

ACCESS Within-Trial Economic Evaluation

Perspective: Healthcare provider

Within-trial healthcare resource (HCRU) utilisation components:

Anaesthesia

- BPB
 - o Duration (ALL_ANA dataset): BLOCKCOMP – ULTRASKIN
 - o Initial volume of anaesthesia (ALL_ANA dataset): VOLUMEANA
 - o Supplementation (ALL_ANA dataset): SUPPLEMENTEDBLOCK * SUPPL_VOL
 - o LA supplementation (ALL_ANA dataset): SUPPL_LA * SUPPL_VOLLA
 - o Additional medicines (ALL_ANA dataset): ADDSED_
 - o Conversion to general anaesthesia (ALL_ANA dataset): CONV_GEN
 - o Anaesthetist grade: Assumptions
 - o Other consumables/equipment (e.g. syringes): Assumptions
- LA
 - o Duration (ALL_ANA dataset): LOCALINJECT - KNIFESKIN
 - o Initial volume of anaesthesia (ALL_ANA dataset): VOLUMEANA
 - o Supplementation (ALL_ANA dataset): SUPPLEMENTED * SUPPL_VOL
 - o Additional medicines (ALL_ANA dataset): ADDSED_
 - o Anaesthetist grade: Assumptions
 - o Other consumables/equipment (e.g. syringes): Assumptions

Surgery

- Duration (ALL_ANA dataset): SURGCOMP – KNIFESKIN
- Surgeon grade (SURGERY dataset): SURG_GRADE
- Surgery consumables/equipment/ Assumptions medicines:

Post-op

- Inpatient days, outpatient visits, length of stay: any data on this?
- Days on HD: any data on this?
- Access-related complications (AVF_ASS dataset): FIST_INFECT, FIXED_STEN, FIST_THROM, STEAL, BLEED
- Reinterventions/revisions (AVF_ASS dataset): MAINRE_SURG, MAINRE_INTRAD, MAINRE_OTH
- New access modality (AVF_ASS dataset): ALT_FISTNUM, ALT_GRAFTNUM, ALT_TCVCNUM, ALT_NTCVCNUM
- Haemodialysis modality (PSO dataset): ACCMODE_

SAEs

- Type: AETERM & SAE (SAE dataset)
- Inpatient days, outpatient visits, length of stay: DURHOSP (SAE dataset)
- Consumables/equipment/medicines: Assumptions
- Medical staff grades

