

## Supplementary Information

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## Expanded Methods

### Costing methods for items not available in secondary sources

A bottom-up approach was followed to estimate unit costs associated to induction, episiotomy, perineal tear, manual removal of the placenta, blood transfusions and neonatal death. Therefore, we replicated the bottom-up costing survey conducted in the cost-effectiveness analysis of the Birthplace in England Programme to estimate the unit costs for these items [1]. A bottom up costing proforma was circulated to all INFANT trial midwives to complete. These were then followed up with face-to-face interviews. The proformas represented a detailed approach to capturing all possible NHS resources used in the care of the mother and baby during the period between admission and discharge. A working document was generated to capture the generalisability and variability of the procedures. For each scenario the trial midwife was asked to describe in detail the 'standard procedures' that would be undertaken for labour and birth events and, where possible, the typical ratios of 'staff to woman' care. Scenarios were then varied between the least and the most complex, and included a description of the associated change in activity, staffing levels, and related resource use. Each of the interviews included approximately one and a half hours of structured time. The data were then compiled into comparative resource use spreadsheets and were cross-referenced. The original unit costs (calculated for Birthplace) were then revised here to be trial specific.

The cost for total body cooling was not available in secondary sources and was extracted from a primary study [2].

### INFANT decision-support software costs

To estimate whether the INFANT decision support software would incur additional NHS resources beyond the implementation of the Guardian system, the health economics team met with a representative from K2 Medical Systems to identify a base case cost. All sites (and hence all women) participating in the trial used the Guardian System, but we identified three additional cost aspects relevant to the decision support software.

The first was the new software price to be paid by the NHS. A price for the decision support had not been determined at the time the study was concluded. We understood that the price would be

determined using a commercial strategy likely determined in view of the trial results. Therefore, for the base case scenario it was initially assumed that the software would be made available free of charge.

Secondly, an annual maintenance fee would be needed for software updates, and other related information technology issues. However, a maintenance fee for the whole Guardian System had already been paid by the trial sites and it was assumed that any maintenance needed for the software would be included.

Finally, training of NHS staff to develop familiarity and technical competence with the software was reviewed. All the training received by staff during the trial preparation was delivered during working hours and incorporated into regular working patterns so staff did not have to take additional time off work. It was assumed that a similar model would be used across the NHS and no additional training costs were estimated. In the base case analysis therefore, none of the three identified elements would incur any additional resources for the NHS, and no specific costs for the decision support software were assigned. We explored the impact of assigning prices and maintenance fees to the cost of decision support software per delivery in a sensitivity analysis.

A two-way sensitivity analysis was conducted to explore the impact of varying the price of the software and the annual maintenance fee on the potential INFANT price per delivery. We used these prices to evaluate at which cut-off price we observed a statistically significant maternal mean cost difference between trial arms from trial entry to hospital discharge. For this exercise, we assumed that staff training did not incur any additional costs for the NHS.

We conducted a spreadsheet exercise in Excel 2016 and created a dataset that included data from the 19 English NHS Trusts participating in the study on the number of termed births (38-43 weeks), the proportion of women being monitored with cardiotocography (CTG) in each trust (assumed to be 60%) the price of the software, and an annual maintenance. The number of termed births in each trust was extracted from the 2014-2015 NHS Maternity Statistics [3]. For a given price of the software and maintenance fee we estimated a fee per delivery in each trust dividing the overall costs paid by the trust (price plus maintenance) by the number of women monitored with CTG. An average across all

trusts provided the potential mean price per delivery across the NHS. In a two-way sensitivity analysis we evaluated how this mean varied for different values of INFANT software price (range £0 to £60,000) and annual maintenance fee (range £0 to £10,000). The results of the sensitivity analysis are presented in Table S7 below. We recalculated for these prices, the mean maternal cost difference from trial entry to discharge between treatment arms and identified the cut-off price where a statistical significance difference favouring the no-decision support unit was obtained. Table S7 identified this value between £11 and £12.

