

What is the economic cost of providing an all Wales postpartum haemorrhage quality improvement initiative (OBS Cymru)? A cost-consequences comparison with standard care

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Supplementary materials 1: Additional tables

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Supplementary tables

Supplementary table 1: Scenario 2: Resource use, percentage of women in database receiving each intervention.

	Standard care		OBS Cymru	
	n	Per 1000 maternities	n	Per 1000 maternities
Total maternities	19623		19145	
PPH >1000 mL or clinical concern	2009	(102.4/1000)	2074	(108.3/1000)
Blood loss ≥2,500ml	135	(6.9/1000)	99	(5.2/1000)

Resource	Percentage of women in OBS Cymru database receiving intervention		Mean resource use per woman receiving resource	
	Standard care, n (%)	OBS Cymru n (%)	Standard care	OBS Cymru
Total number of women recorded in OBS Cymru data base	2009	2074		
Total number of records for analysis	1876	1903		
Receiving VHA test	547 (29.16%)*	1007 (52.92%)		
Number of tests per women tested			1.28 tests*±0.75	1.20 tests± 0.65
Blood product use				
Red blood cells	468/1876 (24.95%)	378 /1903 (19.86%)	2.39 units ±1.19	2.31 units ± 1.17
Fresh Frozen Plasma	33 /1876 (1.76%)	26 / 1902 (1.375%)	3.58 units ± 1.87	3.35 units±1.26
Platelet	17 /1875 (0.91%)	8/ 1902(0.42%)	1.65 pool± 0.86	1.50 pool± 0.53
Cryoprecipitate	7 /1875 (0.37%)	4 / 1902 (0.21%)	2.57 pool± 1.40	2 pool± 0
Fibrinogen	31 /1876 (1.65%)	30/1901 (1.58%)	4.35g ± 2.12	5.13g± 2.16
Other additional care				
Hysterectomy	6 /1876 (0.32%)	9 /1903 (0.47%)	na	na
				15.33 hours±
Critical care Level 3	16/1876 (0.85%)	11/1903 (0.58%)	27.14 hours ± 39.01	19.82 hours± 6.24
Length of stay (delivery to discharge)	na	na	2.68 days±1.95	2.68 days±1.89

* Costs for ROTEM were not included in standard care arm.

Supplementary table 2: Scenario 3: Resource use, percentage of women in database receiving each intervention.

	Standard care		OBS Cymru	
	n	Per 1000 maternities	n	Per 1000 maternities
Total maternities	4369		4226	
PPH >1000 mL or clinical concern	409	(93.6/1000)	428	(101.3/1000)
Blood loss ≥2,500ml	36	(8.2/1000)	22	(5.2/1000)

Resource	Percentage of women in OBS Cymru database receiving intervention		Mean resource use per woman receiving resource	
	Standard care, n (%)	OBS Cymru n (%)	Standard care	OBS Cymru
Total number of women recorded in OBS Cymru data base	409	428		
Total number of records for analysis	408	419		
Receiving VHA test	5/408 (1.23%)*	257 /419 (61.34)%		
Number of tests per women tested			1.00 tests*±0	1.11tests±0.46
Blood product use				
Red blood cells	101 / 408 (24.75%)	73 /419 (17.42%)	2.52 units±1.50	2.33 units±0.94
Fresh Frozen Plasma	11 / 408 (2.70%)	2 /419 (0.48%)	3.64 units±1.74	1.5 units±0.71
Platelet	2 / 407 (0.49%)	3 / 419 (0.72%)	1 pool±0	1.33 pool±0.58
Cryoprecipitate	3 / 407 (0.74%)	2 / 419 (0.48%)	2.0 pool±0	1.5 pool±0.71
Fibrinogen	4 / 408 (0.98%)	5 / 419 (1.19%)	3.75g±2.06	4.40g±4.39
Other additional care				
Hysterectomy	2 / 408(0.49%)	0 / 419 (0.00%)	na	na
Critical care Level 3	5 / 408(1.23%)	0 / 419(0.00%)	17.86 hours ± 15.27	0 hours
Length of stay (delivery to discharge)	na	na	2.66 days±1.95	2.53 days±1.65

* Costs for ROTEM were not included in standard care arm.

