	-	-
Yes	92	6	7%	0.23	0.10	0.51	<0.001
Did the patient receive a surgically placed open central line?							
No	500	125	25%	Reference	-	-	-
Yes	60	12	20%	0.80	0.47	1.36	0.408
Time from arrival at study centre to primary intervention (hours) †	498	-	-	1.00	1.00	1.00	0.752
American Society of Anesthesiologists (ASA) Score at the time of primary intervention:							
1 or 2	223	26	12%	Reference	-	-	-
3	166	34	21%	1.76	1.10	2.81	0.019
4 or 5	131	51	39%	3.34	2.19	5.08	<0.001
N/A: no intervention‡	37	26	70%	6.03	3.97	9.15	<0.001
What type of anaesthesia was used for the primary intervention? §	507	05	1.00/	D			
General anaesthesia	507	95	19%	Reference		-	-
No general anaesthesia	4	4	100%	5.34	4.45	6.40	<0.001
N/A: no surgery or primary intervention undertaken	49	38	78%	4.14	3.27	5.24	<0.001
Who undertook the anaesthetic for the primary intervention? §							
Anaesthetic doctor	506	94	19%	Reference	-	-	-
Non-doctor anaesthetist	4	4	100%	5.38	4.48	6.46	<0.001
No anaesthetic undertaken	50	39	78%	4.20	3.32	5.31	<0.001
Who undertook the primary intervention?							
Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room)	508	100	20%	Reference	_	_	_
Non-paediatric surgeon	5	1	20%	1.02	- 0·17	- 5·93	- 0·986
N/A: no surgery or primary intervention undertaken ‡	3 47		20% 77%	3.89	0·17 3·07	3·93 4·93	<0.986 <0.001
Was a Surgical Safaty Checklist used at the time of minory intervention?	+/	36	///0	5 09	3.07	4.23	~0.001
Was a Surgical Safety Checklist used at the time of primary intervention?	400	61	1.407	Def			
Yes	423	61	14%	Reference	-	-	-
No	90	43	48%	3.31	2.41	4.55	<0.001
N/A: a conservative primary intervention was undertaken / no surgery undertaken‡	47	33	70%	4.87	3.61	6.56	<0.001
Total duration of antibiotics following primary intervention (days): †	553	-	-	0.94	0.92	0.97	<0.001
Did the patient receive a blood transfusion?							
No: not required	295	51	17%	Reference	-	-	-
Yes: cross-matched OR not cross-matched	257	82	32%	1.85	1.36	2.51	<0.001
No: it was required but not available *	7	4	57%	3.31	1.66	6.58	0.001
Did the patient require ventilation?			0,70	001	1 00	0.00	5 501
No	71	22	31%	Reference			
					0.47	1.02	0.064
Yes and it was given	475	102	22%	0.69	0.47	1.02	0.064
Yes, but it was not available	14	13	93%	3.00	2.05	4.37	<0.001
Did the patient require parenteral nutrition?			1555				
No	125	59	47%	Reference	-	-	-

Yes and it was given	398	53	13%	0.28	0.21	0.39	<0.001
Yes and it was sometimes available, but less than required **	14	8	57%	1.21	0.74	1.98	0.445
Yes, but it was not available **	23	17	74%	1.57	1.15	2.17	0.004
Time to first feed (days): †	439	-	-	0.96	0.91	1.01	0.092
Time to full feeds (days): †	419	-	-	0.96	0.88	1.04	0.313
Duration of hospital stay (days): ***	503	-	-	0.91	0.89	0.92	<0.001
Did the patient have a surgical site infection?							
No	443	85	19%	Reference	-	-	-
Yes	63	15	24%	1.24	0.77	2.01	0.380
N/A: no surgical wound ‡	54	37	69%	3.57	2.74	4.65	<0.001
Did the patient have a full thickness wound dehiscence? §							
No	497	97	20%	Reference	_	_	_
Yes	7	2	29%	1.46	0.45	4.79	0.529
N/A: no surgical wound	56	38	68%	3.48	2.70	4.48	< <b>0</b> .001
Did the patient require a further unplanned intervention?	50	50	0070	5 40	2 70	4 40	<0.001
	442	89	20%	Deference			
No	443			Reference	-	-	-
Yes - percutaneous or surgical intervention	71	14	20%	0.98	0.59	1.63	0.942
N/A: no primary intervention undertaken ‡	46	34	74%	3.68	2.85	4.74	<0.001
Country income status:		10	<b>5</b> 0 (	D.C			
HIC	141	10	7%	Reference	-	-	-
MIC **	412	121	29%	4.14	2.24	7.67	<0.001
LIC **	7	6	86%	12.09	6.18	23.62	<0.001
Condition specific variables							
Type of OA +/- TOF (Gross classification):							
Distal TOF with proximal OA (type C)	476	123	26%	Reference	-	-	-
Other type (types A,B,D or E)	84	14	17%	0.64	0.39	1.07	0.087
Long or short gap?							
Short	375	57	15%	Reference	-	-	-
Long	111	37	33%	2.19	1.54	3.13	<0.001
Unknown	74	43	58%	3.82	2.81	5.2	<0.001
Pneumonia at presentation?	, .	15	5070	5 02	2 01	52	-0 001
No	374	62	17%	reference	_	_	_
Yes	186	75	40%	2.43	1.83	3.24	<0.001
Did the patient have tracheomalacia?	100	15	4070	2 73	1 05	5 24	<0 001
No	487	125	26%	reference			
Yes	73	123	16%	0.64	-	-	- 0·105
	13	12	10%	0.04	0.37	1.10	0.103
Primary intervention:	205	50	1.50/	c			
Primary oesophageal anastomosis	385	56	15%	reference	-	-	-
No primary oesophageal anastomosis	125	42	34%	2.31	1.63	3.26	<0.001
Palliative care‡	50	39	78%	5.36	4.04	7.12	<0.001
Surgical approach: †							
Open surgery: thoracotomy (muscle cutting or splitting), laparotomy, local incision, cervical	405	87	22%	reference	-	-	-
approach or other							
Minimally invasive approach	95	8	8%	0.39	0.20	0.78	0.008
Not applicable/no intervention/unknown	25	16	64%	2.98	2.10	4.22	<0.001
Condition specific complications:							
Pneumonia							
No	443	94	21%	reference	-	-	-
Yes	117	43	37%	1.73	1.29	2.33	<0.001
Mediastinitis	/						
No	523	118	23%	reference	-	-	-
Yes	37	19	51%	2.28		3.24	- <0·001
Pneumothorax	51	1)	51/0	2 20	1 00	547	-0 001
No	503	123	25%	reference	_	_	_
	505 57		25% 25%		-	- 1·62	- 0·99
Yes	57	14	2370	1.00	0.07	1.07	0.22
Anastomotic leak	407	120	2.407				
No	497	120	24%	reference	-	-	-
Yes	63	17	27%	1.12	0.72	1.73	0.62
Anastomotic stricture							
No	533	136	26%	reference	-	-	-
Yes	27	1	4%	0.12		1.00	0.02

\*Excluded from multivariable analysis due to low counts and inability to combine with another category. †Excluded from multivariable analysis as this variable is a sub-group. ‡N/A groups were not presented on the forest plots. §Excluded from the multivariable analysis due to low counts and inability to collapse categories further. \*\*Category collapsed for the multivariable analysis due to low counts. \*\*\*Excluded from multivariable analysis due to multi

## Supplementary Table 12: Univariable analysis of factors affecting mortality for patients with congenital diaphragmatic hernia

	N (total =	Died, N	Died, %	RR	95% CI		P value
Generic variables	448)						
Sex:							
Male	262	80	31%	Reference	-	-	-
Female	186	56	30%	0.99	0.74	1.31	0.9
Gestational age at birth:	437	-	-	0.92	0.89	0.95	<0.001
Age at presentation (in hours):	446	-	-	0.99	0.99	1.00	0.09
Weight at presentation (kg):	448	-	-	0.59	0.51	0.68	<0.001
Does the patient have another anomaly or another study condition? No	202	38	19%	Reference	_		
Yes	202	38 98	40%	2.12	1.53	2.93	- <0·001
Antenatal diagnosis?	240	20	4070	2 12	1 55	2 93	<0.001
No: either no ultrasound or ultrasound with no problem identified	235	59	25%	Reference	-	_	_
Yes: study condition diagnosed or problem identified	211	77	36%	1.45	1.09	1.93	0.01
Distance from the patients home to the study centre (km):	448	-	-	0.998	0.996	0.999	0.01
Born at the study centre?							
No	282	74	26%	Reference	-	-	-
Yes	165	62	38%	1.43	1.08	1.89	0.01
Type of delivery:							
Vaginal (spontaneous)	190	51	27%	Reference	-	-	-
Vaginal (induced)	33	6	18%	0.68	0.32	1.45	0.32
Caesarean section (elective)	123	42	34%	1.27	0.91	1.79	0.16
Caesarean section (urgent/non-elective)	92	37	40%	1.5	1.06	2.11	0.02
Was the patient septic on arrival to your hospital?							
No	372	97	26%	Reference	-	-	-
Yes	74	39	52%	2.02	1.53	2.66	<0.001
Was the patient hypothermic and/or hypovolaemic on arrival to your							
hospital?	2.62		2.651	D.C			
No	363	94	26%	Reference	-	-	-
Yes	85	42	49%	1.91	1.45	2.52	<0.001
Did the patient receive an umbilical vein catheter?		- 4	2.59/	D (			
No	293	74	25%	Reference	-	-	-
Yes	155	62	40%	1.58	1.20	2.09	0.001
Did the patient receive a peripherally inserted central catheter (PICC)?	200	109	250/	Defense			
No Yes	309	108	35% 20%	Reference	-	- 0·83	- 0·003
Did the patient receive a percutaneously inserted direct central line?	139	28	20%	0.58	0.40	0.83	0.003
No	371	123	33%	Reference			
Yes	77	125	17%	0.51	0.30	- 0.85	- 0·01
Did the patient receive a surgically placed direct central line?	//	15	1//0	0.51	0.50	0.85	0.01
No	419	129	31%	Reference	_	_	_
Yes	29	7	24%	0.78	0.40	1.52	0.47
Time from arrival at study centre to primary intervention (hours)	364	-	-	0.997	0.994	0.999	0.03
American Society of Anesthesiologists (ASA) Score at the time of	50.			0	0 777.	0 , , , ,	0.00
primary intervention:							
1 or 2	114	9	8%	Reference	-	-	-
3	148	34	23%	2.91	1.45	5.82	0.003
4 or 5	119	39	33%	4.15	2.11	8.18	<0.001
N/A: no intervention*	66	54	82%	10.36	5.48	19.61	<0.001
What type of anaesthesia was used for the primary intervention? †							
General anaesthesia with endotracheal tube or laryngeal airway	366	65	18%	Reference	-	-	-
No general anaesthesia	3	1	33%	1.88	0.37	9.46	0.45
N/A: no surgery or primary intervention undertaken.	79	70	89%	4.99	3.95	6.30	<0.001
Who undertook the anaesthetic for the primary intervention? †							
Anaesthetic doctor	367	65	18%	Reference	-	-	-
Non-doctor anaesthetist	1	0	0%	0.00003	3·72e-0	0.0002	<0.001
No anaesthetic undertaken	80	71	89%	5.01	3.96	6.33	<0.001
Who undertook the primary intervention? †	260			D.C			
Paediatric surgeon (or junior with paediatric surgeon assisting/ in the	368	66	100/	Reference	-	-	-
room)	1	0	18%	0.00002	2 70 00	0.0000	-0.004
Non-paediatric surgeon	1	0	0%	0.00003	3·70e-06	0.0002	<0.001
N/A: no surgery or primary intervention undertaken	79	70	89%	4.94	3.91	6.23	<0.001
Was a Surgical Safety Checklist used at the time of primary							
intervention? Yes	304	50	16%	Reference			
Y es No	304 63	50 18	16% 29%	1.74	- 1·09	- 2·77	- 0·02
NO N/A: a conservative primary intervention or no surgery undertaken *	80	68	29% 85%	5.17	3.95	2·77 6·77	<0.02 <0.001
Total duration of antibiotics following primary intervention (days):	443	-		0.92	0.89	0.96	<0.001
Did the patient receive a blood transfusion?	443	-	-	0.92	0.03	0.90	~0.001
No: not required	253	72	28%	Reference	_		
Yes: cross-matched OR not cross-matched	185	72 59	28% 32%	1·12	- 0·84	- 1·49	- 0·44
No: it was required but not available ‡	9	5	56%	1.95	1.05	3.62	0.03
Did the patient require ventilation?			22.4				
No	58	5	9%	Reference	-	-	-
Yes and it was given	387	128	33%	3.84	1.64	8.98	0.002

<b>X7 1</b> <i>i</i> <b>1 1 1</b>		2	1000/	11 (	<b>5</b> 01	26.04	-0.001
Yes, but it was not available ‡	3	3	100%	11.6	5.01	26.84	<0.001
Did the patient require parenteral nutrition?	146	57	200/	D			
No	146	57	39%	Reference	-	-	-
Yes and it was given §	286	73	26%	0.65	0.49	0.87	0.003
Yes and it was sometimes available, but less than required §	13	3	23%	0.59	0.21	1.63	0.31
Yes, but it was not available ‡	3	3	100%	2.56	2.09	3.14	<0.001
Time to first feed (days): **	315	-	-	1.04	0.99	1.1	0.12
Time to full feeds (days): **	315	-	-	1.07	1.01	1.14	0.05
Duration of hospital stay (days): ***	398	-	-	0.89	0.87	0.91	<0.001
Did the patient have a surgical site infection?							
No	346	66	19%	Reference	-	-	-
Yes	25	2	8%	0.42	0.11	1.62	0.21
N/A: no surgical wound *	77	68	88%	4.63	3.67	5.84	<0.001
Did the patient have a full thickness wound dehiscence? †							
No	366	65	18%	Reference	-	-	-
Yes	2	0	0%	5·95e-06	1·46e-06	0.00002	<0.001
N/A: no surgical wound	80	71	89%	0.17	3.95	6.31	<0.001
Did the patient require a further unplanned intervention?							
No	335	58	17%	Reference	-	-	-
Yes - percutaneous or surgical intervention	39	13	33%	1.93	1.17	3.18	0.01
N/A: no primary intervention undertaken *	74	65	88%	5.07	3.95	6.51	<0.001
Country income status:							
HIC	148	21	14%	Reference	-	-	-
MIC §	299	115	38%	2.71	1.78	4.13	<0.001
LIC§	1	0	0%	9.60e-06	1.30e-06	0.00007	<0.001
Type of CDH							
Left posteriolateral (Bochdalek)	316	104	33%	reference	-	-	-
Right posteriolateral (Bochdalek)	69	18					
Other		10	26%	0.79	0.52	1.22	0.29
	63	18			0·52 0·41	$1 \cdot 22$ $1 \cdot 10$	0·29 0·12
Liver position?	63		26% 22%	0.79 0.68			
	63 284						
Liver position?	284	14 69	22% 24%	0.68 reference	0.41	1·10 -	0.12
Liver position? Abdomen Chest		14 69 38	22% 24% 31%	0.68 reference 1.26	0·41 - 0·90	1·10 - 1·76	0·12 - 0·18
Liver position? Abdomen Chest Unknown	284 124	14 69	22% 24%	0.68 reference	0.41	1·10 -	0.12
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)?	284 124 40	14 69 38 29	22% 24% 31% 73%	0.68 reference 1.26 2.98	0·41 - 0·90	1·10 - 1·76	0·12 - 0·18
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No	284 124	14 69 38 29 12	22% 24% 31% 73% 8%	0.68 reference 1.26 2.98 reference	0·41 - 0·90 2·25 -	1·10 - 1·76 3·95	0·12 - 0·18
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes	284 124 40 152	14 69 38 29 12 109	22% 24% 31% 73% 8% 42%	0.68 reference 1.26 2.98 reference 5.33	0·41 - 0·90 2·25 - 3·04	1.10 - 1.76 3.95 - 9.35	0·12 - 0·18 < <b>0·001</b>
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing	284 124 40 152 259	14 69 38 29 12	22% 24% 31% 73% 8%	0.68 reference 1.26 2.98 reference	0·41 - 0·90 2·25 -	1·10 - 1·76 3·95	0·12 - 0·18 <0·001 - <0·001
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention:	284 124 40 152 259 36	14 69 38 29 12 109 15	22% 24% 31% 73% 8% 42% 42%	0.68 reference 1.26 2.98 reference 5.33 5.28	0·41 - 0·90 2·25 - 3·04	1.10 - 1.76 3.95 - 9.35	0·12 - 0·18 <0·001 - <0·001
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures)	284 124 40 152 259 36 43	14 69 38 29 12 109 15 6	22% 24% 31% 73% 8% 42% 42% 42% 20%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference	0.41 - 0.90 2.25 - 3.04 2.71	1·10 - 1·76 3·95 - 9·35 10·29	0·12 - 0·18 <0·001 - <0·001 - -
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures)	284 124 40 152 259 36 43 254	14 69 38 29 12 109 15 6 42	22% 24% 31% 73% 8% 42% 42% 42% 20% 17%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19	0.41 - 0.90 2.25 - 3.04 2.71 - 0.54	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62	0·12 - 0·18 <0·001 - - - 0·001 - 0·68
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair	284 124 40 152 259 36 43 254 66	14 69 38 29 12 109 15 6 42 16	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74	0·41 - 0·90 2·25 - 3·04 2·71 - 0·54 0·74	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09	0·12 - 0·18 <0·001 - <0·001 - - 0·68 0·21
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation *	284 124 40 152 259 36 43 254	14 69 38 29 12 109 15 6 42	22% 24% 31% 73% 8% 42% 42% 42% 20% 17%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19	0.41 - 0.90 2.25 - 3.04 2.71 - 0.54	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62	0·12 - 0·18 <0·001 - - - 0·001 - 0·68
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation *	284 124 40 152 259 36 43 254 66 68	14 69 38 29 12 109 15 6 42 16 65	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85	0·41 - 0·90 2·25 - 3·04 2·71 - 0·54 0·74	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09	0·12 - 0·18 <0·001 - <0·001 - - 0·68 0·21
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation * Surgical approach: ** Laparotomy or thoracotomy	284 124 40 152 259 36 43 254 66 68 289	14 69 38 29 12 109 15 6 42 16 65 60	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96% 21%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85 reference	0·41 - 0·90 2·25 - 3·04 2·71 - 0·54 0·74 3·25 -	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09 14·4 -	0·12 - 0·18 <0·001 - - - 0·001 - 0·68 0·21 <0·001 - - -
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation * Surgical approach: ** Laparotomy or thoracotomy Laparoscopy or thoracoscopy	284 124 40 152 259 36 43 254 66 68 289 70	14 69 38 29 12 109 15 6 42 16 65 60 3	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96% 21% 4%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85 reference 0.20	0·41 0·90 2·25 - 3·04 2·71 - 0·54 0·74 3·25 - 0·07	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09 14·4 - 0·64	0·12 - 0·18 <0·001 - - - 0·001 - 0·68 0·21 <0·001 - 0·006
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation * Surgical approach: ** Laparotomy or thoracotomy Laparoscopy or thoracoscopy N/A, no surgical intervention (n=88) or other approach (n=1)	284 124 40 152 259 36 43 254 66 68 289	14 69 38 29 12 109 15 6 42 16 65 60	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96% 21%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85 reference	0·41 - 0·90 2·25 - 3·04 2·71 - 0·54 0·74 3·25 -	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09 14·4 -	0·12 - 0·18 <0·001 - - - 0·001 - 0·68 0·21 <0·001 - - -
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation * Surgical approach: ** Laparotomy or thoracotomy Laparoscopy or thoracoscopy N/A, no surgical intervention (n=88) or other approach (n=1) Did the patient receive extracorporeal membrane oxygenation	284 124 40 152 259 36 43 254 66 68 289 70	14 69 38 29 12 109 15 6 42 16 65 60 3	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96% 21% 4%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85 reference 0.20	0·41 0·90 2·25 - 3·04 2·71 - 0·54 0·74 3·25 - 0·07	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09 14·4 - 0·64	0·12 - 0·18 <0·001 - - - 0·001 - 0·68 0·21 <0·001 - 0·006
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation * Surgical approach: ** Laparotomy or thoracotomy Laparotomy or thoracotomy Laparoscopy or thoracoscopy N/A, no surgical intervention (n=88) or other approach (n=1) Did the patient receive extracorporeal membrane oxygenation (ECMO)?	284 124 40 152 259 36 43 254 66 66 68 289 70 89	14 69 38 29 12 109 15 6 42 16 65 60 3 73	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96% 21% 4% 82%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85 reference 0.20 3.95	0·41 0·90 2·25 - 3·04 2·71 - 0·54 0·74 3·25 - 0·07	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09 14·4 - 0·64	0·12 - 0·18 <0·001 - - - 0·001 - 0·68 0·21 <0·001 - 0·006
Liver position? Abdomen Chest Unknown Did the patient have pulmonary hypertension (at any stage)? No Yes Unknown or missing Primary intervention: Primary repair (absorbable sutures) Primary repair (non-absorbable sutures) Patch repair Palliation * Surgical approach: ** Laparotomy or thoraccotomy Laparoscopy or thoracoscopy N/A, no surgical intervention (n=88) or other approach (n=1) Did the patient receive extracorporeal membrane oxygenation	284 124 40 152 259 36 43 254 66 68 289 70	14 69 38 29 12 109 15 6 42 16 65 60 3	22% 24% 31% 73% 8% 42% 42% 42% 20% 17% 24% 96% 21% 4%	0.68 reference 1.26 2.98 reference 5.33 5.28 reference 1.19 1.74 6.85 reference 0.20	0·41 0·90 2·25 - 3·04 2·71 - 0·54 0·74 3·25 - 0·07	1·10 - 1·76 3·95 - 9·35 10·29 - 2·62 4·09 14·4 - 0·64	0·12 - 0·18 <0·001 - - - 0·001 - 0·68 0·21 <0·001 - 0·006