### Multiple imputation methodology

An imputation model was constructed that included covariates with complete data on trial entry characteristics (maternal age at trial entry, twin pregnancy, gestational age at trial entry, maternal parity, the baby's birth weight and mode of delivery), EQ-5D-3L scores and individual categories of resource use variables at 12 and 24-month follow-up. Predictive mean matching, estimating 50 imputations, was implemented separately by trial allocation. Mean estimates and estimates of standard errors were combined between imputed datasets using Rubin's rule [4] and were also adjusted using random intercept binomial or linear models adjusting for stratification and clustering factors. We present combined mean resource use and cost estimates and adjusted standard errors (SE) by trial allocation across imputed datasets and associated 95% mean differences to report the results of the multiple imputation analysis as recommended by guidelines of good practice of reporting of multiple imputation analysis [5,6].

### References

- [1] Schroeder E, Petrou S, Patel N, Hollowell J, Puddicombe D, Redshaw M, et al. Cost effectiveness of alternative planned places of birth in woman at low risk of complications: evidence from the Birthplace in England national prospective cohort study. *BMJ*. 2012;344:e2292
- [2] Regier, D. A., Petrou, S., Henderson, J., Eddama, O., Patel, N., Strohm, B., Brocklehurst, P., Edwards, A. D. and Azzopardi, D. (2010). Cost-effectiveness of therapeutic hypothermia to treat neonatal encephalopathy. *Value Health*; 13(6): 695-702.
- [3] NHS Digital. (2015). NHS Maternity Statistics - England 2014-15. Available from <https://digital.nhs.uk/catalogue/PUB19127>. [Accessed 8 January 2020].

- [4] Little, R. J. and Rubin, D. B. (2002). *Statistical Analysis with Missing Data*. Hoboken, NJ, Wiley.
- [5] White, I. R., Royston, P. and Wood, A. M. (2011). Multiple imputation using chained equations: Issues and guidance for practice. *Stat Med*; 30(4): 377-39
- [6] Faria, R., Gomes, M., Epstein, D. and White, I. R. (2014). A guide to handling missing data in cost-effectiveness analysis conducted within randomised controlled trials. *Pharmacoeconomics*; 32(12): 1157-1170.

## Supplementary Tables

**Table S1: Maternal characteristics at trial entry by follow-up status: responders versus non-responders or not followed up at 2 years (mothers of surviving infants without the trial primary outcome only)**

	Non-responders or not followed up at 2 years (n=38,669) <sup>a</sup> (1)	Responders at 2 years for developmental assessment (n=6,986) <sup>a</sup> (2)	Responders at 2 years for maternal and health care resource use evaluation (n=3,798) <sup>a</sup> (3)	P-value <sup>b</sup> (1) versus (2)	P-value <sup>b</sup> (1) versus (3)
Maternal age (years): Median (IQR)	29 (24, 33)	30 (26, 34)	28 (24, 32)	<0.001	<0.001
Ethnic group, n (%): <sup>c</sup>					
White	28,714 (81.9)	5,461 (90.9)	2,823 (89.7)		
Indian	1,318 (3.8)	130 (2.2)	66 (2.1)	<0.001	<0.001
Pakistani	1,356 (3.9)	166 (2.8)	154 (4.9)		
Bangladeshi	190 (0.5)	19 (0.3)	11 (0.4)		
Black Caribbean	231 (0.7)	19 (0.3)	4 (0.1)		
Black African	917 (2.6)	37 (0.6)	19 (0.6)		
Any other ethnic group	2,354 (6.7)	176 (2.9)	70 (2.2)		
Unknown	3,589	978	3,147		
Twin pregnancy, n(%):	486 (1.3)	80 (1.2)	77 (2.0)	0.64	<0.001
Gestational age at entry (completed weeks):					
Median (IQR)	40 (38, 41)	40 (39, 41)	40 (39, 41)	<0.001	<0.001
<35 <sup>+0</sup>	9 (0.0)	1 (0.0)	3 (0.1)		
35 <sup>+0</sup> to 37 <sup>+6</sup>	4,314 (11.2)	682 (9.8)	611 (16.1)		
38 <sup>+0</sup> to 39 <sup>+6</sup>	12,467 (32.3)	2,035 (29.1)	1,084 (28.5)		
40 <sup>+0</sup> to 41 <sup>+6</sup>	19,584 (50.7)	3,702 (53.0)	1,799 (47.4)		
≥42 <sup>+0</sup>	2,282 (5.9)	566 (8.1)	301 (7.9)		
BMI (at booking visit):					
Median (IQR)	25 (22, 30)	25 (22, 29)	25 (22, 30)	0.64	0.61
<18.5	644 (2.6)	110 (2.2)	90 (3.2)		
18.5 to 24.9	10,321 (41.8)	2,125 (42.3)	1,189 (41.9)		
25 to 29.9	7,467 (30.2)	1,563 (31.1)	817 (28.8)		
30 to 34.9	3,638 (14.7)	735 (14.6)	413 (14.6)		
35 to 39.9	1,703 (6.9)	319 (6.4)	200 (7.1)		
≥40	936 (3.8)	169 (3.4)	126 (4.4)		
Unknown	13,960	1,965	963		
Smoking (at booking visit), n (%):					
Yes	4,193 (15.0)	747 (11.9)	619 (17.6)	<0.001	<0.001
No	23,681 (85.0)	5,518 (88.1)	2,903 (82.4)		
Unknown	10,795	721	279		
Parity, n (%):					
Nulliparous	22,792 (59.0)	4,317 (61.8)	2,247 (59.2)	<0.001	0.65
Parous	15,858 (41.0)	2,669 (38.2)	1,551 (40.8)		