HCRU elements/procedures	Quantity (units)	Source	Cost (per unit)	Assumption/Derivation method	Source
Brachial Plexus Block (BPB)					
Procedure duration					
<i>Pre-assessment time (min)</i>	15 (min)	Clinician input	£48 (hour)	Pre-assessment with band 5 nurse for all patients coming in for a BPB; cost per working hour (incl. qualification costs)	PSSRU: Unit Costs of Health and Social Care 2023
<i>Pre-anaesthetic time (min)</i>	10 (min)	Clinician input		Anaesthetist time to read computer, see patient etc.	
<i>Set-up time (min)</i>	3 (min)	Clinician input		Anaesthetist time to draw up drugs/prepare US machine	
<i>Administration time (min)</i>	Xx (minutes)	Trial (ALL_ANA dataset): BLOCKCOMP – ULTRASKIN	£143 (anaesthetist consultant) + £65 (anaesthetist assistant) = £208 (hour)	Consultant (Medical) + Assistant Anesthetist (either Band 6 nurse or registrar; average) cost per working hour (incl. qualification costs)	PSSRU: Unit Costs of Health and Social Care 2023
Medicines					
<i>Initial mean anaesthetic volume</i>	Xx (mL)	Trial (ALL_ANA dataset): VOLUMEANA	£6.18 (20mL solution with 1in 200,000 adrenaline)	10mL 0.5% L-bupivacaine (ampoule) + 5mL 1% lidocaine (ampoule) + 5mL 2% lidocaine (ampoule) + 1mg adrenaline 1 in 200,000 (ampoule)	BNF Bupivacaine 50mg/10ml (0.5%) / Adrenaline (base) 50micrograms/10ml (1 in 200,000) solution for injection ampoules <i>Advanz Pharma</i> (£51.75 for 10 x ampoules) Lidocaine 50mg/5ml (1%) solution for injection Mini-Plasco ampoules <i>hameln pharma Ltd</i> (£8.05 for 20 x ampoules) Lidocaine 100mg/5ml (2%) solution for injection Mini-Plasco ampoules <i>hameln pharma Ltd</i> (£12.00 for 20 x ampoules)
<i>Supplementation</i>	Xx (mL)	Trial (ALL_ANA dataset): SUPPLEMENTEDBLOCK * SUPPL_VOL	£6.18 (20mL anaesthetic solution with 1in 200,000 adrenaline)	10mL 0.5% L-bupivacaine (ampoule) + 5mL 1% lidocaine (ampoule) + 5mL 2% lidocaine (ampoule) + 1mg adrenaline 1 in 200,000 (ampoule)	
<i>LA supplementation</i>	Xx (mL)	Trial (ALL_ANA dataset): SUPPL_LA * SUPPL_VOLLA	£1.16 (15mL anaesthetic solution)	10mL 0.5% L-bupivacaine (ampoule) + 5mL 1% lidocaine (ampoule)	BNF Bupivacaine 50mg/10ml (0.5%) solution for injection ampoules <i>Advanz Pharma</i> (£7.56 for 10 x ampoules) Lidocaine 50mg/5ml (1%) solution for injection Mini-Plasco ampoules <i>hameln pharma Ltd</i> (£8.05 for 20 x ampoules)
<i>Additional medicines</i>		Trial (ALL_ANA dataset): ADDSED_*			
Medical Consumables					
<i>20G venflon (units)</i>	1	Clinician input	£2.15 (1 unit)	General consumables used during anaesthesia	BD Venflon Peripheral IV Catheter Ported 20g, 32mm Winged - Single

