

HEALTH PLANNING UNIT BRIEF – EMERGENCY DEPARTMENT v0.9

9.2. External Relationships

Key external functional relationships are prioritised in Table 4 as per the criteria in Table 5.

Table 4: External functional relationships for ED

Service/Unit	Priority	Comments
Medical Imaging	Immediate	Movement of patients – satellite provision
Security	Immediate	Movement of staff. e.g. black alert, staff from all points urgently attend
Drop off/Pickup	Immediate	Movement of staff & consumers; Ambulance, Security, Patient Transport
Mental Health Short Stay Unit	Direct	Movement of Patients
Medical and Surgical Assessment Units	Direct	Movement of patients
ICU	Direct	Movement of patients from resuscitation bays
Interventional Services	Direct	Movement of staff and patients for procedures
Pharmacy	Direct	Movement of staff and medications; planned visits
Helipad	Ready	Movement of patients and staff
Pathology	Ready	Movement of patient samples via pneumatic tube. Also immediate POC testing
Allied Health	Ready	Movement of staff
Central Equipment Store	Ready	Movement of equipment
Discharge Lounge	Ready	Movement of patients
Administration Centre	Easy	Movement of staff and consumers (admissions, MHRT hearings, patient flow etc)
General (Hotel) Services	Easy	Movement of staff, meals, linen & waste
Mortuary	Easy	Movement of patients
IPU	Easy	Movement of patients and staff
Site Interfaces		
Car parking – Staff	Ready	Movement of staff; swipe card access control (particularly on call staff)
Car parking – Visitors	Easy	Movement of visitors and consumers
Public Transport	Easy	Movement of visitors, consumers and staff

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Table 5: Prioritisation of external functional relationships

Immediate (<1 minute)	Being the shortest direct, horizontal route. The route must be an unimpeded route. Door to door travel time between the two areas or services identified as having an "Immediate" functional relationship must not exceed one minute.
Direct (<2 minutes)	Being a direct horizontal or vertical route. The route must be an unimpeded route. Door to door travel time between the two areas or services identified as having a "Direct" functional relationship must not exceed two minutes and there must be minimal corner turns between the two areas or services.
Ready (<5 minutes)	Being a horizontal or vertical route. Door to door travel time between the two areas or services identified as having a "Ready" functional relationship must not exceed five minutes.
Easy (<10 minutes)	Being a horizontal or vertical route. Door to door travel time between the two areas or services identified as having an "Easy" functional relationship must not exceed ten minutes.

Future service developments and innovation

There will be identification of space for future expansion adjacent to the ED, such that should future requirements direct that extension of the ED is necessary, this will be done in such a way that maximises functional outcome, and can be achieved without major effect on other structures.

Planning should acknowledge likely implementation of:

- large automated dispensing machines
- AGV – food delivery
- paperless electronic medical records systems.

The CH Emergency Department will be integrated with new ED services established in the Territory, such as a proposed North Canberra inpatient service.

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10. Schedule of Accommodation