<i>Unknown</i>	19				
Obstetric history, n (%):					
Previous stillbirth	425 (1.1)	70 (1.0)	47 (1.2)	0.47	0.32
Previous elective Caesarean section	359 (0.9)	100 (1.4)	49 (1.3)	<0.001	0.06
Previous emergency Caesarean section	2,028 (5.2)	413 (5.9)	255 (6.7)	0.02	<0.001
Previous neonatal death	153 (0.4)	19 (0.3)	17 (0.5)	0.12	0.48
Cervical dilatation at time of trial entry (cm):					
Median (IQR)	4 (2, 6)	4 (2, 5)	4 (3, 5)	0.09	0.17
<i>Unknown</i>	27,528	4,750	2,549		
Fetal growth restriction suspected at labour onset, n (%):	1,506 (3.9)	247 (3.5)	201 (5.3)	0.08	<0.001
Labour induction, n (%):					
Induced	22,848 (59.5)	4,022 (57.9)	2,092 (55.2)		
Spontaneous	14,932 (38.9)	2,829 (40.7)	79 (2.1)	0.01	<0.001
No labour	632 (1.7)	101 (1.5)	1,617 (42.7)		
<i>Unknown</i>	257	34	10		
Epidural analgesia, n (%):					
Yes	4,966 (28.0)	425 (15.9)	235 (13.3)		
No	12,798 (72.0)	2,257 (84.2)	1,528 (86.67)	<0.001	<0.001
<i>Unknown</i> <sup>d</sup>	20,905	4,304	2,094		
Presence of meconium, n (%):					
Yes	771 (4.5)	113 (4.1)	90 (4.5)		
No	16,202 (95.5)	2,642 (95.9)	1,892 (95.46)	0.05	0.11
<i>Unknown</i> <sup>d</sup>	21,696	4,231	1,866		

Missing data are <1% unless otherwise presented; there were no apparent differences in missing data between trial arms.

<sup>a</sup> Women with more than one birth episode in the study period are included more than once.

<sup>b</sup> P-value from chi-square test for categorical variables and Wilcoxon rank-sum test for continuous variables.

<sup>c</sup> As coded by the NHS.

<sup>d</sup> Timing of epidural and presence of meconium in relation to trial entry only collected from 2013 for most centres.

**Table S2: Maternal health care resource use from trial entry to hospital discharge (values represent frequencies and mean proportion unless stated otherwise) using complete cases**