					https://www.medisave.co.uk/products/bd-venflon-peripheral-iv-catheter-ported-20g-32mm-winged-single-p-101045
<i>Dressing for venflon (units)</i>	1	Clinician input	£69.35 (100 units)	General consumables used during anaesthesia	3M Tegaderm Peripheral IV Dressing - 8.5cm x 7cm x Pack of 100 https://www.medisave.co.uk/products/3m-tegaderm-peripheral-iv-dressing-8-5-x-7cm-x-50
<i>20mL syringe (units)</i>	2	Clinician input	£120 (120 units)	General consumables used during anaesthesia	Becton Dickinson 20ml Luer Lock Syringe (pack) - National Procurement
<i>Green 21G Block needle</i>	1	Clinician input	£4.91 (100 units)	General consumables used during anaesthesia	21G 1.5" (38 mm) Needle (Green) - Unisharp x 100 https://www.medisave.co.uk/products/21g-15-40-mm-needle-green-unisharp-x-100?_pos=1&_sid=7c37b1f4a&_ss=r
<i>Orange 25G needle</i>	1	Clinician input	£3.95 (100 units)	General consumables used during anaesthesia	BD Microlance 3 Needles Orange 25g x 1" x 100 https://www.medisave.co.uk/products/b-d-microlance-3-needles-orange-25g-x-1-inch-per-100-p-5109
<i>2mL syringe for skin infiltration (units)</i>	1	Clinician input	£5.03 (100 units)	General consumables used during anaesthesia	BD Discardit 2ml Concentric Tip Syringe, 2 piece x 100 https://www.medisave.co.uk/products/bd-discardit-2ml-concentric-tip-syringe-2-piece-box-of-100
<i>5 mL syringe for midazolam (units)</i>	1	Clinician input	£6.95 (100 units)	General consumables used during anaesthesia	BD Discardit 5ml Eccentric Tip Syringe, 2 Piece x 100 https://www.medisave.co.uk/products/bd-discardit-5ml-2-piece-eccentric-tip-syringe-box-of-100
<i>1mL insulin syringe to add adrenaline (units)</i>	1	Clinician input	£14.39 (120 units)	General consumables used during anaesthesia	BD Plastipak Syringes 1ml x 120 https://www.medisave.co.uk/products/b-d-1ml-plastipak-syringes-per-box-of-100-p-4267
<i>Pink 18G drawing up needle (units)</i>	1	Clinician input	£3.83 (100 units)	General consumables used during anaesthesia	Terumo AGANI Needle 18G Pink x 1.5" x 100 https://www.medisave.co.uk/products/terumo-agani-needle-18g-pink-x-1-5-x-100
<i>Chlorhexidine spray</i>	0.05	Clinician input	£5.89 (1 unit)	Required to check block working. 200mL, assuming 20 applications.	Hydrex Pink Pump Spray - 200ml https://www.midmeds.co.uk/
<i>Disposable sterile probe cover (units)</i>	1	Clinician input	£38.39 (100 units)	General consumables used during anaesthesia	3M™ Tegaderm Transparent Film Dressing (6 x 7cm) - Box of 100 https://www.medisave.co.uk/
<i>Sterile ultrasound gel sachet (units)</i>	1	Clinician input	£2.15 (1 unit)	General consumables used during anaesthesia. Assuming 5 applications per unit.	Anagel Ultrasound Gel - 250ml https://www.medisave.co.uk/
<i>Sterile surgical gloves (units)</i>	1	Clinician input	£102 (50 units)	General consumables used during anaesthesia	Regent Biogel Latex Surgeon Gloves (Sterile) https://www.hce-uk.com/product/regent-biogel-gloves-box-50/
<i>Cardboard tray to store medicines (units)</i>	1	Clinician input	Negligible	General consumables used during anaesthesia	
<i>Sling (units)</i>	1	Clinician input	£2.04 (1 unit)	Sling for patient's arm post op as arm is numb	CLEARANCE – Promedics Universal Pro Arm Sling – Size : 5 x 112cm https://www.hce-uk.com/product/clearance-promedics-universal-pro-arm-sling-size-5-x-112cm-5-available/
Medical equipment					

<i>Ultrasound machine (units)</i>	1	Clinician input	£30,000	US machine required to map the nerve block; assuming the US machine is used exclusively for BPB procedures, the capital outlay cost of the machine is attributed on a per intervention basis by considering the lifetime of the machine and the number of BPB performed in a standard year	
<i>ECG monitor (units)</i>	1	Clinician input		Required only if BPB performed outside anaesthetic room i.e. for parallel working model	
<i>Blood pressure/cuff monitor</i>	1	Clinician input		Required only if BPB performed outside anaesthetic room i.e. for parallel working model	
<i>Saturation probe/monitor</i>	1	Clinician input		Required only if BPB performed outside anaesthetic room i.e. for parallel working model	
Local Anaesthetic (LA)					
Procedure duration					
<i>Administration time</i>	Xx (min)	Trial data	£141 (hour)	Mean time taken to administer LA; requires 1x consultant surgeon (clinician input); cost per working hour (incl. qualification costs)	PSSRU: Unit Costs of Health and Social Care 2023
Medicines					
<i>Initial mean anaesthetic volume</i>	Xx (mL)	Trial (ALL_ANA dataset): VOLUMEANA	£1.16 (15mL anaesthetic solution)	10mL 0.5% L-bupivacaine (ampoule) + 5mL 1% lidocaine (ampoule)	BNF Bupivacaine 50mg/10ml (0.5%) solution for injection ampoules <i>Advanz Pharma</i> (£7.56 for 10 x ampoules) Lidocaine 50mg/5ml (1%) solution for injection Mini-Plasco ampoules <i>hameln pharma Ltd</i> (£8.05 for 20 x ampoules)
<i>LA supplementation</i>	Xx (mL)	Trial (ALL_ANA dataset): SUPPLEMENTED * SUPPL_VOL	£1.16 (15mL anaesthetic solution)	10mL 0.5% L-bupivacaine (ampoule) + 5mL 1% lidocaine (ampoule)	BNF Bupivacaine 50mg/10ml (0.5%) solution for injection ampoules <i>Advanz Pharma</i> (£7.56 for 10 x ampoules) Lidocaine 50mg/5ml (1%) solution for injection Mini-Plasco ampoules <i>hameln pharma Ltd</i> (£8.05 for 20 x ampoules)
<i>Additional medicines</i>		Trial (ALL_ANA dataset): ADDSED_			
Consumables					
<i>20mL syringe (units)</i>	1	Clinician input	£120 (120 units)	General consumables used during anaesthesia	Becton Dickinson 20ml Luer Lock Syringe (pack) - National Procurement
<i>23G Blue needle (units)</i>	2	Clinician input	\$3.83 (100 units)	General consumables used during anaesthesia	Terumo AGANI Needle 23G Blue x 1.25" x 100 https://www.medisave.co.uk/products/terumo-agani-needle-23g-blue-x-1-25-x-100
Conversion to general anaesthesia	Xx%	Trial data			National Schedule of NHS Costs 2022/23; Currency code YR41A: Insertion of Tunnelled Central Venous Catheter, 19 years and over;