AushFG Code	Deviation from HPU B.0300 Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Deviation from Standard Component m2
ENTRANCE / RECEPTION							
AIRLE-10	N	Airlock, 10m2	1	10	10	10	0
RECL-15	Y	Reception/ Triage / Clerical, 20m2	1	50	50	20	30
STPS-8	Y	Store - Photocopy/ Stationery, 8m2	1	8	8	8	0
SECR-10	Y	Security Room, 10m2	1	10	10	10	0
WAIT-50	N	Waiting, 50m2	1	30	30	50	-20
PLAP-10	N	Play Area - Paediatric, 10m2	1	10	10	10	0
PAR	N	Parenting Room	1	6	6	6	0
BPH	N	Bay – Public Telephone	1	2	2	2	0
BVM-3	N	Bay – Vending Machines	1	3	3	3	0
BPPE	Y	Bay - PPE (Personal Protective Equipment)	1	2	2	2	0
WAPU-3	N	Toilet - Public, 3m2	4	3	12	3	0
WCAC	N	Toilet - Accessible, 6m2	1	6	6	6	0
BMEQ-6	N	Bay - Mobile Equipment	1	12	12	12	0
	Y		1	6	6	12	-6
		Subtotal			161		4
		Discounted Circulation		30%	48		1
		Total			209		1
TRIAGE / REGISTRATION							
	N	Triage Cubicle/ Bay	3	9	27	9	0
AIRLE-10	N	Airlock, 10m2	1	10	10	10	0
AMBTR	N	Ambulance Triage	1	12	12	12	0
PBTR-H-9	N	Patient Bay - Holding, 9m2	1	9	9	9	0
SSTN-20	Y	Staff Station, 20m2	1	20	20	20	0
		Subtotal			78		0
		Discounted Circulation		30%	23		0
		Total			101		0
TREATMENT AREAS							
RESUSCITATION							
PBTR-R	N	Patient Bay - Resuscitation, 25m2	4	25	100	25	0
PBTR-R	Y	Patient Bay - Resuscitation, 40m2	2	40	80	25	80
PBTR-R	Y	Patient Bay - Resuscitation, 25m2	1	25	25	25	25
ANRM	Y	Anteroom	1	6	6	0	6
INTF	Y	Interview Room	2	14	28	12	28
BMEQ-4	N	Bay – Mobile Equipment, 4m2	1	4	4	4	0
SHDEC	N	Shower, Decontamination	1	8	8	8	0
STGN	N	Store – General, 9m2	1	9	9	9	0
		Subtotal			260		139
		Discounted Circulation		30%	78		42
		Total			338		181
RESUSCITATION SUPPORT AREAS							
SSTN-14	N	Staff Station, 14m2	1	20	20	14	6
CLUR-8	Y	Clean Utility/ Medication Room - Sub, 8m2	1	8	8	8	0
STSS-12	Y	Store - Sterile Stock, 12m2	1	12	12	12	0
DTUR-S	Y	Dirty Utility - Sub, 8m2	1	8	8	8	0
BPATH	Y	Bay – Pathology	1	4	4	4	0
BBW	Y	Bay - Blanket / Fluid Warmer	1	3	3	3	0
BPPE	Y	Bay - PPE (Personal Protective Equipment)	1	2	2	2	0
STEQ-14	Y	Store - Equipment, 14m2	1	14	14	14	0
LNPT-10	Y	Lounge - Patient/ Family, 10m2	1	10	10	10	0
ENS-ST	Y	Ensuite - Standard, 5m2	1	5	5	5	0
MOR-VR	Y	Mortuary - Viewing Room	1	8	8	8	0
BPTS	Y	Bay - Pneumatic Tube	1	1	1	1	0
BLIN	Y	Bay - Linen	1	2	2	2	0