	Decision support (n=22,987)		No decision support (n=23,055)		Mean difference in proportions (95% confidence interval) <sup>a</sup>
	n	Mean (%)	n	Mean (%)	
Induction	13,516	59.16 (0.49)	13,568	59.24 (0.49)	-0.00 (-0.01 to 0.01)
<i>Unknown</i>	140		153		
Mode of birth					
Spontaneous vaginal birth	11,734	51.05 (0.50)	11,877	51.52 (0.50)	-0.00 (-0.01 to 0.01)
Breech birth	17	0.07 (0.03)	11	0.05 (0.02)	0.00 (-0.00 to 0.00)
Caesarean section	5,588	24.31 (0.43)	5,463	23.70 (0.43)	0.01 (-0.00 to 0.01)
Forceps vaginal birth	3,154	13.72 (0.34)	3,231	14.10 (0.35)	-0.00 (-0.01 to 0.00)
Ventouse vaginal birth	2,494	10.85 (0.31)	2,473	10.73 (0.31)	0.00 (-0.01 to 0.01)
Episiotomy	6,396	28.86 (0.45)	6,498	29.25 (0.45)	-0.00 (-0.01 to 0.00)
<i>Unknown</i>	826		840		
Perineal tear					
First and second degree tear	8,015	36.26 (0.48)	8,226	37.13 (0.48)	-0.01 (-0.02 to -0.00)
Third and fourth degree tear	652	2.95 (0.17)	697	3.15 (0.17)	-0.00 (-0.01 to 0.00)
<i>Unknown</i>	881		902		
Manual removal of the placenta	396	2.05 (0.14)	421	2.17 (0.15)	-0.00 (-0.00 to 0.00)
<i>Unknown</i>	3703		3626		
Blood transfusion	354	1.54 (0.12)	359	1.56 (0.12)	-0.00 (-0.00 to 0.00)
Medical and surgical management post birth					
Management of post-partum haemorrhage using the Bakri technique	18	0.00 (0.03)	23	0.00 (0.03)	-0.00 (-0.00 to 0.00)

	Decision support (n=22,987)		No decision support (n=23,055)		Mean difference in proportions (95% confidence interval) <sup>a</sup>
Management of post-partum haemorrhage using examination under anaesthetic (EUA)	44	0.00 (0.05)	49	0.00 (0.05)	-0.00 (-0.00 to 0.00)
Perineal haematoma	19	0.00 (0.03)	10	0.00 (0.02)	0.00 (-0.00 to 0.00)
Hysterectomy	8	0.00 (0.02)	5	0.00 (0.02)	0.00 (-0.00 to 0.00)
PPH with blood transfusion	1	0.00 (0.01)	2	0.00 (0.01)	-0.00 (-0.00 to 0.00)
<i>Unknown</i>	<i>1,238</i>		<i>1,272</i>		
Transfer to another hospital	12	0.05 (0.02)	7	0.03 (0.02)	0.00 (-0.00, 0.00)
Hospital length of stay					
Length of stay (in days) – mean [SD]		2.18 (8.87)		2.19 (8.33)	-0.01 (-0.17 to 0.15)
<i>Unknown</i>	<i>42</i>		<i>32</i>		
Higher level of care admissions (in days) – mean [SD]					
High dependency care	654	0.04 (0.32)	680	0.04 (0.24)	0.00 (-0.00 to 0.01)
Intensive care	15	0.00 (0.29)	12	0.00 (0.07)	0.00 (-0.00 to 0.01)

<sup>a</sup> Adjusted for stratification factors used in the randomisation (centre and twin birth) and clustering due to twins and multiple birth episodes with 95% confidence intervals used; SD: standard deviation

**Table S3: Infant health-care resource use from trial entry to hospital discharge (values represent frequencies and mean proportion unless stated otherwise) using complete cases**

	Decision support (n=23,263)		No decision support (n=23,351)		Mean difference in proportions (95% confidence interval) <sup>a</sup>
	n	Mean (%)	n	Mean (%)	
Resuscitation					
Initial	2,139	10.11 (0.30)	2,116	9.96 (0.30)	0.00 (-0.00 to 0.01)
Intensive	554	2.62 (0.16)	524	2.47 (0.16)	0.00 (-0.00 to 0.01)
Unknown	2113		2106		
Higher level of care admissions (in days) – mean [SD]					
Special care		0.21 (1.61)		0.23 (2.87)	-0.03 (-0.07 to 0.01)
High dependency		0.04 (0.76)		0.04 (0.91)	-0.01 (-0.02 to 0.01)
Intensive care		0.05 (0.86)		0.04 (0.65)	0.01 (-0.01 to 0.02)
Neonatal surgery					
Paediatric cardiology	7	0.03 (0.02)	5	0.02 (0.02)	0.00 (-0.00 to 0.00)
Plastic surgery	5	0.02 (0.02)	10	0.04 (0.02)	-0.00 (-0.00 to 0.00)
Gastrointestinal surgery	10	0.04 (0.02)	12	0.05 (0.02)	-0.00 (-0.00 to 0.00)
Paediatric neurosurgery surgery	2	0.01 (0.01)	0	0.00 (0.00)	0.00 (-0.00 to 0.00)
Total body cooling	19	0.08 (0.03)	21	0.09 (0.03)	-0.00 (-0.00 to 0.00)
Intrapartum stillbirth	1	0.00 (0.01)	2	0.01 (0.01)	0.00 (-0.00 to 0.00)
Neonatal death	6	0.03 (0.02)	4	0.02 (0.01)	0.00 (-0.00 to 0.00)