\*N/A groups were not presented on the forest plots. †Excluded from the multivariable analysis due to low or no counts and inability to collapse categories. ‡Excluded from multivariable analysis due to low counts. \*\*Excluded from multivariable analysis as this variable is a sub-group. \*\*\*Excluded from multivariable analysis due to low counts. \*\*Excluded from multivariable analysis as this variable is a sub-group. \*\*\*Excluded from multivariable analysis due to missing data. CDH: Congenital diaphragmatic hernia. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. N/A: Not applicable. OA: Oesophageal Atresia. RR: Risk Ratio. TOF: Tracheo-oesophageal fistula.

# Supplementary Table 13: Univariable analysis of factors affecting mortality for patients with intestinal atresia

Sex:       Male       336         Female       343         Ambiguous*       2         Gestational age at birth:       676         Age at presentation (in hours):       680         Weight at presentation (kg):       680         Does the patient have another anomaly or another study condition?       885         No       385         Yes       296         Antenatal diagnosis?       300         No: either no ultrasound or ultrasound with no problem identified       349         Yes:       study condition diagnosed or problem identified       340         Statce from the patients home to the study centre (km):       681         Born at the study centre?       681         No       465         Yes       214         Type of delivery:       20         Cacasarean section (elective)       20         Cacasarean section (urgent/non-elective)       181         Was the patient hypothermic and/or hypovolaemic on arrival to your hospital?       540         Yes       141         Was the patient receive an umbilical vein catheter?       69         No       509       528         Yes       69       101         Did the patient receive a percutane	59         66         1         -         74         52         76         50         -         105         21         71         1         29         25         70         56         69         57         113         103         23	18%         19%         50         -         -         19%         18%         22%         15%         -         23%         10%         21%         5%         20%         14%         13%         40%         14%         33%         18%         19%         25%         9%	Reference         1·09         2·84         0·95         0·52         Reference         0·69         1·00         Reference         0·43         Reference         0·93         0·64         Reference         2·44         Reference         1·02         Reference         0·34	$ \begin{array}{c}     - \\     0.79 \\     0.69 \\     0.90 \\     0.99 \\     0.43 \\     - \\     0.66 \\     \hline     0.50 \\     0.99 \\     \hline     0.27 \\     - \\     0.03 \\     0.63 \\     0.42 \\     \hline     2.27 \\     \hline     1.80 \\     \hline     0.60 \\     \hline     0.22 \\   \end{array} $	- 1.50 11.61 0.99 1.00 0.63 - 1.25 - 0.96 1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71 - 0.52	- 0.57 0.14 0.03 0.15 <0.001 - 0.58 - 0.52 - - - - 0.52 - - - - - - - - - - - - -
Female343 Ambiguous *343 CGestational age at birth:676 Age at presentation (hours):680Weight at presentation (kg):680Does the patient have another anomaly or another study condition? No385Yes296Antenatal diagnosis?7No:681Distance from the patients home to the study centre (km):681Born at the study centre?681No465Yes214Type of delivery:7Vaginal (spontaneous)333Vaginal (induced)20Caesarean section (urgent/non-elective)181Was the patient spetic on arrival to your hospital? No540Yes509Yes509Yes509Yes509Yes612Yes682Did the patient receive an umbilical vein catheter? No612No612Yes682Did the patient receive a peripherally inserted central catheter (PICC)? No413Yes106Did the patient receive a surgically placed direct central line? No621No621Yes106Did the patient receive a surgically placed direct central line? No621Yes106Did the patient receive a surgically placed direct central line? No621Yes106621Yes621Yes621Yes621Yes621Yes<	66 1 - - 74 52 76 50 - 105 21 71 1 29 25 70 56 69 57 113 13 103	19% 50 - - 19% 18% 22% 15% - 23% 10% 21% 5% 20% 14% 13% 40% 14% 33% 18% 19%	1.09 2.84 0.95 0.99 0.52 Reference 0.69 1.00 Reference 0.43 Reference 0.23 0.93 0.64 Reference 3.06 Reference 2.44 Reference 1.02 Reference	0.69 0.90 0.99 0.43 - 0.66 - 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	1.50 11.61 0.99 1.00 0.63 - 1.25 - 0.96 1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71 -	0·14 0·03 0.15 <0·001 - 0·58 - - - - - - - - - - - - -
Ambiguous *2Gestational age at birth:676Age at presentation (in hours):680Weight at presentation (kg):680Does the patient have another anomaly or another study condition?885No385Yes296Antenatal diagnosis?700No: either no ultrasound or ultrasound with no problem identified349Yes: study condition diagnosed or problem identified340Yes: study condition diagnosed or problem identified330Distance from the patients home to the study centre (km):681Born at the study centre?700No465Yes214Type of delivery:700Vaginal (spontaneous)333Vaginal (induced)200Caesarean section (elective)145Caesarean section (elective)145Caesarean section (urgent/non-elective)181Was the patient septic on arrival to your hospital?700No509799Yes720612Yes621Yes208Did the patient receive a peripherally inserted central catheter (PICC)?713No612Yes208Did the patient receive a surgically placed direct central line?601No575755Yes106Did the patient receive a surgically placed direct central line?601No621755Yes106Did the patient receive a surgically placed direct central line? </td <td>1 - - 74 52 76 50 - - 105 21 71 1 29 25 70 56 69 57 113 13 103</td> <td>50 - - - 19% 18% 22% 15% - 23% 10% 21% 5% 20% 14% 13% 40% 14% 33% 18% 19% 25%</td> <td>2.84 0.95 0.99 0.52 Reference 0.91 Reference 0.69 1.00 Reference 0.43 Reference 0.23 0.93 0.64 Reference 3.06 Reference 2.44 Reference 1.02 Reference</td> <td>0.69 0.90 0.99 0.43 - 0.66 - 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -</td> <td>11-61 0-99 1-00 0-63 - 1-25 - 0-96 1-00 - 0-67 - 1-60 1-37 0-98 - 4-13 - 3-31 - 1-71 -</td> <td>0.14 0.03 0.15 &lt;0.001 - 0.58 - 0.02 0.52 - &lt;0.001 - 0.13 0.74 0.04 - - &lt;0.001 - - &lt;0.001 - - - - - - - - - - - - -</td>	1 - - 74 52 76 50 - - 105 21 71 1 29 25 70 56 69 57 113 13 103	50 - - - 19% 18% 22% 15% - 23% 10% 21% 5% 20% 14% 13% 40% 14% 33% 18% 19% 25%	2.84 0.95 0.99 0.52 Reference 0.91 Reference 0.69 1.00 Reference 0.43 Reference 0.23 0.93 0.64 Reference 3.06 Reference 2.44 Reference 1.02 Reference	0.69 0.90 0.99 0.43 - 0.66 - 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	11-61 0-99 1-00 0-63 - 1-25 - 0-96 1-00 - 0-67 - 1-60 1-37 0-98 - 4-13 - 3-31 - 1-71 -	0.14 0.03 0.15 <0.001 - 0.58 - 0.02 0.52 - <0.001 - 0.13 0.74 0.04 - - <0.001 - - <0.001 - - - - - - - - - - - - -
Gestational age at birth:676Age at presentation (in hours):680Weight at presentation (kg):680Does the patient have another anomaly or another study condition?880No385Yes296Antennatal diagnosis?7No: either no ultrasound or ultrasound with no problem identified349Yes: study condition diagnosed or problem identified330Distance from the patients home to the study centre (km):681Born at the study centre?681No465Yes214Type of delivery:7Vaginal (spontaneous)333Vaginal (induced)20Caesarean section (elective)145Caesarean section (elective)145Ves141Was the patient septic on arrival to your hospital?540No540Yes612Yes625Yes172Did the patient receive an umbilical vein catheter?612No612Yes680Did the patient receive a peripherally inserted central catheter (PICC)?413No57575Yes106Did the patient receive a surgically placed direct central line?621No621625Yes106Did the patient receive a surgically placed direct central line?621No621755Yes60Did the patient receive a surgically placed direct central line?643N	- - 74 52 76 50 - 105 21 71 1 29 25 70 56 69 57 113 13 103	- - 19% 18% 22% 15% - 23% 10% 21% 5% 20% 14% 13% 40% 14% 33% 18% 19%	0.95 0.99 0.52 Reference 0.91 Reference 0.69 1.00 Reference 0.43 Reference 0.23 0.93 0.64 Reference 3.06 Reference 2.44 Reference 1.02 Reference	0.90 0.99 0.43 - 0.66 - 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	0.99 1.00 0.63 - 1.25 - 0.96 1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71 -	0.03 0.15 <0.001 - 0.58 - 0.52 - <0.001 - 0.13 0.74 0.04 - <0.001 - <0.001 - <0.001
Age at presentation (in hours):680Weight at presentation (kg):680Does the patient have another anomaly or another study condition?885No385Yes296Antenatal diagnosis?700No: either no ultrasound or ultrasound with no problem identified349Yes: study condition diagnosed or problem identified349Yes: study condition diagnosed or problem identified340Distance from the patients home to the study centre (km):681Born at the study centre?681No465Yes214Type of delivery:20Caesarean section (elective)333Vaginal (induced)20Caesarean section (lective)145Caesarean section (urgent/non-elective)181Was the patient septic on arrival to your hospital?540Yes141Was the patient hypothermic and/or hypovolaemic on arrival to your hospital?509No509509Yes612Yes268Did the patient receive a peripherally inserted central catheter (PICC)?413No575575Yes106Did the patient receive a percutaneously inserted direct central line?575No575575Yes106Did the patient receive a surgically placed direct central line?621No575575Yes106Did the patient receive a surgically placed direct central line?643No<	- 74 52 76 50 - 105 21 71 1 29 25 70 56 69 57 113 13 103	- - 19% 18% 22% 15% - 23% 10% 21% 5% 20% 14% 13% 40% 13% 40% 14% 33% 18% 19%	0·99 0·52 Reference 0·91 Reference 0·69 1·00 Reference 0·43 Reference 0·23 0·93 0·64 Reference 3·06 Reference 2·44 Reference 1·02 Reference	0.99 0.43 - 0.66 - 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	1.00 0.63 - 1.25 - 0.96 1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71	0.15 <0.001 - 0.58 - 0.52 - - - - - - - - - - - - - - - - - - -
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Yes296Antenatal diagnosis?	52 76 50 - 105 21 71 1 29 25 70 56 69 57 113 13 103	18%         22%         15%         -         23%         10%         21%         5%         20%         14%         13%         40%         14%         18%         19%         25%	0·91 Reference 0·69 1·00 Reference 0·43 Reference 0·23 0·93 0·64 Reference 3·06 Reference 2·44 Reference 1·02 Reference	- 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	- 0.96 1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71 -	· • • • • • • • • • • • • • • • • • • •
Antenatal diagnosis?       349         No: either no ultrasound or ultrasound with no problem identified       349         Yes: study condition diagnosed or problem identified       330         Distance from the patients home to the study centre (km):       681         Born at the study centre?       681         No       465         Yes       214         Type of delivery:       7         Vaginal (spontaneous)       333         Vaginal (induced)       20         Caesarean section (elective)       141         Was the patient septic on arrival to your hospital?       7         No       540         Yes       141         Was the patient septic on arrival to your hospital?       7         No       540         Yes       141         Was the patient hypothermic and/or hypovolaemic on arrival to your hospital?       7         No       509         Yes       172         Did the patient receive an umbilical vein catheter?       69         No       612         Yes       268         Did the patient receive a percutaneously inserted cirect central line?       75         No       575         Yes       106	76         50         105         21         71         129         25         70         56         69         57         113         13         103	22% 15% - 23% 10% 21% 5% 20% 14% 13% 40% 14% 33% 18% 19%	Reference         0·69         1·00         Reference         0·43         Reference         0·93         0·64         Reference         3·06         Reference         2·44         Reference         1·02         Reference	- 0.50 0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	- 0.96 1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71 -	· • • • • • • • • • • • • • • • • • • •
No: either no ultrasound or ultrasound with no problem identified349Yes: study condition diagnosed or problem identified330Distance from the patients home to the study centre (km):681Born at the study centre?681No465Yes214Type of delivery:214Vaginal (spontaneous)333Vaginal (induced)20Caesarean section (elective)145Caesarean section (urgent/non-elective)181Was the patient septic on arrival to your hospital?540Yes141Was the patient hypothermic and/or hypovolaemic on arrival to your hospital?509Yes172Did the patient receive an umbilical vein catheter?69No612Yes268Did the patient receive a percutaneously inserted central catheter (PICC)?413Yes268Did the patient receive a surgically placed direct central line?575Yes106Did the patient receive a surgically placed direct central line?621No621433American Society of Anesthesiologists (ASA) Score at the time of643	50 105 21 71 1 29 25 70 56 69 57 113 13 103	15% - 23% 10% 21% 5% 20% 14% 13% 40% 13% 40% 14% 33% 18% 19% 25%	0.69 1.00 Reference 0.43 Reference 0.23 0.93 0.64 Reference 2.44 Reference 2.44 Reference 1.02 Reference	0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	$ \begin{array}{c} 0.96\\ 1.00\\ -\\ 0.67\\ -\\ 1.60\\ 1.37\\ 0.98\\ -\\ 4.13\\ -\\ 3.31\\ -\\ 1.71\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\ -\\$	0.52 - <0.001 - 0.13 0.74 0.04 - <0.001 - <0.001 - - 0.93 -
Yes: study condition diagnosed or problem identified330Distance from the patients home to the study centre (km):681Born at the study centre?681No465Yes214Type of delivery:214Vaginal (spontaneous)333Vaginal (induced)20Caesarean section (elective)145Caesarean section (urgent/non-elective)181Was the patient septic on arrival to your hospital?540Yes141Was the patient septic on arrival to your hospital?509Yes172Did the patient receive an umbilical vein catheter?69Did the patient receive an umbilical vein catheter?69No413Yes268Did the patient receive a percutaneously inserted direct central line?575Yes106Did the patient receive a surgically placed direct central line?621No621505Yes60Time from arrival at study centre to primary intervention (hours) †643American Society of Anesthesiologists (ASA) Score at the time of500	50 105 21 71 1 29 25 70 56 69 57 113 13 103	15% - 23% 10% 21% 5% 20% 14% 13% 40% 13% 40% 14% 33% 18% 19% 25%	1.00         Reference         0.43         Reference         0.23         0.93         0.64         Reference         3.06         Reference         2.44         Reference         1.02         Reference	0.99 - 0.27 - 0.03 0.63 0.42 - 2.27 - 1.80 - 0.60 -	1.00 - 0.67 - 1.60 1.37 0.98 - 4.13 - 3.31 - 1.71 -	0.52 - <0.001 - 0.13 0.74 0.04 - <0.001 - <0.001 - - 0.93 -
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Vaginal (spontaneous)333Vaginal (induced)20Caesarean section (elective)145Caesarean section (urgent/non-elective)181Was the patient septic on arrival to your hospital?540Yes141Was the patient hypothermic and/or hypovolaemic on arrival to your540Yes141Was the patient hypothermic and/or hypovolaemic on arrival to your509Yes172Did the patient receive an umbilical vein catheter?612Yes69Did the patient receive a peripherally inserted central catheter (PICC)?69No413Yes268Did the patient receive a percutaneously inserted direct central line?575Yes106Did the patient receive a surgically placed direct central line?621No62143American Society of Anesthesiologists (ASA) Score at the time of643	1 29 25 70 56 69 57 113 13 103	5% 20% 14% 13% 40% 14% 33% 18% 19% 25%	0.23 0.93 0.64 Reference 3.06 Reference 2.44 Reference 1.02 Reference	0.63 0.42 - 2.27 - 1.80 - 0.60	$ \begin{array}{c} 1.60 \\ 1.37 \\ 0.98 \\ \hline - \\ 4.13 \\ \hline - \\ 3.31 \\ \hline - \\ 1.71 \\ \hline - \\ - \\ \end{array} $	0.74 <b>0.04</b> - < <b>0.001</b> - - - 0.93 -
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Did the patient receive a peripherally inserted central catheter (PICC)?No413Yes268Did the patient receive a percutaneously inserted direct central line?575Yes106Did the patient receive a surgically placed direct central line?621No621Yes60Time from arrival at study centre to primary intervention (hours) †643American Society of Anesthesiologists (ASA) Score at the time of575	103	25%	Reference	-	-	-
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No413Yes268Did the patient receive a percutaneously inserted direct central line?75No575Yes106Did the patient receive a surgically placed direct central line?621Yes60Time from arrival at study centre to primary intervention (hours) †643American Society of Anesthesiologists (ASA) Score at the time of621				0.22	- 0·52	-
Did the patient receive a percutaneously inserted direct central line?       575         Yes       106         Did the patient receive a surgically placed direct central line?       621         Yes       60         Time from arrival at study centre to primary intervention (hours) †       643         American Society of Anesthesiologists (ASA) Score at the time of       643	23	9%	0.34	0.22	0.52	-0.004
Did the patient receive a percutaneously inserted direct central line?       575         Yes       106         Did the patient receive a surgically placed direct central line?       621         Yes       60         Time from arrival at study centre to primary intervention (hours) †       643         American Society of Anesthesiologists (ASA) Score at the time of       643					· · · ·	<0.001
No575Yes106Did the patient receive a surgically placed direct central line?621No621Yes60Time from arrival at study centre to primary intervention (hours) †643American Society of Anesthesiologists (ASA) Score at the time of643						
Did the patient receive a surgically placed direct central line?621No621Yes60Time from arrival at study centre to primary intervention (hours) †643American Society of Anesthesiologists (ASA) Score at the time of643	120	21%	Reference	-	-	-
No Yes621 60Time from arrival at study centre to primary intervention (hours) † American Society of Anesthesiologists (ASA) Score at the time of643	6	6%	0.27	0.12	0.59	0.001
No Yes621 60Time from arrival at study centre to primary intervention (hours) † American Society of Anesthesiologists (ASA) Score at the time of643						
Time from arrival at study centre to primary intervention (hours) †       643         American Society of Anesthesiologists (ASA) Score at the time of	109	18%	Reference	-	-	-
American Society of Anesthesiologists (ASA) Score at the time of	17	28%	1.61	1.04	2.49	0.03
American Society of Anesthesiologists (ASA) Score at the time of		0%	1.001	1.0003	1.0026	0.008
1 or 2 319	39	12%	Reference	-	-	-
3 239	41	17%	1.40	0.93	2.10	0.1
4 or 5 97	30	31%	2.52	1.66	3.84	<0.001
N/A: no intervention ‡ 24	16	67%	5.45	3.62	8.20	<0.001
What type of anaesthesia was used for the primary intervention? §						
General anaesthesia with endotracheal tube or laryngeal airway 659	112	17%	Reference	-	-	-
No general anaesthesia 5	0	0%	4·51e-06	1.84e-06	0.00001	<0.001
N/A: no surgery or primary intervention undertaken. 17	14	82%	4.84	3.67	6.39	<0.001
Who undertook the anaesthetic for the primary intervention?						
Anaesthetic doctor 646	107	17%	Reference	-	-	-
Non-doctor anaesthetist 15	5	33%	2.01	0.96	4.20	0.06
No anaesthetic undertaken ‡ 20	14	70%	4.22	3.02	5.90	<0.001
Who undertook the primary intervention?						0.001
Paediatric surgeon (or junior with paediatric surgeon assisting/ in the 654	110		Reference	_	-	-
room)		17%				
Non-paediatric surgeon 11	3	27%	1.62	0.60	4.32	0.33
N/A: no surgery or primary intervention undertaken ‡ 16	13	81%	4.83	3.61	6.46	<0.001
Was a Surgical Safety Checklist used at the time of primary intervention?		01/0	. 00	0.01	0.0	0.001
Yes 530	59	11%	Reference	-	-	-
No 134	55	41%	3.68	2.69	5.05	<0.001
N/A: a conservative primary intervention was undertaken / no surgery 17	12	11/0	6.34	4.29	9·36	<0.001
undertaken	14	71%	5 54	7 27	2.50	-0 001
Total duration of antibiotics following primary intervention (days): † 671	-	-	0.97	0.95	1.002	0.07
Did the patient receive a blood transfusion?			0 71	0 75	1 002	0.07
No: not required 322	32	10%	Reference	_		_
Yes: cross-matched OR not cross-matched 354	52 93	26%	2.64	1.82	3.83	- <0·001
No: it was required but not available * 5	93 1	20%	2·04 2·01	0.33	11.99	<b>&lt;0.001</b> 0.44
Did the patient require ventilation?	1	2070	2 01	0.35	11 77	0 44
No 290		21%	Reference	_	-	-