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AusHFG Code	Deviation from HPU B.0300 Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Deviation from Standard Component m2
	Y	Bay - dirty linen trolley	1	1	1	1	0
		Subtotal			97		6
		Discounted Circulation		30%	29	0	31
		Total			126		31
FAST TRACK							
CONS	N	Consult room	5	12	60	12	0
CONS-ENT-OPT	N	Consult - ENT/ Ophthalmology	1	12	12	12	0
	N	Consult - Dental	0	12	0	12	0
PBTR-NA	Y	Patient Bay – Non Acute Treatment, 10m2	7	10	70	10	70
1 BR-IS-N	Y	1 Bed Room - Isolation - Negative Pressure, 15m2	1	15	15	15	15
ENS-ST	Y	Ensuite - Standard, 5m2	1	5	5	5	5
ANTE	Y	Anteroom	1	6	6	6	6
PROC-20	Y	Procedure Room, 20m2	2	20	40	14	40
SSTN-14	Y	Staff Station, 14m2	1	20	20	14	20
TRMT	Y	Allied Health Assessment TreatmentRoom	1	14	14	14	14
		Subtotal			242		170
		Discounted Circulation		30%	73	0	51
		Total			315		221
FAST TRACK SUPPORT AREA							
WAIT-10	Y	Waiting, 10m2	1	30	30	10	20
CLUR-14	N	Clean Utility/ Medication Room, 14m2	1	14	14	14	0
DTUR-10	N	Dirty Utility, 10m2	1	10	10	10	0
STSS-12	N	Store - Sterile Stock, 12m2	1	12	12	12	0
STEQ-14	N	Store - Equipment	1	14	14	14	0
	N	Store - Crutch	1	2	2	2	0
WCPT	N	Toilet - Patient, 4m2	2	4	8	4	0
BHW	Y	Bay - Height/ Weight	1	2	2	2	0
BHWS-A	N	Bay – Hand wash - Type A	2	1	2	1	0
BPPE	Y	Bay - PPE (Personal Protective Equipment)	6	2	9	1	1
BPATH	Y	Bay – Pathology	1	4	4	4	0
BPTS	N	Bay – Pneumatic Tube	1	1	1	1	0
BMEQ-4	N	Bay - Mobile Equipment, 4m2	1	4	4	4	0
BBEV-OP	N	Bay – Beverage, Open Plan, 4m2	2	4	8	4	0
BMT-4	Y	Bay – Meal Trolley	1	4	4	4	0
BLIN	N	Bay - Linen	1	2	2	2	0
	Y	Bay - dirty linen trolley	4	1	2	1	0
BRES	Y	Bay - Resuscitation Trolley	1	2	2	1	1
		Subtotal			130		21
		Discounted Circulation		40%	52	0	8
		Total			181		
ADULT ACUTE							
PBTR-A12	N	Patient Bay - Acute Treatment, 12m2	30	12	360	12	0
1 BR-IS-N	N	1 Bed Room - Isolation - Negative Pressure, 15m2	3	15	45	15	0
1BR-IS-P	Y	1 Bed Room - Isolation - Positive Pressure	1	15	15	15	0
ANTE	N	Anteroom	3	6	18	6	0
ENS-BA	N	Ensuite - Bariatric, 7m2	1	7	7	7	0
ENS-ST	N	Ensuite - Standard, 5m2	3	5	15	5	0
PROC-20	Y	Procedure Room, 20m2	2	20	40	20	0
INTF	Y	Interview Room	2	14	28	14	0
WCPT	N	Toilet - Patient, 4m2	5	4	20	4	0
SHPT	N	Shower - Patient, 4m2	2	4	8	4	0
		Subtotal			556		0
		Discounted Circulation		40%	222	0	0
		Total			778		