Supplementary table 3: Result breakdown for all scenarios

	Scenario 1			Scenario 2			Scenario 3		
	Std care	OBS Cymru	Change	Std care	OBS Cymru	Change	Std care	OBS Cymru	Change
OBS Cymru programme	£0	£1	£1	£0	£1	£1	£0	£1	£1
ROTEM costs	£0	£26	£26	£0	£27	£27	£0	£30	£30
Blood product costs	£150	£114	£36	£144	£119	-£25	£136	£97	-£39
Hysterectomy costs	£13	£18	£5	£13	£19	£6	£19	£19	-£19
ICU costs	£26	£13	£13	£21	£11	-£11	£20	£20	-£20
Included staff	£5	£3	£2	£5	£3	-£2	£5	£3	-£2
Length of stay	£891	£920	£29	£923	£923	£0	£919	£874	-£45
Total	£1,0853	£1,095	£10	£1,106	£1,103	-£3	£1,099	£1,005	-£194

Supplementary table 4: Deterministic sensitivity analysis parameters, Scenario 1

Selected ROTEM costs	Cost per unit	Low		High		Total range £
		Variable	Result	Variable	Result	
Stay, post delivery	4049.229	3,887.26	-£27.28	£4,211.20	£46.34	£73.62
Fibrinogen (g)	100	53.58	-£2.71	146.72	£21.85	£24.56
RBC units	701	619.55	£0.53	782.45	£18.54	£18.01
Total hours spent in ICU	218.053	83.79	£1.34	£352.21	£17.72	£16.38
Hospital day £	£344.78	£275.83	£3.72	413.00	£15.28	£11.57
hysterectomy	7	5.00	£4.37	£9.00	£14.70	£10.33
Red Blood cells, subsequent units £	£167.68	£134.14	£13.39	£201.22	£5.67	£7.72
Cartridge cost £	30	24	£6.02	36.00	£13.05	£7.03
hour in ICU £	£92.57	£74.06	£12.17	£111.09	£6.90	£5.27
Red Blood cells, first unit £	£190.23	£152.19	£12.01	£228.28	£7.06	£4.95
Fresh Frozen Plasma (FFP)	78.04	44.40	£8.11	111.69	£10.95	£2.84
hysterectomy £	£3,916.61	£3,133.29	£8.50	£4,699.93	£10.57	£2.07
Platelets	7.0094	0.51	£8.55	13.51	£10.51	£1.96
Consultant Haematologist	£0.01	0.00	£8.75	£0.01	£10.32	£1.57
ROTEM annual fee £	1950	1560	£8.81	2,340.00	£10.26	£1.45
Consultant £ hourly	£109	£87	£10.04	£130.80	£9.03	£1.01
Women receiving RBC	302	271.48	£9.08	332.52	£9.99	£0.91
Number of ROTEM tests	889	906.39	£9.91	941.36	£10.68	£0.77
ODP time to deliver (min)	5	4	£9.16	6.00	£9.90	£0.74
Band 5 £ hourly	£38	£30	£9.16	£45.60	£9.90	£0.74
Cryoprecipitate	8.00632	6.00	£9.24	10.00	£9.82	£0.58
Platelets, first unit £	£229.03	£183.22	£9.77	£274.83	£9.29	£0.48
QA tests per year	12	9.6	£9.29	14.40	£9.77	£0.48
Rotem QC cartridge £	54	43.2	£9.29	64.80	£9.77	£0.48
FFP, subsequent £	£64.01	£51.21	£9.75	£76.82	£9.31	£0.44
cryoprecipitate, subsequent £	£219.01	£175.21	£9.73	£262.82	£9.33	£0.40
Platelets, subsequent £	£229.03	£183.22	£9.68	£274.83	£9.38	£0.30
Cryoprecipitate, first unit £	£219.01	£175.21	£9.62	£262.82	£9.45	£0.17
FFP, first unit £	£64.01	£51.21	£9.60	£76.82	£9.46	£0.13
Fibrinogen, (Fb) £	£400.00	£320.00	£9.58	£480.00	£9.48	£0.10