¥7 11. 1	270	10	100/	0.64	0.45	0.00	0.01
Yes and it was given	370	49	13%	0.64	0.45	0.90	0.01
Yes, but it was not available	21	17	81%	3.91	2.87	5.31	<0.001
Did the patient require parenteral nutrition?	100	20	200/	D.C			
No	106	30	28%	Reference	-	-	-
Yes and it was given	490	46	9%	0.33	0.22	0.49	<0.001
Yes and it was sometimes available, but less than required	37	19	51%	1.81	1.17	2.80	0.007
Yes, but it was not available	48	31	65%	2.28	1.57	3.29	<0.001
Time to first feed (days): †	575	-	-	0.99	0.94	1.04	0.72
Time to full feeds (days): †	544	-	-	1.00	0.94	1.07	0.86
Duration of hospital stay (days): **	603	-	-	0.91	0.89	0.93	<0.001
Did the patient have a surgical site infection?			-				
No	586	94	16%	Reference	-	-	-
Yes	71	17	24%	1.49	0.94	2.35	0.08
N/A: no surgical wound ‡	24	15	63%	3.89	2.71	5.59	<0.001
Did the patient have a full thickness wound dehiscence?							
No	639	106	17%	Reference	-	-	-
Yes	17	5	29%	1.77	0.83	3.78	0.13
N/A: no surgical wound ‡	25	15	60%	3.61	2.51	5.20	<0.001
Did the patient require a further unplanned intervention?							
No	552	81	15%	Reference	-	-	-
Yes - percutaneous or surgical intervention	107	29	27%	1.84	1.27	2.67	0.001
N/A: no primary intervention undertaken ‡	22	16	73%	4.95	3.57	6.86	<0.001
Country income status:							
HIC	152	5	3%	Reference	-	-	-
MIC ***	509	109	21%	6.51	2.70	15.67	<0.001
LIC ***	20	12	60%	18.24	7.16	46.41	<0.001
Condition specific variables Type of intestinal atresia?				_			
Duodenal	279	44	16%	reference	-	-	-
Jejuno-ileal	369	77	21%	1.32	0.95	1.85	0.10
Colonic	31	5	16%	1.02			
Surgical approach: †			1070	1 02	0.44	2.39	0.96
Lanaratamy					0.44	2.39	
Laparotomy	550	98	18%	reference	-	-	0.96
Laparoscopy or endoscopy	550 36	98 1					
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency?	36	1	18% 3%	reference 0·16	-	- 1·09	0.96 - 0.06
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No	36 89	1 12	18% 3% 14%	reference 0·16 reference	- 0·02 -	- 1·09 -	0·96 - 0·06 -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes	36 89 442	1 12 72	18% 3% 14% 16%	reference 0·16 reference 1·21	- 0·02 - 0·68	1.09 2.13	0.96 - 0.06 - 0.51
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡	36 89	1 12	18% 3% 14%	reference 0·16 reference	- 0·02 -	- 1·09 -	0·96 - 0·06 -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak	36 89 442 150	1 12 72 42	18% 3% 14% 16% 28%	reference 0·16 reference 1·21 2·08	- 0·02 - 0·68	1.09 2.13	0.96 - 0.06 - 0.51
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No	36 89 442 150 624	1 12 72 42 93	18% 3% 14% 16% 28%	reference 0·16 reference 1·21 2·08 reference	0.02 - 0.68 1.16	1.09 2.13 3.73	0.96 - 0.06 - 0.51 0.02
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes	36 89 442 150	1 12 72 42	18% 3% 14% 16% 28%	reference 0·16 reference 1·21 2·08	- 0·02 - 0·68	1.09 2.13	0.96 - 0.06 - 0.51
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis	36 89 442 150 624 57	1 12 72 42 93 33	18% 3% 14% 16% 28% 15% 58%	reference 0·16 reference 1·21 2·08 reference 3·88	0.02 - 0.68 1.16	1.09 2.13 3.73	0.96 - 0.06 - 0.51 0.02
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No	36 89 442 150 624 57 662	1 12 72 42 93 33 122	18% 3% 14% 16% 28% 15% 58% 18%	reference 0·16 reference 1·21 2·08 reference 3·88 reference	0.02 0.68 1.16 2.91	- 1.09 - 2.13 3.73 - 5.19 -	0.96 - 0.06 - 0.51 0.02 - - - -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No Yes	36 89 442 150 624 57	1 12 72 42 93 33	18% 3% 14% 16% 28% 15% 58%	reference 0·16 reference 1·21 2·08 reference 3·88	0.02 - 0.68 1.16	1.09 2.13 3.73	0.96 - 0.06 - 0.51 0.02
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No Yes Short-gut	36 89 442 150 624 57 662 19	1 12 72 42 93 33 122 4	18% 3% 14% 16% 28% 15% 58% 18% 21%	reference 0·16 reference 1·21 2·08 reference 3·88 reference 1·14	0.02 0.68 1.16 2.91	- 1.09 - 2.13 3.73 - 5.19 -	0.96 - 0.06 - 0.51 0.02 - - - -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No Yes Short-gut No	36 89 442 150 624 57 662 19 655	1 12 72 42 93 33 122 4 116	18% 3% 14% 16% 28% 15% 58% 18% 21% 18%	reference 0·16 reference 1·21 2·08 reference 3·88 reference 1·14 reference	0.02 0.68 1.16 2.91 - 0.47	1.09 2.13 3.73 5.19 2.77	0.96 - 0.06 - 0.51 0.02 - - - 0.77 -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No Yes Short-gut No Yes	36 89 442 150 624 57 662 19	1 12 72 42 93 33 122 4	18% 3% 14% 16% 28% 15% 58% 18% 21%	reference 0·16 reference 1·21 2·08 reference 3·88 reference 1·14	0.02 0.68 1.16 2.91	- 1.09 - 2.13 3.73 - 5.19 -	0.96 - 0.06 - 0.51 0.02 - - - -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No Yes Short-gut No Yes Adhesive bowel obstruction	36 89 442 150 624 57 662 19 655 26	1 12 72 42 93 33 122 4 116 10	18% 3% 14% 16% 28% 15% 58% 18% 21% 18% 39%	reference 1·21 2·08 reference 3·88 reference 1·14 reference 2·17	0.02 0.68 1.16 2.91 - 0.47	1.09 2.13 3.73 5.19 2.77	0.96 - 0.06 - 0.51 0.02 - - - 0.77 -
Laparoscopy or endoscopy Was the distal bowel flushed to check for patency? No Yes N/A ‡ Condition specific complications within 30-days of primary intervention: Anastomotic leak No Yes Anastomotic stenosis No Yes Short-gut No Yes	36 89 442 150 624 57 662 19 655	1 12 72 42 93 33 122 4 116	18% 3% 14% 16% 28% 15% 58% 18% 21% 18%	reference 0·16 reference 1·21 2·08 reference 3·88 reference 1·14 reference	0.02 0.68 1.16 2.91 - 0.47	1.09 2.13 3.73 5.19 2.77	0.96 - 0.06 - 0.51 0.02 - - - 0.77 -

\*Excluded from multivariable analysis due to low counts and inability to combine with another category. †Excluded from multivariable analysis as this variable is a sub-group. ‡N/A groups were not presented on the forest plots. §Excluded from the multivariable analysis due to low or no counts and inability to collapse categories. \*\*Excluded from multivariable analysis due to missing data. \*\*\*Category collapsed for the multivariable analysis due to low counts. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. N/A: Not applicable. RR: Risk Ratio.

# Supplementary Table 14: Univariable analysis of factors affecting mortality for patients with gastroschisis

Generic variables	N (total =453)	Died, N	Died, %	RR	95% CI		P value
Sex: Male	232	55	24%	Reference	-	-	-
Female	221	53	24%	1.01	0.72	1.40	0.94
Gestational age at birth:	451	-	-	1.06	0.96	1.17	0.19
Age at presentation (in hours):	453	-	-	0.99	0.99	1.00	0.15
Weight at presentation (kg):	452	-	-	0.55	0.38	0.77	0.001
Does the patient have another anomaly or another study condition?	225	77	2.40/	D			
No Yes	325 128	77 31	24% 24%	Reference 1.02	- 0·71	- 1·47	- 0·90
Antenatal diagnosis?	128	51	24%	1.02	0.11	1.4/	0.90
No: either no ultrasound or ultrasound with no problem identified	155	76	49%	Reference	_	_	_
Yes: study condition diagnosed or problem identified	298	32	11%	0.21	0.15	0.31	<0.001
Distance from the patients home to the study centre (km):	453	-	-	1.00	0.99	1.00	0.24
Born at the study centre?							
No	209	88	42%	Reference	-	-	-
Yes	244	20	8%	0.19	0.12	0.30	<0.001
Type of delivery:							
Vaginal (spontaneous)	176	68	39%	Reference	-	-	-
Vaginal (induced)	26	1	4%	0.09	0.01	0.68	0.05
Caesarean section (elective)	123	18	15%	0.37	0.23	0.60	<0.001
Caesarean section (urgent/non-elective)	128	21	16%	0.42	0.27	0.65	<0.001
Was the patient septic on arrival to your hospital?							
No	390	68	17%	Reference	-	-	-
Yes	62	40	65%	3.70	2.78	4.91	<0.001
Was the patient hypothermic and/or hypovolaemic on arrival to your							
hospital?							
No	324	47	15%	Reference	-	-	-
Yes	129	61	47%	3.25	2.36	4.49	<0.001
Did the patient receive an umbilical vein catheter? *	100						
No	439	103	23%	Reference		-	-
Yes	14	5	36%	1.52	0.73	3.13	0.25
Did the patient receive a peripherally inserted central catheter (PICC)?	222	0.0	100/	D.C			
No	222	88	40%	Reference	-	-	-
Yes	231	20	9%	0.21	0.13	0.34	<0.001
Did the patient receive a percutaneously inserted direct central line?	202	102	270/	D			
No	383	102	27%	Reference	-	-	-
Yes Did the notion transition of superior direct control line?	70	6	9%	0.32	0.14	0.70	0.002
Did the patient receive a surgically placed direct central line?	387	96	25%	Reference			
No Yes	66	12	18%	0·73	0.42	- 1·25	0.26
Time from arrival at study centre to primary intervention (hours) †	415	12	0%	1.004	1.0001	1.009	0.20
American Society of Anesthesiologists (ASA) Score at the time of	415		070	1 004	1 0001	1 007	0 04
primary intervention:							
1 or 2	188	28	15%	Reference	_	-	_
3	172	33	19%	1.28	0.81	2.03	0.28
4 or 5	63	36	57%	3.83	2.56	2 03 5·74	0.002
N/A: no intervention	30	11	37%	2.46	1.37	4.40	<0.001
What type of anaesthesia was used for the primary intervention?					- 57		5 001
General anaesthesia with endotracheal tube or laryngeal airway	362	76	21%	Reference	_	-	-
No general anaesthesia	72	19	26%	1.25			0.30
N/A: no surgery or primary intervention undertaken ‡	12						
Who undertook the anaesthetic for the primary intervention?	19	13	68%	3.25			<0.001
who undertook the anaesthetic for the printary intervention:		13	68%				<0.001
Anaesthetic doctor		13 75	68% 22%		-	-	<0·001 -
	19			3.25	- 0·45	- 1·50	<0.001 - 0.54
Anaesthetic doctor	19 337	75	22%	3·25 Reference			-
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡	19 337 54	75 10	22% 19%	3·25 Reference 0·83	0.45	1.50	- 0·54
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? *	19 337 54	75 10 23	22% 19% 37%	3·25 Reference 0·83	0.45	1.50	- 0·54
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡	19 337 54 62	75 10	22% 19%	3.25 Reference 0.83 1.66	0·45 1·13	1·50 2·44	- 0·54 <b>0·009</b>
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the	19 337 54 62	75 10 23	22% 19% 37%	3.25 Reference 0.83 1.66	0·45 1·13	1·50 2·44	- 0·54 <b>0·009</b>
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room)	19 337 54 62 423	75 10 23 90	22% 19% 37% 21%	3·25 Reference 0·83 1·66 Reference	0·45 1·13	1·50 2·44	- 0·54 <b>0·009</b> -
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon	19 337 54 62 423 17	75 10 23 90 6	22% 19% 37% 21% 35%	3.25 Reference 0.83 1.66 Reference 1.65	0·45 1·13 - 0·84	1.50 2.44 - 3.24	- 0·54 <b>0·009</b> - 0·13
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken	19 337 54 62 423 17	75 10 23 90 6	22% 19% 37% 21% 35%	3.25 Reference 0.83 1.66 Reference 1.65	0·45 1·13 - 0·84	1.50 2.44 - 3.24	- 0·54 <b>0·009</b> - 0·13
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention?	19 337 54 62 423 17 13	75 10 23 90 6 12	22% 19% 37% 21% 35% 92%	3.25 Reference 0.83 1.66 Reference 1.65 4.33	0·45 1·13 - 0·84	1.50 2.44 - 3.24	- 0·54 <b>0·009</b> - 0·13
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes	19 337 54 62 423 17 13 304	75 10 23 90 6 12 43	22% 19% 37% 21% 35% 92% 14%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference	0.45 1.13 - 0.84 3.40 -	1.50 2.44 - 3.24 5.52	- 0·54 0·009 - 0·13 <0·001 -
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No	19 337 54 62 423 17 13 304 92	75 10 23 90 6 12 43 47	22% 19% 37% 21% 35% 92% 14% 51%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61	0.45 1.13 - 0.84 3.40 - 2.56	1.50 2.44 - 3.24 5.52 - 5.08	- 0·54 0·009 - 0·13 <0·001 - <0·001
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): † Did the patient receive a blood transfusion?	19 337 54 62 423 17 13 304 92 57	75 10 23 90 6 12 43 47 18	22% 19% 37% 21% 35% 92% 14% 51% 32%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23	0.45 1.13 - 0.84 3.40 - 2.56 1.39	1.50 2.44 - 3.24 5.52 - 5.08 3.58	- 0.54 0.009 - 0.13 <0.001 - <0.001 0.001
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): †	19 337 54 62 423 17 13 304 92 57	75 10 23 90 6 12 43 47 18	22% 19% 37% 21% 35% 92% 14% 51% 32%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23	0.45 1.13 - 0.84 3.40 - 2.56 1.39	1.50 2.44 - 3.24 5.52 - 5.08 3.58	- 0.54 0.009 - 0.13 <0.001 - <0.001 0.001
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): † Did the patient receive a blood transfusion?	19 337 54 62 423 17 13 304 92 57 447	75 10 23 90 6 12 43 47 18 -	22% 19% 37% 21% 35% 92% 14% 51% 32%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23 0.91	0.45 1.13 - 0.84 3.40 - 2.56 1.39 0.88	1.50 2.44 - 3.24 5.52 - 5.08 3.58 0.95	- 0.54 0.009 - 0.13 <0.001 - <0.001 0.001
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): † Did the patient receive a blood transfusion? No: not required	19         337         54         62         423         17         13         304         92         57         447         254	75 10 23 90 6 12 43 47 18 - 42	22% 19% 37% 21% 35% 92% 14% 51% 32% - 17%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23 0.91 Reference	0.45 1.13 - 0.84 3.40 - 2.56 1.39 0.88 -	1.50 2.44 3.24 5.52 - 5.08 3.58 0.95	- 0.54 0.009 - 0.13 <0.001 - - <0.001 - 0.001 <0.001 -
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): † Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched	19         337         54         62         423         17         13         304         92         57         447         254         190	75 10 23 90 6 12 43 47 18 - 42 62	22% 19% 37% 21% 35% 92% 14% 51% 32% - 17% 33%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23 0.91 Reference 1.97	0.45 1.13 - 0.84 3.40 - 2.56 1.39 0.88 - 1.39	1.50 2.44 - 3.24 5.52 - 5.08 3.58 0.95 - 2.78	- 0.54 0.009 - 0.13 <0.001 - <0.001 0.001 <0.001 - <0.001 - <0.001 - <0.001 - <0.001
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): † Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched No: it was required but not available §	19         337         54         62         423         17         13         304         92         57         447         254         190	75 10 23 90 6 12 43 47 18 - 42 62	22% 19% 37% 21% 35% 92% 14% 51% 32% - 17% 33%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23 0.91 Reference 1.97	0.45 1.13 - 0.84 3.40 - 2.56 1.39 0.88 - 1.39	1.50 2.44 - 3.24 5.52 - 5.08 3.58 0.95 - 2.78	- 0.54 0.009 - 0.13 <0.001 - <0.001 0.001 <0.001 - <0.001
Anaesthetic doctor Non-doctor anaesthetist No anaesthetic undertaken ‡ Who undertook the primary intervention? * Paediatric surgeon (or junior with paediatric surgeon assisting/ in the room) Non-paediatric surgeon N/A: no surgery or primary intervention undertaken Was a Surgical Safety Checklist used at the time of primary intervention? Yes No N/A: a conservative primary intervention or no surgery undertaken ‡ Total duration of antibiotics following primary intervention (days): † Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched No: it was required but not available § Did the patient require ventilation?	19 337 54 62 423 17 13 304 92 57 447 254 190 9	75 10 23 90 6 12 43 47 18 - 42 62 4	22% 19% 37% 21% 35% 92% 14% 51% 32% - 17% 33% 44%	3.25 Reference 0.83 1.66 Reference 1.65 4.33 Reference 3.61 2.23 0.91 Reference 1.97 2.68	0.45 1.13 - 0.84 3.40 - 2.56 1.39 0.88 - 1.39 1.22	1.50 2.44 - 3.24 5.52 - 5.08 3.58 0.95 - 2.78 5.87	- 0.54 0.009 - 0.13 <0.001 - <0.001 0.001 - <0.001 - <0.001 - <0.001 0.001 - <0.001