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AusHFG Code	Deviation from HPU B.0300 Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Deviation from Standard Component m2
ADULT ACUTE SUPPORT AREA							
WAIT-10	Y	Waiting, 10m2	1	30	30	10	20
SSTN-14	Y	Staff Station, 14m2	2	30	60	30	0
OFF-CLN	Y	Office - Clinical Workroom	2	15	30	15	0
BHWS-A	N	Bay - Hand wash - Type A	11	1	11	1	0
BPPE	N	Bay - PPE (Personal Protective Equipment)	10	2	15	2	0
	N	Office - Telemedicine	0	12	0	12	0
CLUR-12	Y	Clean Utility/ Medication Room, 12m2	2	12	24	12	0
STSS-12	N	Store - Sterile Stock, 12m2	1	12	12	12	0
BPTS	N	Bay - Pneumatic Tube	2	1	2	1	0
BPATH	N	Bay - Pathology	2	1	2	1	0
	N	Bay - pathology trolley	4	1	4	1	0
DTUR-10	Y	Dirty Utility, 10m2	2	10	20	10	0
STEQ-14	N	Store - Equipment	1	30	30	30	0
STDE	N	Store - Disaster Equipment	1	15	15	8	7
BBW	N	Bay - Blanket / Fluid Warmer	1	3	3	3	0
BMEQ-4	N	Bay - Mobile Equipment, 4m2	4	4	16	4	0
BBEV-OP	N	Bay - Beverage, Open Plan, 4m2	2	4	8	4	0
BMT-4	N	Bay - Meal Trolley	1	4	4	4	0
BLIN	N	Bay - Linen	3	2	6	2	0
STDR-10	Y	Medication Room	1	10	10	10	0
DISP-8	Y	Disposal Room, 8m2	1	8	8	8	0
CLRM-5	N	Cleaner's Room, 5m2	1	5	5	5	0
	Y	Bay - dirty linen trolley	10	1	5	1	0
	Y	Wardsperson interchange	1	10	10	10	0
	Y	Communications Centre	1	25	25	25	0
BRES	N	Bay - Resuscitation Trolley	1	2	2	2	0
		Subtotal			357		59
		Discounted Circulation		40%	143	0	24
		Total			499		109
PAEDIATRIC ACUTE							
PBTR-A12	N	Patient Bay - Acute Treatment, 12m2	10	12	120	12	0
1 BR-IS-N	N	1 Bed Room - Isolation - Negative Pressure, 15m2	2	15	30	15	0
ANTE	N	Anteroom	2	6	12	6	0
ENS-ST	N	Ensuite - Standard, 5m2	2	5	10	5	0
CONS	N	Consult Room	2	12	24	12	0
PROC-20	Y	Procedure Room, 20m2	2	20	40	20	0
TRMT	N	Plaster Room	0	14	0	14	0
	N	Store - Crutch	1	2	2	2	0
PLAP-10	N	Play Area - Paediatrics, 10m2	1	10	10	10	0
INTF	N	Interview Room	1	12	12	12	0
WCPT	N	Toilet - Patient, 4m2	2	4	8	4	0
SHPT	N	Shower - Patient, 4m2	1	4	4	4	0
		Subtotal			272		0
		Discounted Circulation		40%	109	0	
		Total					
ED MENTAL HEALTH POD							
TRMT	Y	Treatment Room - Behavioural Assessment Room	2	14	28	14	0
	Y	Gun safe	1	2	2	2	0
WCPT	N	Toilet - Patient, 4m2	1	4	4	4	0
SSTN-10	Y	Staff Station	1	10	10	10	0
WAIT-20	Y	Waiting, 20m2	1	20	20	20	0
INTF	N	Interview Room	3	14	42	14	0
		Subtotal			106		0
		Discounted Circulation		30%	32	0	0
		Total			138		
EMERGENCY MEDICINE UNIT - ADULT							