<sup>a</sup> Adjusted for stratification factors used in the randomisation (centre and twin birth) and clustering due to twins and multiple birth episodes with 95% confidence intervals used; SD: standard deviation

**Table S4: Cost analysis of maternal and infant health care resource use from trial entry to hospital discharge (expressed in 2017-2018 UK prices) using complete cases**

	Decision support (n=22,987)		No decision support (n=23,055)		Mean difference (95% confidence interval) <sup>a</sup>
	n	Mean cost (SD)	n	Mean cost (SD)	
<b>Maternal</b>					
Induction	22,847	113.58 (94.38)	22,902	113.75 (94.35)	
Mode of birth	22,987	3,813.87 (537.05)	23,055	3,806.27 (532.89)	
Episiotomy	22,161	8.66 (13.59)	22,215	8.78 (13.65)	
Perineal tear	22,106	30.72 (121.15)	22,153	32.37 (124.92)	
Manual removal of the placenta	19,284	17.17 (118.57)	19,429	18.11 (121.72)	
Blood transfusion	22,987	2.71 (21.67)	23,055	2.74 (21.79)	
Medical and surgical management	21,749	5.15 (80.71)	21,783	5.04 (79.79)	
Maternal transfer	22,987	0.28 (12.40)	23,055	0.16 (9.46)	
Hospital length of stay	22,945	252.78 (1028.41)	23,023	254.36 (965.77)	
Higher level of care admissions					
High dependency care	22,987	60.10 (492.14)	23,055	54.96 (369.88)	
Intensive care	22,987	63.79 (522.37)	23,055	58.33 (392.59)	
<b>Total maternal costs from trial entry to hospital discharge</b>	<b>17,566</b>	<b>4,083.34 (1,519.63)</b>	<b>17,714</b>	<b>4,061.62 (1,043.26)</b>	<b>22.03 (-4.79 to 48.85)</b>
<b>Infant</b>					
Resuscitation	21,150	10.22 (34.13)	21,245	9.84 (33.31)	
Neonatal surgery					
Paediatric Cardiology	23,263	1.30 (75.14)	23,351	0.93 (63.38)	
Plastic Surgery	23,263	0.44 (29.80)	23,351	0.87 (42.06)	
Gastrointestinal surgery	23,263	1.77 (85.45)	23,351	2.12 (93.42)	

	Decision support (n=22,987)		No decision support (n=23,055)		Mean difference (95% confidence interval) <sup>a</sup>
	n	Mean cost (SD)	n	Mean cost (SD)	
Paediatric neurosurgery surgery	23,263	0.11 (11.40)	23,351	0	
Total body cooling	23,263	6.14 (214.63)	23,351	6.76 (225.21)	
Intrapartum stillbirth	23,263	0.05 (7.21)	23,351	0.09 (10.18)	
Neonatal death	23,263	0.20 (12.56)	23,351	0.13 (10.23)	
Higher level of care admissions					
Special care	23,263	116.76 (915.70)	23,351	134.00 (1628.49)	
High dependency	23,263	39.40 (700.82)	23,351	44.84 (842.08)	
Intensive care	23,263	66.28 (1,238.92)	23,351	56.44 (938.63)	
<b>Total infant cost from trial entry to hospital discharge</b>	<b>21,150</b>	<b>224.66 (1,890.84)</b>	<b>21,245</b>	<b>243.21 (2,355.46)</b>	<b>-17.70 (-58.70 to 23.29)</b>

<sup>a</sup> Adjusted for stratification factors used in the randomisation (centre and twin birth) and clustering due to twins and multiple birth episodes with 95% confidence intervals used; SD: standard deviation

**Table S5: Maternal health care resource use and associated costs (expressed in 2017-2018 UK prices) from hospital discharge to 2 years' follow-up using multiple imputation**