Did the patient require parenteral nutrition?							
No	55	41	75%	Reference	-	-	-
Yes and it was given	351	31	9%	0.11	0.08	0.17	<0.001
Yes and it was sometimes available, but less than required	21	15	71%	0.95	0.20	1.30	0.78
Yes, but it was not available	26	21	81%	1.08	0.84	1.38	0.51
Time to first feed (days): †	326	-	-	1.01	0.95	1.07	0.69
Time to full feeds (days): †	328	-	-	1.03	0.92	1.14	0.56
Duration of hospital stay (days): **	328	-	-	0.89	0.87	0.90	<0.001
	304	-	-	0.99	0.97	0.90	<0.001
Did the patient have a surgical site infection?	368	72	200/	Defense			
No		73	20%	Reference	-	-	-
Yes	51	13	25%	1.28	0.76	2.14	0.33
N/A: no surgical wound ‡	34	22	65%	3.26	2.36	4.50	<0.001
Did the patient have a full thickness wound dehiscence?	200	-	2004	D (			
No	399	79	20%	Reference	-	-	-
Yes	21	6	29%	1.44	0.71	2.92	0.30
N/A: no surgical wound ‡	33	23	70%	3.52	2.60	4.75	<0.001
Did the patient require a further unplanned intervention?							
No	371	78	21%	Reference	-	-	-
Yes - percutaneous or surgical intervention	63	15	24%	1.13	0.69	1.83	0.61
N/A: no primary intervention undertaken ‡	19	15	79%	3.75	2.76	5.09	<0.001
Country income status:							
HIC	139	2	1%	Reference	-	-	-
MIC ***	304	97	32%	22.17	5.53	88.78	<0.001
LIC ***	10	9	90%	62.55	15.53	251.84	<0.001
Type of Gastroschisis?	240	72	219/	rafaranaa			
Simple	349	72	21%	reference	-	-	-
Complex	104	36	35%				
Primary intervention: *				1.68	1.20	2.35	0.002
	1.66		100/				0.002
Primary closure in the operating room (OR)	166	31	19%	reference	-	-	-
Primary closure at the cotside (Bianchi technique)	32	1	3%	reference 0·17	0.02	- 1·18	- 0·07
	32 146	1 29	3% 20%	reference	-	-	-
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and	32	1	3%	reference 0·17	0.02	- 1·18	- 0·07
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector	32 146	1 29	3% 20%	reference 0·17 1·06	0·02 0·67	- 1·18 1·68	- 0·07 0·79
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo)	32 146 83	1 29 34	3% 20% 41%	reference 0·17 1·06 2·19	0.02 0.67 1.46	1 · 18 1 · 68 3 · 30	- 0·07 0·79 < <b>0·001</b>
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken	32 146 83	1 29 34	3% 20% 41%	reference 0·17 1·06 2·19	0.02 0.67 1.46	1 · 18 1 · 68 3 · 30	- 0·07 0·79 < <b>0·001</b>
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? *	32 146 83 14	1 29 34 12	3% 20% 41% 86%	reference 0·17 1·06 2·19 4·60	0.02 0.67 1.46 3.13	1.18 1.68 3.30 6.73	- 0·07 0·79 < <b>0·001</b>
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures	32 146 83 14 277	1 29 34 12 31	3% 20% 41% 86% 11%	reference 0·17 1·06 2·19 4·60 reference	0.02 0.67 1.46 3.13	1.18 1.68 3.30 6.73	- 0.07 0.79 <0.001 <0.001
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect	32 146 83 14 277 50	1 29 34 12 31 19	3% 20% 41% 86% 11% 38%	reference 0.17 1.06 2.19 4.60 reference 3.40	0.02 0.67 1.46 3.13 - 2.09	1.18 1.68 3.30 6.73 5.52	- 0.07 0.79 <0.001 <0.001 - <0.001
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure N/A	32 146 83 14 277 50 66	1 29 34 12 31 19 6	3% 20% 41% 86% 11% 38% 9%	reference 0.17 1.06 2.19 4.60 reference 3.40 0.81	- 0.02 0.67 1.46 3.13 - 2.09 0.35	- 1 · 18 1 · 68 3 · 30 6 · 73 - 5 · 52 1 · 87	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure	32 146 83 14 277 50 66	1 29 34 12 31 19 6	3% 20% 41% 86% 11% 38% 9%	reference 0.17 1.06 2.19 4.60 reference 3.40 0.81	- 0.02 0.67 1.46 3.13 - 2.09 0.35	- 1 · 18 1 · 68 3 · 30 6 · 73 - 5 · 52 1 · 87	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure N/A Did the neonate have any of these complications within 30-days of	32 146 83 14 277 50 66	1 29 34 12 31 19 6	3% 20% 41% 86% 11% 38% 9%	reference 0.17 1.06 2.19 4.60 reference 3.40 0.81	- 0.02 0.67 1.46 3.13 - 2.09 0.35	- 1 · 18 1 · 68 3 · 30 6 · 73 - 5 · 52 1 · 87	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure N/A Did the neonate have any of these complications within 30-days of primary intervention?	32 146 83 14 277 50 66	1 29 34 12 31 19 6	3% 20% 41% 86% 11% 38% 9%	reference 0.17 1.06 2.19 4.60 reference 3.40 0.81	- 0.02 0.67 1.46 3.13 - 2.09 0.35	- 1 · 18 1 · 68 3 · 30 6 · 73 - 5 · 52 1 · 87	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure N/A Did the neonate have any of these complications within 30-days of primary intervention? Ischemic bowel	32 146 83 14 277 50 66 50	1 29 34 12 31 19 6 48	3% 20% 41% 86% 11% 38% 9% 96%	reference 0·17 1·06 2·19 4·60 reference 3·40 0·81 8·58	- 0.02 0.67 1.46 3.13 - 2.09 0.35	- 1 · 18 1 · 68 3 · 30 6 · 73 - 5 · 52 1 · 87	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure N/A Did the neonate have any of these complications within 30-days of primary intervention? Ischemic bowel No Yes	32 146 83 14 277 50 66 50 427	1 29 34 12 31 19 6 48 90	3% 20% 41% 86% 11% 38% 9% 96% 21%	reference 0.17 1.06 2.19 4.60 reference 3.40 0.81 8.58 reference	0.02 0.67 1.46 3.13 - 2.09 0.35 6.12	1.18 1.68 3.30 6.73 - 5.52 1.87 12.01	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63 <0.001
Primary closure at the cotside (Bianchi technique)         Staged closure using a preformed silo or Alexis Wound Retractor and         Protector         Staged closure using a surgical silo (including improvised silo)         No intervention undertaken         Method of defect closure? *         Fascia and skin closed with sutures         Fascia left open, skin or cord sutured over the defect         Sutureless closure         N/A         Did the neonate have any of these complications within 30-days of         primary intervention?         Ischemic bowel         No         Yes         Abdominal compartment syndrome	32 146 83 14 277 50 66 50 427 26	1 29 34 12 31 19 6 48 90 18	3% 20% 41% 86% 11% 38% 9% 96% 21% 69%	reference 0·17 1·06 2·19 4·60 reference 3·40 0·81 8·58 reference 3·28	0.02 0.67 1.46 3.13 - 2.09 0.35 6.12	1.18 1.68 3.30 6.73 - 5.52 1.87 12.01	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63 <0.001
Primary closure at the cotside (Bianchi technique)         Staged closure using a preformed silo or Alexis Wound Retractor and         Protector         Staged closure using a surgical silo (including improvised silo)         No intervention undertaken         Method of defect closure? *         Fascia and skin closed with sutures         Fascia left open, skin or cord sutured over the defect         Sutureless closure         N/A         Did the neonate have any of these complications within 30-days of         primary intervention?         Ischemic bowel         No         Yes         Abdominal compartment syndrome         No	32 146 83 14 277 50 66 50 427 26 417	1 29 34 12 31 19 6 48 90 18 82	3% 20% 41% 86% 11% 38% 9% 96% 21% 69% 20%	reference 0·17 1·06 2·19 4·60 reference 3·40 0·81 8·58 reference 3·28 reference	- 0.02 0.67 1.46 3.13 - 2.09 0.35 6.12 - 2.40	- 1.18 1.68 3.30 6.73 - 5.52 1.87 12.01 - 4.50	- 0.07 0.79 <0.001 <0.001 0.63 <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - - <0.001 - - <0.001 - - <0.001 - - - - - - - - - - - - -
Primary closure at the cotside (Bianchi technique)         Staged closure using a preformed silo or Alexis Wound Retractor and         Protector         Staged closure using a surgical silo (including improvised silo)         No intervention undertaken         Method of defect closure? *         Fascia and skin closed with sutures         Fascia left open, skin or cord sutured over the defect         Sutureless closure         N/A         Did the neonate have any of these complications within 30-days of         primary intervention?         Ischemic bowel         No         Yes         Abdominal compartment syndrome         No         Yes	32 146 83 14 277 50 66 50 427 26	1 29 34 12 31 19 6 48 90 18	3% 20% 41% 86% 11% 38% 9% 96% 21% 69%	reference 0·17 1·06 2·19 4·60 reference 3·40 0·81 8·58 reference 3·28	0.02 0.67 1.46 3.13 - 2.09 0.35 6.12	1.18 1.68 3.30 6.73 - 5.52 1.87 12.01	- 0.07 0.79 <0.001 <0.001 - <0.001 0.63 <0.001
Primary closure at the cotside (Bianchi technique) Staged closure using a preformed silo or Alexis Wound Retractor and Protector Staged closure using a surgical silo (including improvised silo) No intervention undertaken Method of defect closure? * Fascia and skin closed with sutures Fascia left open, skin or cord sutured over the defect Sutureless closure N/A Did the neonate have any of these complications within 30-days of primary intervention? Ischemic bowel No Yes Abdominal compartment syndrome No Yes	32 146 83 14 277 50 66 50 427 26 417 36	1 29 34 12 31 19 6 48 90 18 82 26	3% 20% 41% 86% 11% 38% 9% 96% 20% 72%	reference 0·17 1·06 2·19 4·60 reference 3·40 0·81 8·58 reference 3·28 reference 3·28 reference 3·67	- 0.02 0.67 1.46 3.13 - 2.09 0.35 6.12 - 2.40	- 1.18 1.68 3.30 6.73 - 5.52 1.87 12.01 - 4.50	- 0.07 0.79 <0.001 <0.001 0.63 <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - - <0.001 - - <0.001 - - <0.001 - - - - - - - - - - - - -
Primary closure at the cotside (Bianchi technique)         Staged closure using a preformed silo or Alexis Wound Retractor and         Protector         Staged closure using a surgical silo (including improvised silo)         No intervention undertaken         Method of defect closure? *         Fascia and skin closed with sutures         Fascia left open, skin or cord sutured over the defect         Sutureless closure         N/A         Did the neonate have any of these complications within 30-days of         primary intervention?         Ischemic bowel         No         Yes         Abdominal compartment syndrome         No         Yes	32 146 83 14 277 50 66 50 427 26 417	1 29 34 12 31 19 6 48 90 18 82	3% 20% 41% 86% 11% 38% 9% 96% 21% 69% 20%	reference 0·17 1·06 2·19 4·60 reference 3·40 0·81 8·58 reference 3·28 reference	- 0.02 0.67 1.46 3.13 - 2.09 0.35 6.12 - 2.40	- 1.18 1.68 3.30 6.73 - 5.52 1.87 12.01 - 4.50	- 0.07 0.79 <0.001 <0.001 0.63 <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - <0.001 - - <0.001 - - <0.001 - - <0.001 - - - - - - - - - - - - -

\*Excluded from the multivariable analysis due to low or no counts and inability to collapse categories. †Excluded from multivariable analysis as this variable is a sub-group. ‡N/A groups were not presented on the forest plots. §Excluded from multivariable analysis due to low counts and inability to combine with another category. \*\*Excluded from multivariable analysis due to missing data. \*\*\*Category collapsed for the multivariable analysis due to low counts. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. N/A: Not applicable. RR: Risk Ratio.