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AusHFG Code	Deviation from HPU B.0300 Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Deviation from Standard Component m2
PBTR-A12	N	Patient Bay - Acute Treatment, 12m2	23	12	276	12	0
1 BR-IS-N	N	1 Bed Room - Isolation Room - Negative Pressure, 15m2	3	15	45	15	0
ANTE	N	Anteroom	3	6	18	6	0
INTF	Y	Interview Room	1	12	12	12	0
ENS-ST	N	Ensuite	3	5	15	5	0
WCPT	N	Toilet - Patient, 4m2	3	4	12	4	0
SHPT	N	Shower - Patient, 4m2	3	4	12	4	0
Subtotal					390		
Discounted Circulation				30%	117	0	
Total					507		
EMERGENCY MEDICINE UNIT - ADULT - SUPPORT AREA							
SSTN-20	N	Staff Station, 20m2	1	20	20	20	0
BLIN	N	Bay - Linen	1	2	2	2	0
BHWS-A	N	Bay - Hand wash - Type A	7	1	7	1	0
BPPE	N	Bay - PPE (Personal Protective Equipment)	9	2	14	2	0
	N	Bay - Waste streaming	1	4	4		4
CLUR-14	N	Clean Utility/ Medication Room, 14m2	1	14	14	14	0
STSS-12	N	Store - Sterile Stock, 12m2	1	12	12	12	0
DTUR-12	N	Dirty Utility, 12m2	1	12	12	12	0
	N	Bay - dirty linen trolley	9	1	5		1
BMT-4	N	Bay - Meal Trolley	1	4	4	4	0
BBEV-OP	N	Bay - Beverage, Open Plan, 4m2	1	4	4	4	0
STGN-9	N	Store - General	1	12	12		12
STEQ-14	N	Store - Equipment	1	14	14	14	0
BMEQ-4	N	Bay - Mobile Equipment, 4m2	2	4	8	4	0
BRES	N	Bay - Resuscitation Trolley	1	2	2		2
BPATH	N	Bay - Pathology	1	4	4	4	0
	N	Bay - pathology trolley	3	1	2		1
BPTS	N	Bay - Pneumatic Tube	1	1	1	1	0
Subtotal					139		19
Discounted Circulation				30%	42	0	6
Total					181		24
PAEDIATRIC EMERGENCY MEDICINE UNIT							
PBTR-A12	N	Patient Bay - Acute Treatment, 12m2	5	12	60	12	0
1 BR-IS-N	N	1 Bed Room - Isolation Room - Negative Pressure, 15m2	1	15	15	15	0
ANTE	N	Anteroom	1	6	6	6	0
ENS-ST	N	Ensuite	1	5	5	5	0
WCPT	N	Toilet - Patient, 4m2	2	4	8	4	0
SHPT	N	Shower - Patient, 4m2	1	4	4	4	0
Subtotal					98		0
Discounted Circulation				30%	29	0	
Total					127		
PAEDIATRIC STREAM SUPPORT AREA							
WAIT-10	N	Waiting, 10m2	1	30	30	20	10
SSTN-14	N	Staff Station, 14m2	1	14	14	14	0
OFF-CLN	N	Office - Clinical Workroom	1	15	15	15	0
SSTN-14	N	Staff Station, 14m2	1	14	14	14	0
CLUR-14	Y	Clean Utility/ Medication Room, 14m2	1	14	14	14	0
STSS-12	N	Store - Sterile Stock, 12m2	1	12	12	12	0
DTUR-10	N	Dirty Utility, 10m2	1	10	10	10	0
BBW	N	Bay - Blanket / Fluid Warmer	1	3	3	3	0
BHWS-A	N	Bay - Hand wash - Type A	5	1	5	1	0
BPPE	Y	Bay - PPE (Personal Protective Equipment)	2	2	3	2	0
BPTS	Y	Bay - Pneumatic Tube	1	1	1	1	0