	Decision support (n=1,908)		No decision support (n=1,890)		Mean cost difference (95% confidence interval) <sup>a</sup>
	Mean resource use (SE)	Mean cost (SE)	Mean resource use (SE)	Mean cost (SE)	
<b>Community professional</b>					
General practice visits	5.30 (0.16)	194.49 (5.78)	5.02 (0.13)	183.96 (4.27)	10.81 (-3.59 to 25.20)
Practice nurse visits	1.47 (0.08)	15.72 (0.89)	1.21 (0.06)	12.91 (0.67)	2.82 (0.65 to 4.99)*
Community nurse visits	0.17 (0.04)	3.03 (0.67)	0.26 (0.06)	4.48 (0.90)	-1.43 (-3.78 to 0.91)
Physiotherapy visits	0.60 (0.07)	31.82 (3.68)	0.68 (0.08)	34.76 (3.93)	-2.52 (-12.72 to 7.68)
Hospital community counselling visits	0.12 (0.03)	0.96 (0.23)	0.13 (0.03)	1.00 (0.23)	-0.05 (-0.67 to 0.57)
Visits to other community professionals	1.10 (0.10)	27.75 (2.51)	0.87(0.09)	21.91 (2.28)	5.88 (-0.90 to 12.66)
<b>Total community professionals</b>		<b>273.77 (8.55)</b>		<b>259.01 (7.68)</b>	<b>15.51 (-7.06 to 38.07)</b>
<b>Secondary care</b>					
Outpatient visits	0.97 (0.07)	132.94 (10.23)	0.88 (0.07)	120.93 (9.66)	12.39 (-16.14 to 40.93)
Accident and emergency visits	0.36 (0.03)	74.90 (6.38)	0.35 (0.03)	72.44 (6.49)	2.60 (-15.41 to 20.60)
Intensive care unit (no of nights)	0.00 (0.00)	0.00 (0.00)	0.04 (0.02)	66.29 (38.71)	-68.16 (-146.97 to 10.65)
High dependency ward/unit (no of nights)	0.05 (0.02)	81.25 (27.22)	0.12 (0.04)	177.64 (56.53)	-95.73 (-219.82 to 28.35)
General ward (no of nights)	0.42 (0.05)	48.28 (6.01)	0.48 (0.05)	54.49 (5.96)	-5.56 (-21.59 to 10.47)
Other admissions	0.18 (0.03)	70.28 (11.44)	0.28 (0.05)	108.70 (21.49)	-38.35 (-85.76 to 9.07)
Day case	0.05 (0.01)	61.30 (8.12)	0.06 (0.01)	62.89 (9.65)	-0.97 (-25.74 to 23.80)
<b>Total secondary care</b>		<b>468.97 (36.22)</b>		<b>663.37 (81.96)</b>	<b>-193.78 (-372.98 to -14.58)*</b>
<b>Total maternal follow-up</b>		<b>742.73 (39.82)</b>		<b>922.38 (84.39)</b>	<b>-178.27 (-364.28 to 7.74)</b>

<sup>a</sup> Adjusted for stratification factors used in the randomisation (centre and twin birth) and clustering due to twins and multiple birth episodes with 95% confidence intervals used; \*p<0.05; SE: standard error

**Table S6: Infant health care resource use and associated costs (expressed in 2017-2018 UK prices) from hospital discharge to 2 years' follow-up using multiple imputation**