## Supplementary Table 15: Univariable analysis of factors affecting mortality for patients with exomphalos/omphalocele

Generic variables	N (total =325)	Died, N	Died, %	RR	95% CI		P value
Sex: Male	183	40	22%	Reference	-	-	_
Female	141	24	17%	0.7	0.49	1.22	0.28
Ambiguous *	1	1	100%	4.57	3.47	6.01	<0.001
Gestational age at birth:	321	_	-	0.84	0.79	0.88	<0.001
Age at presentation (in hours):	324	-	-	0.99	0.99	1.00	0.39
Weight at presentation (kg):	325	-	-	0.42	0.32	0.55	<0.001
Does the patient have another anomaly or another study condition?			-				
No	133	12	9%	Reference	-	-	-
Yes	192	53	28%	3.05	1.70	5.50	<0.001
Antenatal diagnosis?							
No: either no ultrasound or ultrasound with no problem identified	143	30	21%	Reference	-	-	-
Yes: study condition diagnosed or problem identified	182	35	19%	0.91	0.59	1.41	0.69
Distance from the patients home to the study centre (km):	325		0%	0.99	0.99	1.00	0.31
Born at the study centre?							
No	214	44	21%	Reference	-	-	-
Yes	111	21	19%	0.92	0.57	1.46	0.72
Type of delivery:							
Vaginal (spontaneous)	116	30	26%	Reference	-	-	-
Vaginal (induced)	12	2	17%	0.64	0.17	2.37	0.50
Caesarean section (elective)	130	10	8%	0.29	0.15	0.58	<0.001
Caesarean section (urgent/non-elective)	66	22	33%	1.28	0.81	2.04	0.28
Was the patient septic on arrival to your hospital?							
No	285	51	18%	Reference	-	-	-
Yes	40	14	35%	1.95	0.007	1.19	3.19
Was the patient hypothermic and/or hypovolaemic on arrival to your							
hospital?							
No	277	46	17%	Reference	-	-	-
Yes	48	19	40%	2.38	1.53	3.69	<0.001
Did the patient receive an umbilical vein catheter? †							
No	319	64	20%	Reference	-	-	-
Yes	6	1	17%	0.83	0.13	5.05	0.84
Did the patient receive a peripherally inserted central catheter (PICC)?							
No	222	47	21%	Reference	-	-	-
Yes	103	18	17%	0.82	0.44	0.50	1.34
Did the patient receive a percutaneously inserted direct central line?							
No	301	56	19%	Reference	-	-	-
Yes	24	9	38%	2.01	1.14	3.56	0.01
Did the patient receive a surgically placed direct central line?							
No	309	62	20%	Reference	-	-	-
Yes	16	3	19%	0.93	0.32	2.65	0.89
Time from arrival at study centre to primary intervention (hours) ‡	272	-	-	0.99	0.99	1.00	0.58
American Society of Anesthesiologists (ASA) Score at the time of							
primary intervention:							
1 or 2	173	12	7%	Reference	-	-	-
3	72	17	24%	3.40	1.71	6.76	<0.001
4 or 5	23	15	65%	9.40	5.04	17.53	<0.001
N/A: no intervention §	55	20	36%	5.24	2.73	10.03	<0.001
What type of anaesthesia was used for the primary intervention?							
General anaesthesia with endotracheal tube or laryngeal airway	200	29	15%	Reference	-	-	-
No general anaesthesia	59	15	25%	1.75	1.00	3.04	0.04
N/A: no surgery or primary intervention undertaken §	65	21	32%	2.22	1.36	3.62	0.001
Who undertook the anaesthetic for the primary intervention? †		-		_			
Anaesthetic doctor	193	27	14%	Reference	-	-	-
Non-doctor anaesthetist	14	6	43%	3.06	1.52	6.16	0.002
No anaesthetic undertaken	117	32	27%	1.95	1.23	3.09	0.002
Who undertook the primary intervention? †	,	52	2,70	1 75	1 23	5 07	0.004
Paediatric surgeon (or junior with paediatric surgeon assisting/ in the	238	42		Reference	-	-	_
room)	250	.2	18%	Reference			
Non-paediatric surgeon	22	4	18%	1.03	0.40	2.60	0.95
N/A: no surgery or primary intervention undertaken	64	19	30%	1.68	1.05	2.68	0.02
Was a surgical safety checklist used at the time of primary intervention?	0-1	1)	5070	1 00	1 05	2 00	0.02
Yes	171	22	13%	Reference	_	-	-
No	41	13	31%	2·46	1.35	- 4·47	- 0·003
N/A: a conservative primary intervention or no surgery undertaken §	41	30	27%	2·40 2·08	1.33	4·47 3·42	0·003 0·004
Total duration of antibiotics following primary intervention (days): ‡	320	-	2//0	0.98	0.95	1.02	0.49
	320	-		0 20	0.95	1 02	0.49
Did the patient receive a blood transfusion?	222	22	1.40/	Deference			
No: not required	233	32	14%	Reference	-	-	-
Yes: cross-matched OR not cross-matched	87	33	38%	2.76	1.81	4.20	<0.001
No: it was required but not available *	4	0	0%	4.60e-06	1.64e-06	0.00001	<0.001
Did the patient require ventilation?	175	20	110/	D C			
No	175	20	11%	Reference	-	-	-
Yes and it was given	144	39	27%	2.36	1.44	3.87	0.001

Yes, but it was not available *	6	6	100%	8.75	5.78	13.22	<0.001
Did the patient require parenteral nutrition?							
No	158	34	22%	Reference	-	-	-
Yes and it was given	154	27	18%	0.81	0.51	1.28	0.37
Yes and it was sometimes available, but less than required	8	1	13%	0.58	0.09	3.73	0.56
Yes, but it was not available *	5	3	60%	2.78	1.28	6.06	0.01
Time to first feed (days): ‡	225	-	-	1.01	0.94	1.09	0.67
Time to full feeds (days): ‡	246	-	-	0.99	0.91	1.07	0.90
Duration of hospital stay (days): **	301	-	-	0.93	0.91	0.96	<0.001
Did the patient have a surgical site infection?			-				
No	191	30	16%	Reference	-	-	-
Yes	32	6	19%	1.19	0.53	2.64	0.66
N/A: no surgical wound §	101	29	29%	1.82	1.16	2.86	0.009
Did the patient have a full thickness wound dehiscence? †							
No	214	32	15%	Reference	-	-	-
Yes	11	4	36%	2.43	1.04	5.66	0.03
N/A: no surgical wound	99	29	29%	1.95	1.25	3.05	0.003
Did the patient require a further unplanned intervention?							
No	243	33	14%	Reference	-	-	-
Yes - percutaneous or surgical intervention	31	11	35%	2.61			0.001
N/A: no primary intervention undertaken §	50	21	42%	3.09			<0.001
Country income status:							
HIC	70	12	17%	Reference	-	-	-
MIC ***	241	49	20%	1.18	0.66	2.10	0.30
LIC ***	14	4	29%	1.66	0.62	4.42	<0.001
Condition specific variables							
Type of Exomphalos?							
Minor	175	27	22%	reference	-	-	-
Major	148	38	26%	1.66	1.07	2.59	0.02
Hypoglycaemic on arrival?							
No	242	38	16%	reference	-	-	-
Yes	39	11	28%	1.80	1.01	3.21	0.02
Blood glucose not measured	43	16	37%	2.37	1.46	3.85	0.001
Did the patient have a ruptured sac?							
No	288	48	17%	reference	-	-	-
Yes	34	17	50%	3.00	1.96	4.59	<0.001
Primary intervention:							
Primary operative closure	164	21	13%	reference	-	-	-
Staged closure	32	9	28%	2.20	1.11	4.35	0.024
Conservative management	120	33	28%	2.15	1.31	3.52	0.002
*Freehold of free multi-serie here to here to here to	120	55	2070	Z IJ		554	0 004

\*Excluded from multivariable analysis due to low counts and inability to combine with another category. †Excluded from the multivariable analysis due to low or no counts and inability to collapse categories. ‡Excluded from multivariable analysis as this variable is a sub-group.§ N/A groups were not presented on the forest plots. \*\*Excluded from multivariable analysis due to missing data. \*\*\*Category collapsed for the multivariable analysis due to low counts. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. N/A: Not applicable. RR: Risk Ratio.

## Supplementary Table 16: Univariable analysis of factors affecting mortality for patients with anorectal malformation

Generic variables	N (total = 991)	Died, N	Died, %	RR	95% CI		P value
Sex: Male	575	60	10%	Reference			
Female	398	33	8%	0·79	0.52	- 1·19	0.26
Ambiguous	17	9	52%	5.07	3.05	8.43	< <b>0.001</b>
Gestational age at birth:	977	-	-	0.84	0.80	0.88	<0.001
Age at presentation (in hours):	989	-	-	0.99	0.99	0.99	0.002
Weight at presentation (kg):	988	-	-	0.43	0.34	0.56	<0.001
Does the patient have another anomaly or another study condition?	200			0.15	0.51	0.50	.0 001
No	430	19	4%	Reference	-	-	-
Yes	561	84	15%	3.38	2.09	5.48	<0.001
Antenatal diagnosis?	001	0.	10,0	5 50	2 0 /	5 10	0 001
No: either no ultrasound or ultrasound with no problem identified	828	74	9%	Reference	_	-	-
Yes: study condition diagnosed or problem identified	161	28	17%	1.94	1.30	2.90	0.001
Distance from the patients home to the study centre (km):	989		0%	0.99	0.99	1.00	0.35
Born at the study centre?							
No	835	81	10%	Reference	_	_	-
Yes	156	22	14%	1.45	0.93	2.25	0.09
Type of delivery:							
Vaginal (spontaneous)	520	49	9%	Reference	-	-	-
Vaginal (induced)	42	3	7%	0.75	0.24	2.33	0.62
Caesarean section (elective)	240	22	9%	0.97	0.60	1.57	0.91
Caesarean section (urgent/non-elective)	177	29	16%	1.73	1.13	2.66	0.01
Was the patient septic on arrival to your hospital?							
No	879	72	8%	Reference	_	_	-
Yes	112	31	28%	3.37	2.32	4.90	<0.001
Was the patient hypothermic and/or hypovolaemic on arrival to your		51	2070	55,	202	. , ,	0 001
hospital?							
No	883	72	8%	Reference	-	-	_
Yes	108	31	29%	3.52	2.42	5.10	<0.001
Did the patient receive an umbilical vein catheter?	100	01	2,7,0	0.02	2 12	0.10	0 001
No	913	88	10%	Reference	_	_	_
Yes	78	15	19%	1.99	1.21	3.27	0.006
Did the patient receive a peripherally inserted central catheter (PICC)?	10	10	1970			021	0 000
No	818	88	11%	Reference	-	-	-
Yes	173	15	9%	0.80	0.47	1.35	0.41
Did the patient receive a percutaneously inserted direct central line?	170	10	270	0.00	0 17	1 00	0.11
No	941	97	10%	Reference	_	-	_
Yes	50	6	12%	1.16	0.53	2.52	0.70
Did the patient receive a surgically placed direct central line?	20	Ū.	12,0	110	0.00	202	0,10
No	965	96	10%	Reference	-	-	-
Yes	26	7	27%	2.70	1.39	5.24	0.003
Time from arrival at study centre to primary intervention (hours) *	900	-	-	0.99	0.99	1.00	0.16
American Society of Anesthesiologists (ASA) Score at the time of	900			0 ) )	0. ))	1 00	0 10
primary intervention:							
1 or 2	633	31	5%	Reference	_	_	-
3	172	25	15%	2.96	1.80	4.89	<0.001
4 or 5	90	25	28%	5.67	3.51	9.15	<0.001
N/A: no intervention †	93	21	23%	4.61	2.76	7.67	<0.001
What type of anaesthesia was used for the primary intervention?	)5	21	2370	4 01	270	101	-0 001
General anaesthesia with endotracheal tube or laryngeal airway	841	69	8%	Reference	_		_
No general anaesthesia	63	9	870 14%	1.74	0.91	3.32	- 0·092
N/A: no surgery or primary intervention undertaken †	86	24	28%	3.40	2.26	5·11	<0.092 <0.001
Who undertook the anaesthetic for the primary intervention?	00	21	20/0	5 10	2 20	5 11	.0.001
Anaesthetic doctor	847	68	8%	Reference	_	-	_
Non-doctor anaesthetist	28	9	32%	4·00	2.23	- 7·18	- <0·001
No anaesthetic undertaken †	114	24	21%	2.62	1.71	4.00	<0.001 <0.001
Who undertook the primary intervention?	117	27	2170	2 02	1 / 1	- UU	-0 001
Paediatric surgeon (or junior with paediatric surgeon assisting/ in the	877	75		Reference			
room)	077	15	9%	Reference			
Non-paediatric surgeon	32	3	9%	1.09	0.36	3.29	0.87
N/A: no surgery or primary intervention undertaken †	32 80	3 24	9% 30%	3.50	2.35	5·29 5·22	< <b>0.</b> 87
Was a Surgical Safety Checklist used at the time of primary	00	24	3070	5 50	2 33	5 44	~0.001
intervention?							
Yes	702	48	7%	Reference	-	-	_
No	174	48 28	16%	2·35	1.52	- 3.63	- <0·001
	174 114	28 26		2.35 3.33	1·52 2·16	3·63 5·15	<0.001 <0.001
N/A: a conservative primary intervention or no surgery undertaken †		-	23%				
Total duration of antibiotics following primary intervention (days): *	982	-	-	0.98	0.94	1.02	0.43
Did the patient receive a blood transfusion?	782	18	6%	Deference			
No: not required	783	48		Reference	- 2.05	-	-
Yes: cross-matched OR not cross-matched	194	52	27%	4·37	3.05	6·26	<0.001
No: it was required but not available	12	3	25%	4.07	1.47	11.28	0.007
Did the patient require ventilation? No	657	24	4%	Reference		-	-

	221	60	210/	5 50	2.51	0.05	.0.001
Yes and it was given	321	68	21%	5.79	3.71	9·05	<0.001
Yes, but it was not available	12	11	92%	25.09	16.35	38.51	<0.001
Did the patient require parenteral nutrition?	(05	52	00/	D.C			
No	605	53	9%	Reference	-	-	-
Yes and it was given	358	37	10%	1.17	0.79	1.75	0.41
Yes and it was sometimes available, but less than required	12	4	33%	3.80	1.64	8.82	0.002
Yes, but it was not available	14	8	57%	6.52	3.87	10.99	<0.001
Time to first feed (days): *	833	-	-	1.07	1.01	1.13	0.01
Time to full feeds (days): *	876	-	-	1.01	0.95	1.07	0.63
Duration of hospital stay (days): ‡	960	-	-	0.95	0.91	0.99	0.05
Did the patient have a surgical site infection?			-				
No	775	66	9%	Reference	-	-	-
Yes	86	12	14%	1.63	0.92	2.90	0.09
N/A: no surgical wound †	128	24	19%	2.20	1.43	3.37	<0.001
Did the patient have a full thickness wound dehiscence?							
No	829	72	9%	Reference	-	-	-
Yes	38	4	11%	1.21	0.46	3.14	0.69
N/A: no surgical wound †	122	26	21%	2.45	1.63	3.68	<0.001
Did the patient require a further unplanned intervention?							
No	805	60	7%	Reference	-	-	-
Yes - percutaneous or surgical intervention	100	20	20%	2.68	1.69	4.25	<0.001
N/A: no primary intervention undertaken †	83	22	27%	3.55	2.30	5.48	<0.001
Country income status:							
HIC	178	3	2%	Reference	-	-	-
MIC §	788	95	12%	7.15	2.29	22.32	
LIC§	25	5	20%	11.86	3.01	46.67	
Condition specific variables							
Type of anorectal malformation (Krickenbeck classification)							
Low	327	16	5%	reference	-	-	-
High	592	73	12%	2.52	1.49	4.26	0.001
Rare variant or other	71	13	18%	3.74	1.88	7.43	<0.001
Did the neonate have pre-operative bowel perforation?							
No	951	89	9%	reference	-	-	-
Yes	37	12	32%	3.47	2.09	5.75	<0.001
Primary intervention:							
Fistula dilation and/or washout via fistula, no surgery (yes)	94	5	5%	0.49	0.20	1.17	0.11
Divided sigmoid colostomy (yes)	306	27	9%	0.80	0.52	1.21	0.28
Other colostomy or stoma (yes)	261	40	15%	1.78	1.23	2.57	0.002
Anoplasty/anorectoplasty (yes)	223	6	3%	0.21	0.09	0.48	<0.001
Anorectal pull-through (yes)	94	ĩ	1%	0.09	0.01	0.66	0.018
Palliative care/no intervention (yes) †	46	23	50%	5.91	4.13	8.44	<0.001
Electrolyte disturbance							
No	751	41	6%	reference	-	_	_
Yes	84	30	36%	6·54	4.33	9.89	<0.001
Not applicable †	156	32	21%	5.76	2.45	5.77	<0.001
		54	21/0	5 10	2 75	511	-0 001

\*Excluded from multivariable analysis as this variable is a sub-group. †N/A groups were not presented on the forest plots. ‡Excluded from multivariable analysis due to missing data. §Category collapsed for the multivariable analysis due to low counts. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. N/A: Not applicable. RR: Risk Ratio.

## Supplementary Table 17: Univariable analysis of factors affecting mortality for patients with Hirschsprung's disease

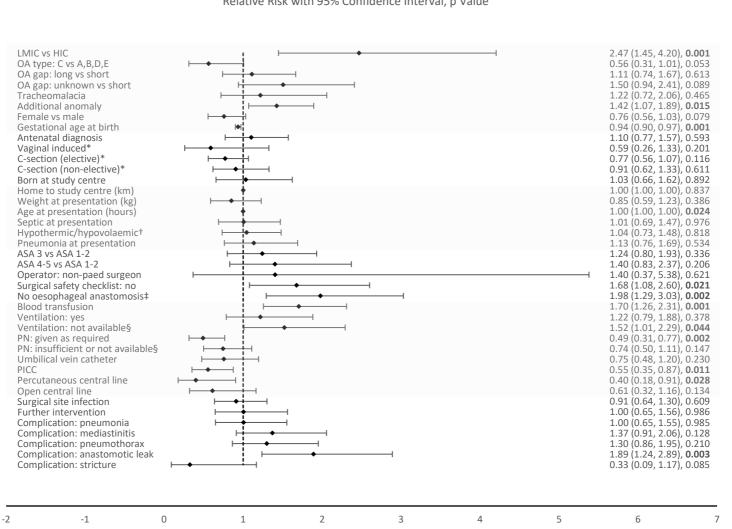
Generic variables	N (total = 517)	Died, N	Died, %	RR	95% CI		P value
Sex: Male	399	23	6%	Reference	-	-	_
Female	118	7	6%	1.02	0.45	2.34	0.94
Gestational age at birth:	505	-	-	0.91	0.76	1.09	0.34
Age at presentation (in hours):	512	-	-	0.99	0.99	1.00	0.25
Weight at presentation (kg):	516	-	-	0.84	0.65	1.08	0.17
Does the patient have another anomaly or another study condition?	107		50 /	D (			
No	406	21	5%	Reference	- 72	-	-
Yes Antenatal diagnosis? *	111	9	8%	1.56	0.73	3.32	0.24
No: either no ultrasound or ultrasound with no problem identified	478	27	6%	Reference	_	_	_
Yes: study condition diagnosed or problem identified	38	3	8%	1.39	0.44	4.40	0.56
Distance from the patients home to the study centre (km): †	514	-	-	0.99	0.99	1.00	0.49
Born at the study centre?	511			0 ) )	0 , , ,	1 00	0 15
No	482	26	5%	Reference	-	-	-
Yes	34	4	12%	2.18	0.80	5.89	0.12
Type of delivery: *	2/7	22	00/	D.C			
Vaginal (spontaneous)	267	23	9%	Reference	-	-	-
Vaginal (induced)	35	0	0% 3%	- 0.39	- 0·15	-	- 0·06
Caesarean section (elective)	146 57	5 2	3% 4%	0.39	0.13	1.02 1.68	
Caesarean section (urgent/non-elective)	57	2	4%	0.40	0.09	1.08	0.21
Was the patient septic on arrival to your hospital? ‡ No	385	12	3%	Reference			
Yes	132	12	3% 14%	4·37	- 2·16	- 8·84	- <0·001
Was the patient hypothermic and/or hypovolaemic on arrival to your	132	10	1470	4 57	2.10	0.04	~0.001
hospital?							
No	414	16	4%	Reference	_	_	_
Yes	103	10	14%	3.51	1.77	6.97	- <0·001
Did the patient receive an umbilical vein catheter? *	105	14	1470	5.51	1 / /	0 77	-0 001
No	500	26	5%	Reference	-	_	-
Yes	17	4	24%	4.52	1.77	11.53	0.002
Did the patient receive a peripherally inserted central catheter (PICC)?	1,	•	2	2	1 / /	11.00	0 001
No	436	28	6%	Reference	-	-	-
Yes	81	2	2%	0.38	0.09	1.58	0.18
Did the patient receive a percutaneously inserted direct central line? *							
No	489	27	5%	Reference	-	-	-
Yes	28	3	11%	1.94	0.62	6.01	0.25
Did the patient receive a surgically placed direct central line? *							
No	505	29	6%	Reference	-	-	-
Yes	12	1	8%	1.45	0.21	9.81	0.70
Time from arrival at study centre to primary intervention (hours) §	454	-	-	0.99	0.99	1.00	0.07
American Society of Anesthesiologists (ASA) Score at the time of							
primary intervention:							
1 or 2	267	9	3%	Reference	-	-	-
3 **	122	8	7%	1.94	0.76	4.92	0.16
4 or 5 **	30	10	33%	9.88	4.36	22.41	<0.001
N/A: no intervention ***	98	3	3%	0.90	0.22	3.29	0.88
What type of anaesthesia was used for the primary intervention? *	221	24	70/	D.C			
General anaesthesia with endotracheal tube or laryngeal airway	331	24	7%	Reference	-	-	-
No general anaesthesia N/A: no surgery or primary intervention undertaken.	100	1 5	1%	0·13 0·80	0.01	1.00	<b>0·05</b> 0·64
Who undertook the anaesthetic for the primary intervention? *	86	5	6%	0.90	0.31	2.04	0.04
Anaesthetic doctor	330	23	7%	Reference	_	-	_
Non-doctor anaesthetist	8	1	13%	1·79	- 0·27	- 11·71	- 0·54
No anaesthetic undertaken	8 179	6	3%	0.48	0.19	1.16	0.34
Who undertook the primary intervention? *	117	0	570	0 - 0	0 1 9	1 10	0 10
Paediatric surgeon (or junior with paediatric surgeon assisting/ in the	394	22		Reference	-	-	-
room)	574	22	6%	Reference			
Non-paediatric surgeon	53	3	6%	1.01	0.31	3.27	0.98
N/A: no surgery or primary intervention undertaken	70	5	7%	1.27	0.50	3.26	0.60
Was a Surgical Safety Checklist used at the time of primary intervention?	,0	5	170	1 21	0.50	5 20	0.00
Yes	239	14	6%	Reference	-	-	-
No	107	11	10%	1.75	0.82	3.74	0.14
N/A: a conservative primary intervention or no surgery undertaken ***	171	5	3%	0.49	0.18	1.36	0.17
N/A. a conservative primary intervention of no surgery undertaken		-	-	0.94	0.87	1.01	0.13
	434						
Total duration of antibiotics following primary intervention (days): §	454						
Total duration of antibiotics following primary intervention (days): § Did the patient receive a blood transfusion?		9	3%	Reference	-	-	-
Total duration of antibiotics following primary intervention (days): § Did the patient receive a blood transfusion? No: not required	366	9 20	3% 14%	Reference 5.53			
Total duration of antibiotics following primary intervention (days): § Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched	366 147	20	14%	5.53	2.57	11.87	<0.001
Total duration of antibiotics following primary intervention (days): § Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched No: it was required but not available ****	366						
Total duration of antibiotics following primary intervention (days): § Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched No: it was required but not available **** Did the patient require ventilation?	366 147 3	20 1	14% 33%	5·53 13·55	2·57 2·41	11·87 76·24	<0.001
Total duration of antibiotics following primary intervention (days): § Did the patient receive a blood transfusion? No: not required Yes: cross-matched OR not cross-matched No: it was required but not available ****	366 147	20	14%	5.53	2.57	11.87	<0.001