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BPATH	Y	Bay – Pathology	1	4	4	4	0
	Y	Bay - pathology trolley	2	1	1	1	0
STGN-9	N	Store - General	1	12	12	12	0
STEQ-14	N	Store - Equipment	1	14	14	14	0
STDE	Y	Store - Play	1	2	2	2	0
BMEQ-4	N	Bay - Mobile Equipment, 4m2	2	4	8	4	0
BBEV-OP	N	Bay – Beverage, Open Plan, 4m2	2	4	8	4	0
BHW	N	Bay - Height/ Weight	1	2	2	2	0
BMT-4	N	Bay – Meal Trolley	1	4	4	4	0
BLIN	N	Bay - Linen	1	2	2	2	0
DISP-8	Y	Disposal Room, 8m2	1	8	8	8	0
	Y	Bay - dirty linen trolley	2	1	1	1	0
BRES	N	Bay - Resuscitation Trolley	1	2	2	2	0
		Subtotal			189		0
		Discounted Circulation		40%	75	0	
		Total			264		
		OTHER STAFF SUPPORT AREAS					0
SRM-35	Y	Staff Room, 30m2	1	45	45	30	15
CHST-20	Y	Change - Staff (Male/Female), 20m2	2	20	40	20	0
SHST	N	Shower - Staff, 3m2	2	3	6	3	0
WCST	N	Toilet - Staff, 3m2	17	3	51	3	0
PAR	Y	Parenting Room	1	6	6	6	0
		Subtotal			148		15
		Discounted Circulation		30%	44	0	5
		Total			192		0
		SUPPORT AREAS					0
	Y	Biomedical equipment workroom	1	30	30	30	0
		Subtotal			30		0
		Discounted Circulation		30%	9	0	0
		Total			39		0
		ED IMAGING					0
CTPR	N	CT Scanning	1	45	45	45	0
CTCR	N	CT Control Room	1	12	12	12	0
	Y	Reporting Station	0	6	0	6	0
GENXR	N	General X-Ray	2	40	80	35	5
XRRR	N	X-Ray Viewing & Reporting Room	0	12	0	9	3
WAIT-10	N	Waiting, 10m2	1	10	10	10	0
ULTR	N	Ultrasound	3	14	42	14	0
STGN-8	N	Store - General, 8m2	1	8	8	8	0
BLIN	N	Bay - Linen	1	2	2	2	0
BMEQ-6	N	Bay - Mobile Equipment, 6m2	1	6	6	6	0
	Y	Bay - dirty linen trolley	2	1	1	1	0
		Subtotal			206		0
		Discounted Circulation		30%	62	0	0
		Total			268		0
		EXTERNAL AREA					0
		Ambulance Bays	12	tba			
		Mental Health Short Stay courtyard	1	20	20	20	0
		Paediatric courtyard	1	20	20	20	0
		Staff courtyard	1	20	20	20	0
		Emergency services bays	6	tba			
		Subtotal			60		0
		Discounted Circulation		30%	18	0	0
		Total			78		0
		Areas that must be included					0
		MENTAL HEALTH SHORT STAY UNIT					0
WAIT-20	N	Waiting, 20m2	1	20	20	20	0

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SSTN-10	N	Staff Station, 14m2	1	14	14	14	0
OFF-CLN	N	Office - Clinical Workroom	1	15	15	15	0
INTF	N	Interview Room	2	14	28	14	0
1BR-MH-A	N	1 Bed Room - Mental Health - 12m2	9	12	108	12	0
ENS-MH-A	N	Ensuite - Mental Health, Inboard, 5m2	3	5	15	5	0
1BR-SP-A	N	1 Bed Room - Special, 18m2	1	18	18	18	0
ENS-SP	N	Ensuite - Special, 6m2	1	6	6	6	0
TRMT	N	Treatment Room	1	16	16	16	0
ADLD	N	Lounge/Dining	1	50	50	50	0
WCAC	N	Toilet-Accssible 6m2	1	6	6	6	0
BHWS-A	N	Bay – Hand wash - Type A	2	1	2	1	0
BBEV-OP	N	Bay – Beverage, Open Plan, 4m2	2	3	6	3	0
BMT-4	N	Bay – Meal Trolley	1	4	4	4	0
CLUR-8	N	Clean Utility/ Medication Room - Sub, 8m2	1	8	8	8	0
DTUR-S	N	Dirty Utility - Sub, 8m2	1	8	8	8	0
BRES	N	Bay - Resuscitation Trolley	1	2	2	2	0
BLIN	N	Bay - Linen	1	2	2	2	0
	N	Bay - dirty linen trolley	2	1	1	1	0
	N	Gun safe	1	2	2	2	0
STGN-8	N	Store - General, 8m2	1	8	8	8	0
OFF-2P	N	Office - 2 Person Shared, 12m2	1	12	12	12	0
OFF-S9	N	Office - Single Person, 9m2	1	9	9	9	0
PROP-2	N	Property Bay - Staff, 2m2	1	2	2	2	0
WCST	N	Toilet - Staff, 3m2	1	3	3	3	0
Subtotal					365		0
Discounted Circulation				30%	109	0	0
Total					474		0
WOMEN'S ASSESSMENT CENTRE							0
WAIT-10	N	Waiting, 10m2	1	10	10	10	0
PBTR-H-9	N	Patient Bay – Holding, 9m2	2	9	18	9	0
TRMT	N	Treatment Room	1	14	14	14	0
SSTN-10	N	Office	1	9	9	9	0
BHWS-PPE	N	Bay - Handwashing/ PPE	1	2	2	2	0
CLUR-8	N	Clean Utility/ Medication Room Sub	1	8	8	8	0
INTF	N	Interview Room	2	12	24	12	0
ENS-SP	N	Ensuite - Special, 6m2	1	6	6	6	0
Subtotal					91		0
Discounted Circulation				32%	29	0	0
Total					119		0
CLINICAL FORENSIC MEDICAL SUITE							0
INTF	N	Interview Room	1	12	12	12	0
CONS	N	Consult room	2	12	24	12	0
ENS-ST	N	Ensuite	2	5	10	5	0
LNPT-10	N	Lounge - Patient/ Family, 10m2	1	10	10	10	0
OFF-2P	N	Office - 2 Person Shared, 12m2	1	12	12	12	0
WAIT-10	N	Waiting, 10m2	1	10	10	10	0
STGN-8	N	Store - General, 8m2	1	8	8	8	0
BBEV-OP	N	Bay – Beverage, Open Plan, 4m2	1	4	4	4	0
Subtotal					90		0
Discounted Circulation				30%	27	0	0
Total					117		0
STAFF AREAS							0
MEET-L-20	Y	Meeting Room, 20m2	6	25	150	20	5
OFF-2P	N	Office - 2 Person Shared, 12m2	1	12	12	12	0
OFF-S12	N	Office - Single Person, 12m2	1	12	12	12	0
MEET-L-30	N	Meeting Room, 30m2	1	30	30	30	0