					Currency code YR42A: Peripheral Insertion of Central Venous Catheter, 19 years and over
Arteriovenous Fistula Surgery (AVF)					
Procedure duration	Xx (min)	Trial data (ALL_ANA dataset): SURGCOMP – KNIFESKIN	£141 (surgery consultant) + anaesthetist assistant cost per hour		
Medicines					
Medical consumables					
7.0 prolene (units)	2	Standard Practice (Clinician input)	£103.30 (24 units)		W8021T PROLENE* Suture 26mm 45cm – Gauge 3-0 2 https://www.hce-uk.com/product/w8021t-prolene-suture-26mm-45cm-gauge-3-0-2/
Monocryl (units)	1	Standard Practice (Clinician input)	£98.15 (12 units)		MONOCRYL PLUS suture - Monofilament - Undyed - 4-0 - 70cm - 1 x Reverse cutting - 60mm - STRAIGHT – 12 https://www.medisave.co.uk/products/monocryl-plus-suture-monofilament-undyed-4-0-70cm-1-x-reverse-cutting-60mm-straight-12?_pos=3&_sid=1266e98ed&_ss=r
Medical equipment					
Unit cost for hospital services	1		£1,111	Day case assumed – Trial data available on same day discharge (to be explored)	PSSRU: Unit Costs of Health and Social Care 2023 (2022/2023 costs)
AVF revision - surgical					
Procedure duration	Xx (min)				
Medicines					
Medical consumables					
7.0 prolene (units)	2				
Monocryl (units)	1				
Medical equipment					
Unit cost for hospital services	1		£1,111	Day case assumed	PSSRU: Unit Costs of Health and Social Care 2023 (2022/2023 costs)
AVF revision - radiological					
Procedure duration	Xx (min)				
Medicines					
Medical consumables					
7.0 prolene (units)	2				
Monocryl (units)	1				
Medical equipment					
Unit cost for hospital services	1		£1,111	Day case assumed	PSSRU: Unit Costs of Health and Social Care 2023 (2022/2023 costs)
Access-related complications					
Infection					- FIST_INFECT, FIXED_STEN, FIST_THROM, STEAL, BLEED - Reinterventions/revisions (AVF_ASS dataset): MAINRE_SURG, MAINRE_INTRAD, MAINRE_OTH

Thrombosis					
Stenosis					
Steal					
Bleed					
Access-related complications					
Maintain/re-establish surgery					
Maintain/re-establish interventional radiology					
Maintain/re-establish (other)					
Change in access modality					
AVG					
TCVC					
Dialysis session					
Access-related SAEs (e.g. sepsis)					