Dildensting and last it 2							
Did the patient require parenteral nutrition? No	303	16	5%	Reference			
			3% 4%	0.79	0.33	- 1·89	- 0.60
Yes and it was given	167	7					
Yes and it was sometimes available, but less than required **	38	2	5%	0.99	0.23	4.17	0.99
Yes, but it was not available **	8	5	63%	11.83	5.76	24.28	<0.001
Time to first feed (days): §	394	-	-	0.96	0.78	1.19	0.75
Time to full feeds (days): §	457	-	-	1.00	0.91	1.10	0.92
Duration of hospital stay (days): †	492	-	-	0.91	0.84	0.99	0.04
Did the patient have a surgical site infection? *							
No	324	19	6%	Reference	-	-	-
Yes	29	6	21%	3.52	1.52	8.14	0.003
N/A: no surgical wound	164	5	3%	0.51	0.19	1.36	0.18
Did the patient have a full thickness wound dehiscence? *							
No	343	22	6%	Reference	-	-	-
Yes	12	3	25%	3.89	1.34	11.26	0.01
N/A: no surgical wound	162	5	3%	0.48	0.18	1.24	0.13
Did the patient require a further unplanned intervention? *	102	5	570	0 - 0	0 10	1 27	015
No	387	22	6%	Reference	-	_	
	387 69				- 0·49		-
Yes - percutaneous or surgical intervention		5	7%	1.27		3.25	0.61
N/A: no primary intervention undertaken	61	3	5%	0.86	0.26	2.80	0.80
Country income status:	105		26.1	D.C			
HIC	107	2	2%	Reference	-	-	-
MIC **	393	26	7%	3.53	0.82	14.69	0.08
LIC **	17	2	12%	6.29	0.94	41.82	0.02
Time to first passage of meconium after birth: *			201				
Less than 24 hours	80	2	3%	reference	-	-	-
Less than 24 hours 24-48 hours	148	6	4%	1.62	0.33	7.86	- 0·55
Less than 24 hours 24-48 hours Over 48 hours	148 187	6 19	4% 10%	1.62 4.06	0.97	17.06	0.06
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing	148	6	4%	1.62			
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation:	148 187 102	6 19 3	4% 10% 3%	1.62 4.06 1.18	0·97 0·20	17·06 6·88	0·06 0·86
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes)	148 187 102 460	6 19 3 24	4% 10% 3% 5%	1.62 4.06 1.18 0.50	0·97 0·20 0·21	17.06 6.88 1.16	0.06 0.86 0.11
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes)	148 187 102 460 190	6 19 3 24 11	4% 10% 3% 5% 5%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ \end{array} $	0·97 0·20 0·21 0·48	17.06 6.88 1.16 2.05	0.06 0.86 0.11 0.99
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes)	148 187 102 460 190 189	6 19 3 24 11 12	4% 10% 3% 5% 5% 6%	1.62 4.06 1.18 0.50 1.00 1.16	0.97 0.20 0.21 0.48 0.57	17.06 6.88 1.16 2.05 2.35	0.06 0.86 0.11 0.99 0.69
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Billious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes)	148 187 102 460 190 189 103	6 19 3 24 11 12 7	4% 10% 3% 5% 5% 6% 7%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ \end{array} $	0.97 0.20 0.21 0.48 0.57 0.54	17.06 6.88 1.16 2.05 2.35 2.77	0.06 0.86 0.11 0.99 0.69 0.63
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes)	148 187 102 460 190 189 103 96	6 19 3 24 11 12 7 7	4% 10% 3% 5% 5% 6% 7% 7% 7%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33	0.97 0.20 0.21 0.48 0.57 0.54 0.59	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\     \end{array} $	0.06 0.86 0.11 0.99 0.69 0.63 0.49
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡	148 187 102 460 190 189 103	6 19 3 24 11 12 7	4% 10% 3% 5% 5% 6% 7%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ \end{array} $	0.97 0.20 0.21 0.48 0.57 0.54	17.06 6.88 1.16 2.05 2.35 2.77	0.06 0.86 0.11 0.99 0.69 0.63
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis?	148 187 102 460 190 189 103 96	6 19 3 24 11 12 7 7 8	4% 10% 3% 5% 5% 6% 7% 7% 7% 40%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $	0.97 0.20 0.21 0.48 0.57 0.54 0.59	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\     \end{array} $	0.06 0.86 0.11 0.99 0.69 0.63 0.49
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡	148 187 102 460 190 189 103 96	6 19 3 24 11 12 7 7	4% 10% 3% 5% 5% 6% 7% 7% 7%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33	0.97 0.20 0.21 0.48 0.57 0.54 0.59	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\     \end{array} $	0.06 0.86 0.11 0.99 0.69 0.63 0.49
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis?	148 187 102 460 190 189 103 96 20	6 19 3 24 11 12 7 7 8	4% 10% 3% 5% 5% 6% 7% 7% 7% 40%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $	0.97 0.20 0.21 0.48 0.57 0.54 0.59	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75	0.06 0.86 0.11 0.99 0.69 0.63 0.49
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal **	148 187 102 460 190 189 103 96 20 117	6 19 3 24 11 12 7 7 8 8	4% 10% 3% 5% 5% 6% 7% 7% 7% 40%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference	0.97 0.20 0.21 0.48 0.57 0.54 0.59 4.60	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75	0.06 0.86 0.11 0.99 0.69 0.63 0.49 <0.001
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Addominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid **	148 187 102 460 190 189 103 96 20 117 179	6 19 3 24 11 12 7 7 8 8 4 5	4% 10% 3% 5% 5% 6% 7% 7% 7% 40%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference 0.82	$ \begin{array}{c} 0.97\\ 0.20\\ \end{array} $ $ \begin{array}{c} 0.21\\ 0.48\\ 0.57\\ 0.54\\ 0.59\\ 4.60\\ \end{array} $ $ \begin{array}{c} -\\ 0.22\\ \end{array} $	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75	$ \begin{array}{c} 0.06\\ 0.86\\ 0.11\\ 0.99\\ 0.69\\ 0.63\\ 0.49\\ <0.001\\ \hline -\\ 0.76\\ \end{array} $
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown **	148 187 102 460 190 189 103 96 20 117 179 86	6 19 3 24 11 12 7 7 8 4 5 9	4% 10% 3% 5% 5% 6% 7% 7% 40% 3% 3% 3% 11%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $ reference $0 \cdot 82 \\ 3 \cdot 06 \\ \end{array} $	$\begin{array}{c} 0.97\\ 0.20\\ \end{array}$	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\       17.75 \\       - \\       2.98 \\       9.62 \\     \end{array} $	$ \begin{array}{c} 0.06\\ 0.86\\ 0.99\\ 0.69\\ 0.63\\ 0.49\\ <0.001\\ -\\ 0.76\\ 0.06\\ \end{array} $
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown **	148 187 102 460 190 189 103 96 20 117 179 86 135	6 19 3 24 11 12 7 7 8 4 5 9 12	4% 10% 3% 5% 6% 7% 7% 40% 3% 3% 11% 9%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference 0.82 3.06 2.60	$\begin{array}{c} 0.97\\ 0.20\\ \end{array}$	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\       17.75 \\       - \\       2.98 \\       9.62 \\     \end{array} $	$ \begin{array}{c} 0.06\\ 0.86\\ 0.99\\ 0.69\\ 0.63\\ 0.49\\ <0.001\\ -\\ 0.76\\ 0.06\\ \end{array} $
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative	148 187 102 460 190 189 103 96 20 117 179 86 135 187	6 19 3 24 11 12 7 7 8 4 5 9 12 5	4% 10% 3% 5% 6% 7% 7% 40% 3% 3% 11% 9%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $ reference $\begin{array}{c} 0 \cdot 82 \\ 3 \cdot 06 \\ 2 \cdot 60 \\ \end{array} $ reference	0.97 0.20 0.21 0.48 0.57 0.54 0.59 4.60 - 0.22 0.97 0.86	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75 - 2.98 9.62 7.85	0.06 0.86 0.99 0.69 0.63 0.49 <0.001
Less than 24 hours 24-48 hours Over 48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20	4% 10% 3% 5% 5% 6% 7% 7% 40% 3% 11% 9%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference 0.82 3.06 2.60	$\begin{array}{c} 0.97\\ 0.20\\ \hline 0.21\\ 0.48\\ 0.57\\ 0.54\\ 0.59\\ 4.60\\ \hline \\ 0.22\\ 0.97\\ 0.86\\ \hline \end{array}$	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\       17.75 \\       - \\       2.98 \\       9.62 \\     \end{array} $	$ \begin{array}{c} 0.06\\ 0.86\\ 0.99\\ 0.69\\ 0.63\\ 0.49\\ <0.001\\ -\\ 0.76\\ 0.06\\ \end{array} $
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma Pull-through	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196 109	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20 0	4% 10% 3% 5% 5% 6% 7% 7% 40% 3% 11% 9% 3% 10% 0%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference 0.82 3.06 2.60 reference 3.82 -	0.97 0.20 0.21 0.48 0.57 0.54 0.59 4.60 - 0.22 0.97 0.86 - 1.46	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75 - 2.98 9.62 7.85 - 9.97 -	$\begin{array}{c} 0.06\\ 0.86\\ 0.99\\ 0.69\\ 0.69\\ 0.49\\ < 0.001\\ \hline \\ 0.76\\ 0.06\\ 0.09\\ \hline \\ 0.01\\ \hline \\ -\\ 0.01\\ \hline \\ -\\ 0.01\\ \hline \\ -\\ \hline \end{array}$
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Addominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma Pull-through Other (transanal posterior anorectal myectomy, palliative care or other)	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20	4% 10% 3% 5% 5% 6% 7% 7% 40% 3% 11% 9%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $ reference $\begin{array}{c} 0 \cdot 82 \\ 3 \cdot 06 \\ 2 \cdot 60 \\ \end{array} $ reference	0.97 0.20 0.21 0.48 0.57 0.54 0.59 4.60 - 0.22 0.97 0.86	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75 - 2.98 9.62 7.85	0.06 0.86 0.99 0.69 0.63 0.49 <0.001
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Addominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma Pull-through Other (transanal posterior anorectal myectomy, palliative care or other) Did the patient have any condition specific complications within 30-days	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196 109	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20 0	4% 10% 3% 5% 5% 6% 7% 7% 40% 3% 11% 9% 3% 10% 0%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference 0.82 3.06 2.60 reference 3.82 -	0.97 0.20 0.21 0.48 0.57 0.54 0.59 4.60 - 0.22 0.97 0.86 - 1.46	17.06 6.88 1.16 2.05 2.35 2.77 3.02 17.75 - 2.98 9.62 7.85 - 9.97 -	$\begin{array}{c} 0.06\\ 0.86\\ 0.99\\ 0.69\\ 0.69\\ 0.49\\ < 0.001\\ \hline \\ 0.76\\ 0.06\\ 0.09\\ \hline \\ 0.01\\ \hline \\ -\\ 0.01\\ \hline \\ -\\ 0.01\\ \hline \\ -\\ \hline \end{array}$
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma Pull-through Other (transanal posterior anorectal myectomy, palliative care or other) Did the patient have any condition specific complications within 30-days of primary intervention:	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196 109 25	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20 0 5	4% 10% 3% 5% 6% 7% 7% 40% 3% 3% 11% 9% 3% 10% 0% 20%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $ reference $0 \cdot 82 \\ 3 \cdot 06 \\ 2 \cdot 60 \\ \end{array} $ reference $3 \cdot 82 \\ - \\ 7 \cdot 48 \\ \end{array} $	$\begin{array}{c} 0.97\\ 0.20\\ \end{array}$	$   \begin{array}{c}     17.06 \\     6.88 \\     1.16 \\     2.05 \\     2.35 \\     2.77 \\     3.02 \\     17.75 \\     \hline     2.98 \\     9.62 \\     7.85 \\     \hline     9.97 \\     \hline     24.06 \\   \end{array} $	0.06 0.86 0.99 0.69 0.63 0.49 <0.001 - 0.76 0.06 0.09
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma Pull-through Other (transanal posterior anorectal myectomy, palliative care or other) Did the patient have any condition specific complications within 30-days of primary intervention: Hirschsprung's associated enterocolitis (yes)	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196 109 25 69	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20 0 5	4% 10% 3% 5% 6% 7% 7% 40% 3% 11% 9% 3% 10% 0% 20%	1.62 4.06 1.18 0.50 1.00 1.16 1.22 1.33 9.04 reference 0.82 3.06 2.60 reference 3.82 - 7.48	$ \begin{array}{c} 0.97\\ 0.20\\ \end{array} $ $ \begin{array}{c} 0.21\\ 0.48\\ 0.57\\ 0.54\\ 0.59\\ 4.60\\ \end{array} $ $ \begin{array}{c} -\\ 0.22\\ 0.97\\ 0.86\\ \end{array} $ $ \begin{array}{c} -\\ 1.46\\ -\\ 2.33\\ \end{array} $ $1.87$	$     \begin{array}{r}       17.06 \\       6.88 \\       1.16 \\       2.05 \\       2.35 \\       2.77 \\       3.02 \\       17.75 \\       \hline       2.98 \\       9.62 \\       7.85 \\       \hline       9.97 \\       24.06 \\       7.56 \\     \end{array} $	0.06 0.86 0.99 0.69 0.63 0.49 <0.001 - 0.76 0.06 0.09 - 0.01 - 0.001 - 0.001
Less than 24 hours 24-48 hours Over 48 hours Unknown or missing Features at presentation: Abdominal distension (yes) Bilious vomiting (yes) Poor feeding (yes) Non-bilious vomiting (yes) Suspected enterocolitis (yes) Perforation (yes) ‡ Length of aganglionosis? Rectal ** Sigmoid ** Descending/transverse/ascending colon or small bowel ** Unknown ** Primary intervention: * Conservative Stoma Pull-through Other (transanal posterior anorectal myectomy, palliative care or other) Did the patient have any condition specific complications within 30-days of primary intervention:	148 187 102 460 190 189 103 96 20 117 179 86 135 187 196 109 25	6 19 3 24 11 12 7 7 8 4 5 9 12 5 20 0 5	4% 10% 3% 5% 6% 7% 7% 40% 3% 3% 11% 9% 3% 10% 0% 20%	$ \begin{array}{c} 1 \cdot 62 \\ 4 \cdot 06 \\ 1 \cdot 18 \\ \end{array} $ $ \begin{array}{c} 0 \cdot 50 \\ 1 \cdot 00 \\ 1 \cdot 16 \\ 1 \cdot 22 \\ 1 \cdot 33 \\ 9 \cdot 04 \\ \end{array} $ reference $0 \cdot 82 \\ 3 \cdot 06 \\ 2 \cdot 60 \\ \end{array} $ reference $3 \cdot 82 \\ - \\ 7 \cdot 48 \\ \end{array} $	$ \begin{array}{c} 0.97\\ 0.20\\ \end{array} $ $ \begin{array}{c} 0.21\\ 0.48\\ 0.57\\ 0.54\\ 0.59\\ 4.60\\ \end{array} $ $ \begin{array}{c} -\\ 0.22\\ 0.97\\ 0.86\\ \end{array} $ $ \begin{array}{c} -\\ 1.46\\ -\\ 2.33\\ \end{array} $	$   \begin{array}{c}     17.06 \\     6.88 \\     1.16 \\     2.05 \\     2.35 \\     2.77 \\     3.02 \\     17.75 \\     \hline     2.98 \\     9.62 \\     7.85 \\     \hline     9.97 \\     \hline     24.06 \\   \end{array} $	0.06 0.86 0.99 0.69 0.63 0.49 <0.001 - 0.76 0.06 0.09

 Yes
 170
 13
 8%
 1:56
 0:78
 3:14

 \*Excluded from the multivariable analysis due to low or no counts and inability to collapse categories. †Excluded from multivariable analysis due to missing data. ‡Excluded due to collinearity. §Excluded from multivariable analysis as this variable is a sub-group. \*\*Category collapsed for the multivariable analysis due to low counts. \*\*\*N/A or 'other' groups were not presented on the forest plots. \*\*\*\*Excluded from multivariable analysis due to low counts and inability to combine with another category. CI: Confidence interval. HIC: High-income countries. LIC: Low-income countries. M/A: Not applicable. RR: Risk Ratio.