	Decision support (n=1,940)		No decision support (n=1,935)		Mean cost difference (95% confidence interval) <sup>a</sup>
	Mean resource use (SE)	Mean cost (SE)	Mean resource use (SE)	Mean cost (SE)	
<b>Community professional</b>					
General practice visits	6.70 (0.16)	246.13 (5.74)	6.87 (0.15)	252.56 (5.59)	-6.52 (-22.45 to 9.41)
Practice nurse visits	0.87 (0.05)	9.30 (0.57)	0.82 (0.05)	8.67 (0.49)	0.66 (-0.91 to 2.24)
Health visitor visits	1.45 (0.10)	106.77 (7.46)	1.47 (0.09)	107.98 (6.40)	-1.14 (-19.82 to 17.53)
Community nurse visits	0.19 (0.03)	11.26 (1.89)	0.18 (0.04)	10.59 (2.08)	1.16 (-4.33 to 6.66)
Community paediatrician visits	0.31 (0.03)	58.26 (5.47)	0.31 (0.03)	60.09 (6.47)	-0.38 (-17.37 to 16.62)
Physiotherapy visits	0.14 (0.03)	12.78 (2.77)	0.34 (0.08)	31.69 (7.26)	-18.58 (-33.63 to -3.54)*
Visits to other community professionals	0.53 (0.06)	41.54 (4.37)	0.62 (0.07)	48.18 (5.52)	-5.97 (-19.50 to 7.56)
<b>Total community professionals</b>		<b>486.03 (15.62)</b>		<b>519.77 (17.89)</b>	<b>-30.77 (-76.82 to 15.28)</b>
<b>Secondary care</b>					
Outpatient visits	1.34 (0.08)	184.66 (11.50)	1.28 (0.08)	176.15 (10.61)	12.22 (-17.49 to 41.93)
Accident and emergency visits	1.13 (0.05)	237.03 (10.77)	1.01 (0.04)	210.82 (8.52)	26.00 (-1.38 to 53.37)
Intensive care unit (no of nights)	0.20 (0.05)	294.79 (67.61)	0.18 (0.06)	253.84 (80.97)	42.86 (-161.54 to 247.26)
High dependency ward/unit (no of nights)	0.19 (0.05)	143.86 (35.17)	0.12 (0.03)	86.82 (22.70)	56.38 (-30.29 to 143.06)
General ward (no of nights)	0.62 (0.06)	71.01 (6.47)	0.57 (0.06)	64.99 (6.76)	5.64 (-13.08 to 24.36)
Other admissions	0.11 (0.03)	40.36 (9.48)	0.07 (0.02)	24.18 (6.68)	16.07 (-6.75 to 38.90)
Day case	0.05 (0.01)	30.13 (5.40)	0.06 (0.01)	38.39 (5.39)	-8.38 (-23.54 to 6.77)
<b>Total secondary care</b>		<b>1001.83 (92.88)</b>		<b>855.20 (89.85)</b>	<b>150.79 (-104.78 to 406.36)</b>
<b>Total infant follow-up</b>		<b>1,487.87(101.18)</b>		<b>1,374.97 (98.52)</b>	<b>120.02 (-157.89 to 397.94)</b>

<sup>a</sup> Adjusted for stratification factors used in the randomisation (centre and twin birth) and clustering due to twins and multiple birth episodes with 95% confidence intervals used; SE: standard error

**Table S7: Two-way sensitivity analysis of the INFANT decision support software cost per delivery from trial entry to hospital discharge (base case - £0 for INFANT price and £0 for annual maintenance fee)**

		INFANT software annual maintenance											
		£0	£500	£1,000	£2,000	£3,000	£4,000	£5,000	£6,000	£7,000	£8,000	£9,000	£10,000
INFANT decision support price	£0	£0.0	£0.2	£0.4	£1	£1	£1	£2	£2	£3	£3	£3	£4
	£1,000	£0.4	£1	£1	£1	£1	£2	£2	£3	£3	£3	£4	£4
	£5,000	£2	£2	£2	£3	£3	£3	£4	£4	£4	£5	£5	£5
	£10,000	£4	£4	£4	£4	£5	£5	£5	£6	£6	£7	£7	£7
	£15,000	£5	£6	£6	£6	£7	£7	£7	£8	£8	£8	£9	£9
	£20,000	£7	£7	£8	£8	£8	£9	£9	£10	£10	£10	£11	£11
	£25,000	£9	£9	£10	£10	£10	£11	£11	£11	£12	£12	£12	£13
	£30,000	£11	£11	£11	£12	£12	£12	£13	£13	£14	£14	£14	£15
	£35,000	£13	£13	£13	£14	£14	£14	£15	£15	£15	£16	£16	£16
	£40,000	£15	£15	£15	£15	£16	£16	£16	£17	£17	£18	£18	£18
	£45,000	£16	£17	£17	£17	£18	£18	£18	£19	£19	£19	£20	£20
	£50,000	£18	£18	£19	£19	£19	£20	£20	£20	£21	£21	£22	£22
	£55,000	£20	£20	£20	£21	£21	£22	£22	£22	£23	£23	£23	£24
	£60,000	£22	£22	£22	£23	£23	£23	£24	£24	£25	£25	£25	£26

Green cells indicate INFANT software cost per delivery and a no statistically significant mean cost difference (at 5% level) from trial entry to hospital discharge between arms; red cells indicate INFANT software cost per delivery and a statistically significant mean cost difference (at 5% level) from trial entry to hospital discharge between arms favouring the no-decision support unit.