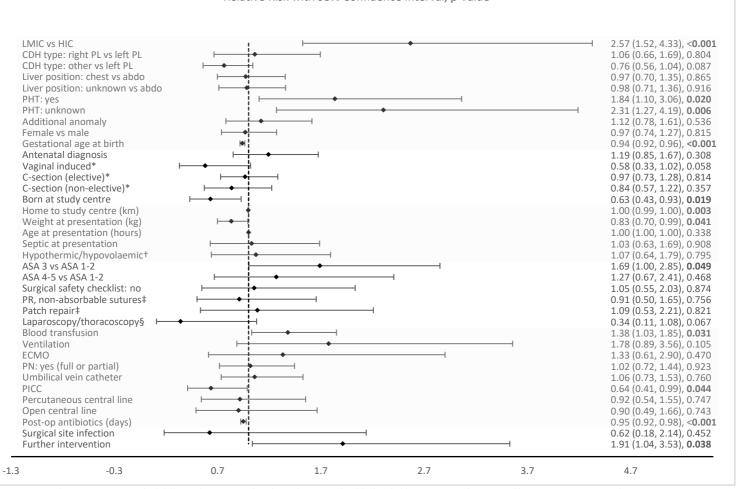
#### Supplementary Figure 1: Multivariable analyses of factors affecting mortality for patients with oesophageal atresia



\*Vs spontaneous vaginal delivery. †At presentation. ‡Vs primary oesophageal anastomosis. §When required. ASA: American Society of Anesthesiologists score at primary surgical intervention. C-section: Caesarean section. HIC: High-income country. LMIC: Low- or middle-income country. OA: Oesophageal atresia. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. Further intervention: Need for unplanned reintervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Figure shading demarcates the variables into the following groups, respectively: demographics, antenatal care and birth, distance from home to study hospital and clinical condition at presentation, intra-operative factors, perioperative factors, and secondary outcomes and condition-specific complications. Of the 560 study patients with oesophageal atresia, 538 were included within this multivariable model (n=22 excluded due to missing data).

Relative Risk with 95% Confidence Interval, p Value

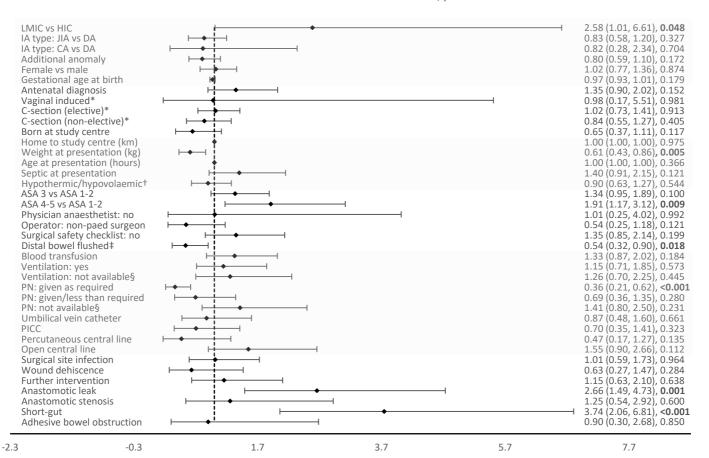
### Supplementary Figure 2: Multivariable analyses of factors affecting mortality for patients with congenital diaphragmatic hernia



Relative Risk with 95% Confidence Interval, p Value

\*Vs spontaneous vaginal delivery. †At presentation. ‡Vs primary repair with absorbable sutures. §Vs laparotomy/thoracotomy. ASA: American Society of Anesthesiologists score at primary surgical intervention. CDH: Congenital diaphragmatic hernia. C-section: Caesarean section. ECMO: Extracorporeal membrane oxygenation. HIC: High-income country. LMIC: Low- or middle-income country. PL: Posteriolateral (Bochdalek). PHT: Pulmonary hypertension. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. PR: Primary repair. Further intervention: Need for unplanned re-intervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Three patients who required ventilation, but it was unavailable all died (not included in multivariable model). Figure shading demarcates the variables into the following groups, respectively: demographics, antenatal care and birth, distance from home to study hospital and clinical condition at presentation, intraoperative factors, perioperative factors, and secondary outcomes. Of the 448 study patients with CDH, 403 were included within this multivariable model (n=45 excluded due to missing data).

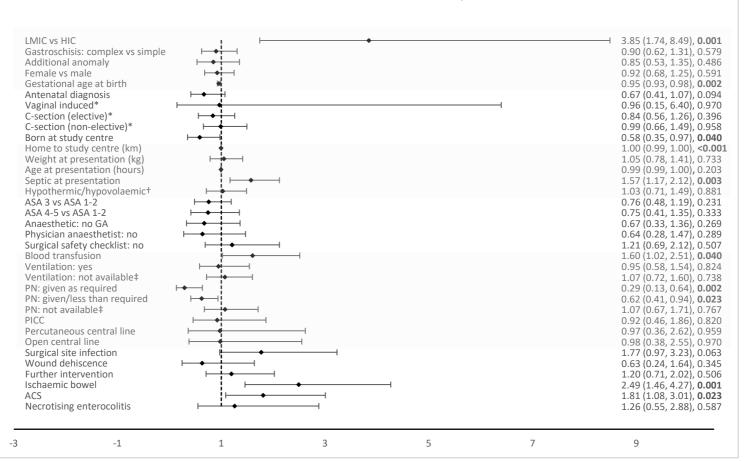
#### Supplementary Figure 3: Multivariable analyses of factors affecting mortality for patients with intestinal atresia



Relative Risk with 95% Confidence Interval, p Value

\*Vs spontaneous vaginal delivery. †At presentation. ‡Intra-operatively to check for patency. §When required. ASA: American Society of Anesthesiologists score at primary surgical intervention. CA: Colonic atresia. C-section: Caesarean section. DA: Duodenal atresia. HIC: High-income country. IA: Intestinal atresia. JIA: Jejuno-ileal atresia. LMIC: Low- or middle-income country. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. Further intervention: Need for unplanned re-intervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Figure shading demarcates the variables into the following groups, respectively: demographics, antenatal care and birth, distance from home to study hospital and clinical condition at presentation, intra-operative factors, perioperative factors, and secondary outcomes and condition-specific complications. Of the 681 study patients with intestinal atresia, 659 were included within this multivariable model (n=22 excluded due to missing data).

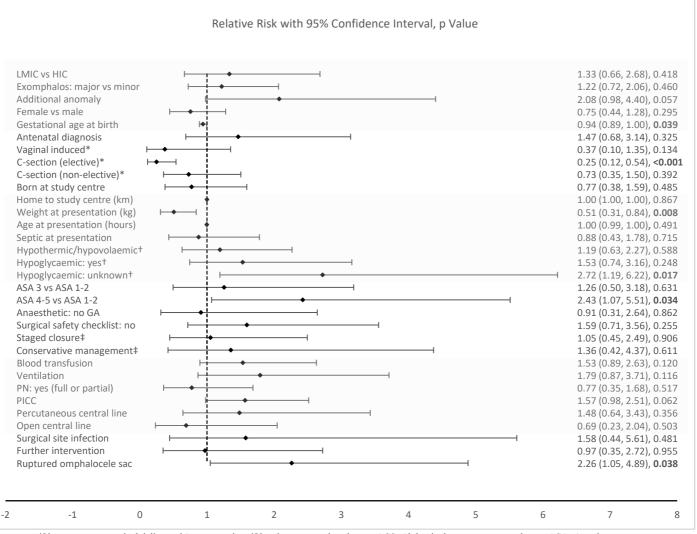
#### Supplementary Figure 4: Multivariable analyses of factors affecting mortality for patients with gastroschisis



Relative Risk with 95% Confidence Interval, p Value

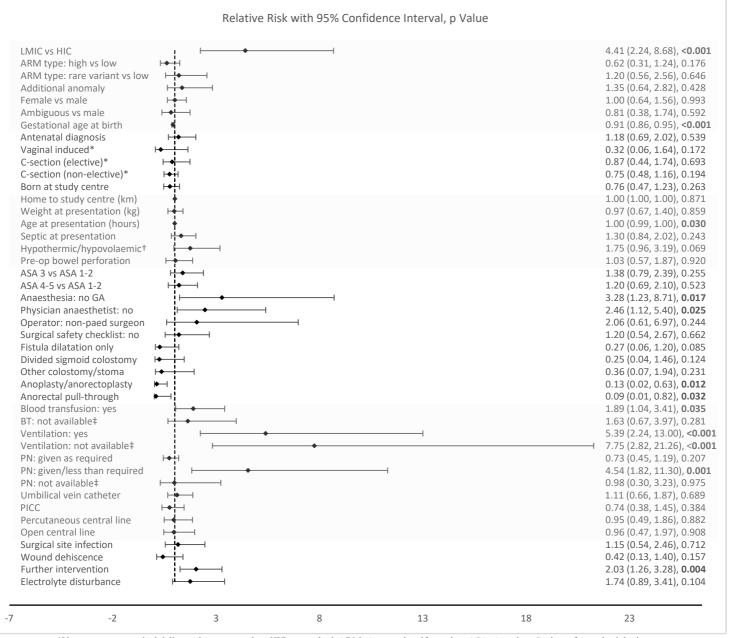
\*Vs spontaneous vaginal delivery. †At presentation. ‡When required. ACS: Abdominal compartment syndrome. ASA: American Society of Anesthesiologists score at primary surgical intervention. C-section: Caesarean section. HIC: High-income country. LMIC: Low- or middle-income country. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. Further intervention: Need for unplanned re-intervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Figure shading demarcates the variables into the following groups, respectively: demographics, antenatal care and birth, distance from home to study hospital and clinical condition at presentation, intrao operative factors, perioperative factors, and secondary outcomes and condition-specific complications. Of the 453 study patients with gastroschisis, 441 were included within this multivariable model (n=12 excluded due to missing data).

#### Supplementary Figure 5: Multivariable analyses of factors affecting mortality for patients with exomphalos



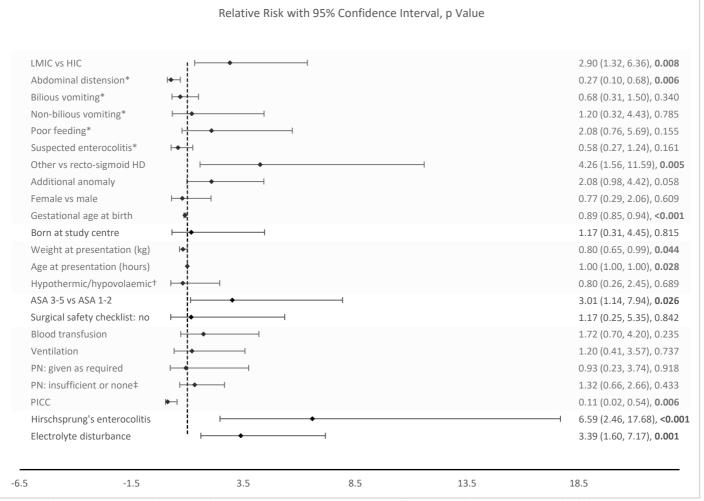
\*Vs spontaneous vaginal delivery. †At presentation. ‡Vs primary operative closure. ACS: Abdominal compartment syndrome. ASA: American Society of Anesthesiologists score at primary surgical intervention. C-section: Caesarean section. HIC: High-income country. LMIC: Low- or middle-income country. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. Further intervention: Need for unplanned reintervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Figure shading demarcates the variables into the following groups, respectively: demographics, antenatal care and birth, distance from home to study hospital and clinical condition at presentation, intra-operative factors, perioperative factors, and secondary outcomes and condition-specific complications. Of the 325 study patients with exomphalos, 293 were included within this multivariable model (n=32 excluded due to missing data).

#### Supplementary Figure 6: Multivariable analyses of factors affecting mortality for patients with anorectal malformation



\*Vs spontaneous vaginal delivery. †At presentation. ‡When required. ARM: Anorectal malformation. ASA: American Society of Anesthesiologists score at primary surgical intervention. C-section: Caesarean section. HIC: High-income country. LMIC: Low- or middle-income country. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. Further intervention: Need for unplanned re-intervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Figure shading demarcates the variables into the following groups, respectively: demographics, antenatal care and birth, distance from home to study hospital and clinical condition at presentation, intra-operative factors, perioperative factors, and secondary outcomes and condition-specific complications. Of the 991 study patients with ARM, 952 were included within this multivariable model (n=39 excluded due to missing data).

### Supplementary Figure 7: Multivariable analyses of factors affecting mortality for patients with Hirschsprung's Disease



\*Symptom at presentation. †At presentation. ‡When required. ASA: American Society of Anesthesiologists score at primary surgical intervention. HD: Hirschsprung's disease. HIC: High-income country. LMIC: Low- or middle-income country. PICC: Peripherally inserted central catheter. PN: Parenteral nutrition. Further intervention: Need for unplanned re-intervention within 30 days of surgery. Additional anomaly includes additional study condition(s) if present. Surgical intervention could not be included in the multivariable model because there were no deaths in the primary pullthrough group (0/109). Figure shading demarcates the variables into the following groups, respectively: demographics, birth place, condition at presentation, intra-operative factors, perioperative factors, and condition-specific complications. Of the 517 study patients with Hirschsprung's disease, 494 were included within this multivariable model (n=23 excluded due to missing data).

**Supplementary Table 18: Validation of the patient data** (64 patients with 66 study conditions from 21 hospitals [9 HIC, 11 MIC, 1 LIC] in 17 countries and 5 languages [English, Spanish, Portuguese, German and Lithuanian])

Variable being validated	N	Observed agreement	Expected agreement	Kappa*	SE
Generic variables for all patients:					
During which month did the patient present to your hospital?	64	98%	20%	0.98	0.060
Sex	64	100%	52%	1.00	0.125
Did the patient survive to discharge?	64	98%	73%	0.94	0.125
Did the patient require a further unplanned intervention?	64 64	80% 100%	57% 78%	0·53 1·00	0.095 0.125
What study condition does this patient have? (choice=Oesophageal atresia) What study condition does this patient have? (choice=CDH)	64	100%	78%	1.00	0.125
What study condition does this patient have? (choice=Intestinal atresia)	64	100%	66%	1.00	0.125
What study condition does this patient have? (choice=Gastroschisis)	64	100%	81%	1.00	0.125
What study condition does this patient have? (choice=Exomphalos/ Omphalocele)	64	98%	77%	0.93	0.125
What study condition does this patient have? (choice=Anorectal malformation)	64	100%	66%	1.00	0.125
What study condition does this patient have? (choice=Hirschsprung's Disease)	64	100%	81%	1.00	0.125
Condition specific variables:					
Oesophageal atresia (n=8):					
Type of OA +/- TOF (Gross classification)	8	100%	78%	1.00	0.354
Long or short gap?	8	63%	48%	0.27	0.210
Primary intervention (choice=TOF ligation)	8	63%	50%	0.25	0.342
Primary intervention (choice=Oesophageal anastomosis)	8	100%	78%	1.00	0.354
Primary intervention (choice=Oesophagostomy)	8	100%	-	-	-
Primary intervention (choice=Gastrostomy)	8	100%	-	-	-
Primary intervention (choice=Ligation of the distal oesophagus)	8	100%	-	-	-
Primary intervention (choice=Gastro-oesophageal disconnection)	8	100%	-	-	-
Primary intervention (choice=Foker technique)	8	100%	-	-	-
Primary intervention (choice=Fundoplication)	8	100%	-	-	-
Other (including primary intervention for other congenital anomaly)	8	100%	-	-	-
Palliative care/no intervention	8	100%	78%	1.00	0.354
Surgical approach?	7	71%	39%	0.53	0.237
Congenital diaphragmatic hernia (n=8):					
Type of CDH	8	88%	44%	0.78	0.222
Did the patient receive extracorporeal membrane oxygenation (ECMO)?	8	100%	78%	1.00	0.354
Primary intervention	8	75%	44%	0.56	0.226
Surgical approach	7	100%	55%	1.00	0.284
Intestinal atresia (n=14):					
Type of intestinal atresia	14	93%	48%	0.86	0.239
Classification of duodenal atresia or colonic atresia (CA)	8	50%	34%	0.24	0.219
Classification of jejuno-ileal (JIA) atresia	5	100%	36%	1.00	0.326
Primary intervention for duodenal atresia	8	75%	56%	0.43	0.189
Surgical approach for duodenal atresia	7	100%	76%	1.00	0.378
Primary intervention for JIA or CA (choice=Primary anastomosis)	14	86%	65%	0.59	0.244
Primary intervention for JIA or CA (choice=Bowel resection)	14	93%	56%	0.84	0.264
Primary intervention for JIA or CA (choice=Loop stoma)	14	100%	87%	1.00	0.267
Primary intervention for JIA or CA (choice=Divided stoma)	14	100%	87%	1.00	0.267
Primary intervention for JIA or CA (choice=Division of web only)	14 14	100%	-	-	-
Primary intervention for JIA or CA (choice=Bishop-Koop stoma)	14	100%	-	-	-
Primary intervention for JIA or CA (choice=Santulli stoma) Primary intervention for JIA or CA (choice=Palliation)	14	100%	-	-	-
Primary intervention for JIA or CA (choice=Other)	14	100%	-		-
Surgical approach JIA or CA	4	100%	-	-	-
Gastroschisis (n=7):		10070			
Type of gastroschisis: (choice=Simple)	7	100%	76%	1.00	0.378
Type of gastroschisis: (choice=Complex: associated with atresia)	7	100%	76%	1.00	0.378
Type of gastroschisis: (choice=Complex: associated with necrosis)	, 7	100%	-	-	-
Type of gastroschisis: (choice=Complex: associated with herforation)	7	100%	-	-	-
Type of gastroschisis: (choice=Complex: associated with closing gastroschisis)	7	100%	-	-	-
Primary intervention	7	71%	35%	0.56	0.239
Method of defect closure	6	83%	58%	0.60	0.279
On what day following admission was abdominal wall closure achieved?	6	67%	22%	0.57	0.210
Exomphalos/ omphalocele (n=8):					
Type of Exomphalos?	8	88%	69%	0.60	0.324
Hypoglycaemic on arrival?	8	88%	67%	0.62	0.248
Primary intervention	8	100%	41%	1.00	0.274
If conservative management, was a topical treatment applied to the exomphalos sac?	3	100%	56%	1.00	0.577
Anorectal malformation (n=14):					
Type of anorectal malformation (Krickenbeck classification)	14	64%	16%	0.58	0.100
Did the neonate have pre-operative bowel perforation?	14	100%	87%	1.00	0.267
What was the primary intervention undertaken? (choice=Fistula dilation: no surgery)	14	100%	87%	1.00	0.267
What was the primary intervention undertaken? (choice=Loop sigmoid colostomy)	14	100%	87%	1.00	0.267
What was the primary intervention undertaken? (choice=Divided sigmoid colostomy)	14	71%	46%	0.47	0.227
What was the primary intervention undertaken? (choice=Other stoma)	14	71%	55%	0.36	0.206
What was the primary intervention undertaken? (choice=Anoplasty)	14	100%	87%	1.00	0.267

Total: median (IQR)		100% (88%, 100%)	65% (48%, 78%)	0·96 (0·57, 1·00)	
Was it laparoscopic assisted?	3	100%	-	-	-
If primary pull-through was undertaken, did the patient have a covering stoma?	3	100%	-	-	-
Primary intervention	7	86%	24%	0.81	0.200
Source of diagnosis of Hirschsprung's disease (choice=Other)	7	100%	-	-	-
Source of diagnosis of Hirschsprung's disease (choice=Anorectal manometry)	7	100%	-	-	-
Source of diagnosis of Hirschsprung's disease (choice=Genetic)	7	100%	-	-	-
Source of diagnosis of Hirschsprung's disease (choice=Not confirmed: suspected only)	7	86%	65%	0.59	0.344
Source of diagnosis of Hirschsprung's disease (choice=Barium enema)	7	86%	53%	0.70	0.360
Source of diagnosis of Hirschsprung's disease (choice=Full thickness biopsy)	7	86%	86%	0.00	0.000
Source of diagnosis of Hirschsprung's disease (choice=Mucosal biopsy)	7	100%	51%	1.00	0.378
Hirschsprung's Disease (n=7):					
What was the primary intervention undertaken? (choice=Other)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Palliative care/no intervention)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Abdominoperineal pull-through)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Abdominosacroperineal pull-through)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Posterior sagittal anorectoplasty (PSARP)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Divided transverse colostomy)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Loop transverse colostomy)	14	100%	-	-	-
What was the primary intervention undertaken? (choice=Laparoscopic-assisted pull-through)	14	93%	93%	0.00	0.000

\*Kappa could not be calculated for variables where all data were confined to one category. Interpretation of kappa: <0 no agreement, 0.01-0.2 none to slight, 0.21-0.40 fair, 0.41-0.6 moderate, 0.61-0.8 substantial, 0.81-1.00 almost perfect agreement. Ten hospitals that were randomly selected for validation were unable to provide patient data retrospectively. CDH: Congenital diaphragmatic hernia. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries. OA: Oesophageal atresia. TOF: Tracheo-oesophageal fistula.

## Supplementary Table 19: Feedback surveys completed by local investigators at validating hospitals

regarding the quality of data collection (105 surveys from 27 hospitals [9 HIC, 17 MIC, 1 LIC] in 20 countries, completed in 7 languages [English, Spanish, Portuguese, German, Lithuanian, French and Turkish])

Local investigator survey questions and responses	All (n=105) N (%)	HIC (n=26) N (%)	MIC (n=72) N (%)	LIC (n=7) N (%)
Do you think your team managed to identify all patients eligible for the study during the data				
collection period?	07 (020)	24 (028/)	(0.(0.40/)	5 (710/)
Yes No	97 (92%)	24 (92%) 0	68 (94%) 2 (3%)	5 (71%) 0
Unsure	2 (2%) 6 (6%)	2 (8%)	2 (3%) 2 (3%)	2 (29%)
If no or unsure, what problems did you experience with identifying patients?	0 (070)	2 (0/0)	2 (370)	2 (2)/0)
Patient died/discharged before a study team member could assess/confirm diagnosis	2	0	2	0
No centralised system to identify eligible patients throughout the hospital	1	1	0	0
Neonatal unit is at a different hospital to the study team	1	1	0	0
Long histology processing time - patients with Hirschsprung's on histology could have been		0	0	1
missed Heavy workload	1	0	1	0
Could any eligible patients have been missed from study inclusion?	1	0	1	0
Yes	6 (6%)	3 (12%)	3 (4%)	0
No	91 (87%)	22 (85%)	65 (90%)	4 (57%)
Unsure	8 (8%)	1 (4%)	4 (6%)	3 (43%)
If yes or unsure, how might patients have been missed from study inclusion?	_	_		
Patients managed by different services/departments within study hospital	3	2	1	0
Patient died/discharged before a study team member could assess/confirm diagnosis Long histology processing time	3 2	0 0	3 0	0 2
Long nistology processing time Inaccurate/missed diagnosis/ not referred to paediatric surgeons	2	0	2	20
No antenatal diagnosis	1	0	1	0
No parental consent	1	Ő	1	Ő
Missed during registration	1	0	1	0
Are there any study conditions that were more likely to have been missed from study				
inclusion?*	E (ED))	0	E (70/)	0
Oesophageal atresia +/- tracheo-oesophageal fistula	5 (5%)	0	5 (7%)	0
Congenital diaphragmatic hernia Intestinal atresia	7 (7%) 2 (2%)	0 0	7 (10%) 2 (3%)	0 0
Gastroschisis	0	0	0	0
Omphalocele/ exomphalos	2 (2%)	1 (4%)	1 (1%)	Ő
Anorectal malformation	3 (3%)	1 (4%)	2 (3%)	0
Hirschsprung's disease	6 (6%)	0	4 (6%)	2 (29%)
None of the above	88 (84%)	25 (96%)	59 (82%)	4 (57%)
If you selected any of the above conditions, why was this the case? Missed/difficult diagnosis due to poor diagnostic tools, low index of suspicion, management by non-surgical teams without experience with such conditions	5	0	5	0
Patient died/discharged before a study team member reviewed patient/made diagnosis (including	3	1	2	0
those conservatively managed by medical teams)				
Prolonged histology time for patients with suspected Hirschsprung's disease	2	0	0	2
Patients managed by different services/departments	1	0	1	0
How did you identify patients to include in the study?* Ward patient lists	52 (50%)	12 (46%)	36 (50%)	4 (57%)
Ward round	52 (50%) 50 (48%)	8 (31%)	36 (50%)	6 (86%)
Operating room logbook	40 (38%)	5 (19%)	33 (46%)	2 (29%)
Planned operation lists	39 (37%)	9 (35%)	25 (35%)	5 (71%)
Handover	38 (36%)	10 (38%)	23 (32%)	5 (71%)
Personal knowledge of patients	36 (34%)	8 (31%)	25 (35%)	3 (43%)
Word of mouth Other	18 (17%)	4 (15%)	8 (11%)	6 (86%)
Other If other, please provide further detail:	11 (10%)	5 (19%)	6 (8%)	0
ICD codes	4	4	0	0
Clinics/ Emergency Room	2	0	2	0
Referrals by paediatricians/other doctors	2	Ő	2	Ő
Hospital computer system data	1	0	1	0
Neonatology logbook	1	1	0	0
When you/ study team members were not present, were you able to identify all the patients to be included in the study on these days?				
be included in the study on those days? Yes	87 (83%)	22 (85%)	59 (82%)	6 (86%)
No	2 (2%)	0	2 (3%)	0 (80%)
Unsure	5 (5%)	2 (8%)	3 (4%)	0
Not applicable	11 (11%)	2 (8%)	8 (11%)	1 (14%)
How did you identify patients to be included in the study on days when you and the other				
Global PaedSurg local investigators were not present at the hospital?*				1 (1 40 ()
Admission logs/patients register	21 (2021)	0 (0 50 ()		
	31 (30%)	9 (35%) 2 (12%)	21 (29%)	1 (14%)
Handover	19 (18%)	3 (12%)	16 (22%)	0
Handover Word of mouth	19 (18%) 14 (13%)	3 (12%) 2 (8%)	16 (22%) 7 (10%)	0 5 (71%)
Handover Word of mouth Ward rounds	19 (18%) 14 (13%) 7 (7%)	3 (12%) 2 (8%) 1 (4%)	16 (22%) 7 (10%) 4 (6%)	0
Handover Word of mouth	19 (18%) 14 (13%)	3 (12%) 2 (8%)	16 (22%) 7 (10%)	0 5 (71%) 2 (29%)

Not applicable (one collaborator is always present/substitute was appointed)	44 (4%)	8 (31%)	34 (32%)	2 (29%)
Do you have any concerns regarding the accuracy of the data collected on the patients				
included in the study?				
Yes	0	0	0	0
No	101 (96%)	25 (96%)	69 (96%)	7 (100%)
Unsure	4 (4%)	1 (4%)	3 (4%)	0
If yes or unsure, what data points might be inaccurate and what were the challenges for				
collecting this data?				
Some patients left the hospital before the diagnosis/ investigations were complete	1	0	1	0
Conditions such as ARM with perineal fistula require expert surgical diagnosis which might not be	1	0	1	0
available for the neonatology team managing the patient				
Human error in data collection	1	1	0	0
No antenatal record cards for antenatal data	1	0	1	0
Were any of the data points more difficult to collect accurately? If so, which ones and why?				
None	81	22	56	3
Diagnosis: lack of expert input/ classification not normally used by the study team/ histology time	5	0	2	3
Missing data within patient registers/notes (i.e means of transport to the hospital)	5	-	5	-
Distance from hospital difficult to calculate for patients from rural regions not on the map	4	1	3	-
Patient follow up – difficult to 30-days post intervention	3	2	0	1
Lack of information from referring centres/ information regarding care prior to arrival	3	1	2	-
Specific data from prescriptions such as number of days on parenteral nutrition	2	0	2	0
Gestational age at birth - some parents were unsure	1	0	1	0
Lack of equipment i.e no neonatal blood pressure cuff	1	-	1	-
Time from birth to presentation sometimes difficult to calculate	1	-	1	-
Antenatal care information – not always available	1	_	1	-

 Antenatal care information – not always available
 1
 1

 \*Denominator is the number of completed surveys as more than one answer could be selected. Percentages not calculated for data from free text boxes. Percentages have been rounded and may not total 100. At four validating hospitals a feedback survey was not completed by study collaborators. HIC: High-income countries. ICD: International Classification of Diseases. LIC: Low-income countries. MIC: Middle-income countries.

**Supplementary Table 20: Feedback surveys completed by validating local investigators** (31 surveys from 31 hospitals [12 HIC, 18 MIC, 1 LIC] in 20 countries, completed in 6 languages [English, Spanish, Portuguese, German, Lithuanian and Turkish])

Validator survey questions and responses	All (n=31) N (%)	HIC (n=12) N (%)	MIC (n=18) N (%)	LIC (n=1) N (%)
Do you think your team managed to identify and include all eligible patients for the study			- ( )	- ( )
during the data collection period? Yes	29 (93%)	12 (100%)	16 (89%)	1 (100%)
No	1 (3%)	0	1 (6%)	0
Unsure	1 (3%)	Ő	1 (6%)	Ő
If you answered no or unsure, what problems might they have experienced when trying to identify patients?			. /	
Patients managed by different services/departments within study hospital	1	0	1	0
Have you managed to identify any additional patients that were eligible for the study, but were not included in the original data collection? Yes	2 (6%)	0	2 (119/)	0
No	2 (6%) 29 (94%)	0 12 (100%)	2 (11%) 16 (89%)	1 (100%)
If yes, through what sources were you able to identify additional patients? Why do you	2) ()470)	12 (10070)	10 (0770)	1 (10070)
think these patients might have been missed from study inclusion?				
Hospital admission staff e.g. paediatric and surgical residents triaging patients	1	0	1	0
Admission records on the ward	1	0	1	0
Are there any study conditions that were more likely to have been missed from study				
inclusion?* Oesophageal atresia	3 (10%)	1 (8%)	2 (11%)	0
Congenital diaphragmatic hernia	3 (10%)	0	3 (17%)	0
Intestinal atresia	3 (10%)	1	2 (11%)	0
Gastroschisis	2 (6%)	0	2 (11%)	Ő
Omphalocele/Exomphalos	4 (13%)	1 (8%)	3 (17%)	0
Anorectal malformation	6 (19%)	3 (25%)	3 (17%)	0
Hirschsprung's disease	18 (58%)	6 (50%)	11 (61%)	1 (100%)
If you selected any of the above conditions, why might this have been the case?	14	6	Q	0
Late diagnosis due to complex diagnosis/mild presentation/treated as another diagnosis Histopathological delay	14 4	6 0	8 3	0 1
Patients managed by different services/departments within study hospital	4	0	1	0
Validator forced to select an option due to survey design	9	4	5	ŏ
What sources did you utilise to check whether all patients had been included in the				
study?*				
Operating room log book	19 (61%)	7 (58%)	11 (61%)	1 (100%)
Ward patient lists	16 (52%)	4 (33%)	11 (61%)	1 (100%)
Admission records	13 (42%)	3 (25%)	9 (50%) 7 (20%)	1 (100%)
Personal knowledge of patients Word of mouth/ discussion with colleagues	11 (35%) 10 (32%)	3 (25%) 5 (42%)	7 (39%) 4 (22%)	1 (100%) 1 (100%)
Elective operation lists	6 (19%)	4 (33%)	2 (11%)	0
Other	6 (19%)	3 (25%)	3 (17%)	0
If other, please provide further detail:				
Electronic medical records or database	5	3	2	0
NICU/PICU admission register & neonatal ward register	1	0	1	0
If the Global PaedSurg local investigators at your centre were not present at the hospital for one or more of the days during the data collection period, do you think they were able to identify all the patients to be included in the study on those days?				
Yes	27 (87%)	12 (100%)	14 (78%)	1 (100%)
No	1 (3%)	0	1 (6%)	0
Unsure	3 (10%)	0	3 (17%)	0
How would they identify patients to be included in the study on days when they were not				
present at the hospital? Discussion/updates from colleagues	11 (36%)	4 (33%)	7 (39%)	0
Electronic medical records or databases	7 (23%)	6 (50%)	1 (6%)	0
Not applicable: as a collaborator always present	5 (16%)	1 (8%)	4 (22%)	0
Hospital/ward records or operation room logbook	5 (16%)	1 (8%)	4 (22%)	0
Admission records	2 (7%)	0	1 (6%)	1 (100%)
Outpatient clinic	1 (3%)	0	1 (6%)	0
Do you have any concerns regarding the accuracy of the data collected on the patients neluded in the study?	2 (70/)	1 (90/)	1 ((0))	0
Yes	2(7%)	1 (8%)	1(6%)	0
No Unsure	28 (90%) 1 (3%)	11 (92%) 0	16 (89%) 1 (6%)	1 (100%) 0
f yes or unsure, what data points might be inaccurate and what were the challenges for ollecting this data?	1 (370)	v	1 (0/0)	0
Operative findings - information was missing from the operation reports, with inferences	1	1	0	0
made based on procedure performed Month of the data collection – patients sometimes included in month corresponding to	1	0	1	0
procedure date, not admission date Poor documentation – requiring in-person discussion with responsible clinician in order to clarify certain points	1	0	1	0
Were any of the data points more difficult to collect accurately?				
Yes	7 (23%)	4 (33%)	3 (17%)	0
No	24 (77%)	8 (67%)	15 (83%)	1 (100%)

If so, which ones and why?				
CVC placement - overcome by reviewing patient data e.g. radiology	1	1	0	0
Operative findings – poor documentation	1	1	0	0
Gastroschisis definitions - may be interpreted differently by different observers	1	1	0	0
Distance to hospital – inferred from most direct route to hospital	1	1	0	0
Type of colostomy for anorectal malformation – overcome by reviewing theatre notes	1	0	1	0
Perianal fistula in ARM – diagnosis requires subspecialty physical examination	1	0	1	0
ASA score (not documented) and high output stoma in anorectal malformation (output not	1	0	1	0
accurately measured)				
Were there any data points that you were unable to identify retrospectively during the				
validation process?				
Yes	1 (3%)	1 (8%)	0	0
No	30 (97%)	11 (92%)	18 (100%)	1 (100%)
If yes, what were your challenges? Do you think the Global PaedSurg local investigators				
at your centre would have been able to collect these data points prospectively during the				
study?				
Operative findings - prospectively this might have been easier as the responsible surgeon	1	1	0	0
could be questioned directly				

\*Denominator is the number of completed surveys as more than one answer could be selected. Percentages not calculated for data from free text boxes. Percentages have been rounded and may not total 100. When interpreting the above findings it is important to note that the validating collaborator collected the validation data retrospectively, whereas the study collaborators collected the data for the study prospectively and hence may not have experienced the same problems with collecting data from patient records and hospital documentation. ARM: Anorectal malformation. ASA: American Society of Anesthesiologists. CVC: Central venous catheter. HIC: High-income countries. LIC: Low-income countries. MIC: Middleincome countries. NICU: Neonatal intensive care unit. PICU: Paediatric intensive care unit.

## Supplementary Table 21: A comparison of the number of patients in the main study database and the number of eligible patients identified by validating local investigators

(23 hospitals [11 HIC,11 MIC,1 LIC] in 18 countries, 4 languages [English, Spanish, German, Lithuanian])

Study condition	All N			HIC N		MIC LIC N N						
	Main database	Validator survey	Difference	Main database	Validator survey	Difference	Main database	Validator survey	Difference	Main database	Validator survey	Difference
Oesophageal atresia	13	9	-4	6	5	-1	7	4	-3	0	0	0
CDH	15	15	0	8	8	0	7	7	0	0	0	0
Intestinal atresia	17	18	+1	6	7	+1	10	10	0	1	1	0
Gastroschisis	13	13	0	5	6	+1	8	7	-1	0	0	0
Exomphalos	9	11	+2	1	1	0	8	10	+2	0	0	0
Anorectal malformation	19	22	+3	5	5	0	14	17	+3	0	0	0
Hirschsprung's disease	8	10	+2	4	3	-1	4	7	+3	0	0	0
Total (conditions)	94	98	4	35	35	0	58	62	4	1	1	0
Total (patients*)	92	96	4	34	34	0	57	61	4	1	1	0

\*Discrepancy between total patients and total conditions is a result of two patients having two co-existing study conditions: 1) intestinal atresia and anorectal malformation; 2) exomphalos and anorectal malformation. Data was not available for eight hospitals. CDH: Congenital diaphragmatic hernia. HIC: High-income countries. LIC: Low-income countries. MIC: Middle-income countries.