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AusHFG Code	Deviation from HPU B.0300 Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Deviation from Standard Component m2
MEET-L-30	N	Meeting Room, 30m2	1	30	30	30	0
OFF-S9	N	Office - Single Person, 9m2	1	9	9	9	0
STEQ-20	N	Store - Equipment, 20m2	1	20	20	20	0
WCST	N	Toilet - Staff, 3m2	0	3	0	3	0
Subtotal					263		0
Discounted Circulation				30%	79	0	0
Total					342		0

Summary - Including ED Clinical Admin				Total Area	Deviation from Standard Component m2
Total Room Area				4325	432
Total Discounted Circulation				1450	166
Total Department / Unit Area				5775	599

AusHFG Code	Deviation from HPU B### Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Comments - This should be a comment on the purpose of the space if a deviation from the HPU
ED CLINICAL ADMINISTRATION							
WAIT-10	N	Waiting, 10m2	1	10	10	10	
RECL-10	N	Reception/ Clerical, 10m2	1	10	10	10	
MEET-9	Y	Meeting Room, 9m2	2	9	18	9	Interviews
STPS-8	Y	Store - Photocopy/ Stationery, 8m2	1	8	8	8	
OFF-S9	Y	Office - Single Person, 9m2	1	9	9	9	Administration manager
	Y	Office - Administration	7	6	39	6	2 secretaries, 1 admin officer, 1 data manager, 3 EDIS
OFF-S9	Y	Office - Single Person, 9m2	6	9	54	9	4 x Deputy Director, 2 x Director of Training
OFF-S12	Y	Office - Single Person, 12m2	1	12	12	12	1 x Professor
OFF-S9	Y	Office - Single Person, 9m2	1	9	9	9	1 x senior lecturer
OFF-S9	Y	Office - Single Person, 9m2	32	9	288	9	32 x Staff specialists
	Y	Office - Shared Workstation, 4.4m2	9	4	40	4	9 x Senior Registrars. Shared to reflect part time use

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AusHFG Code	Deviation from HPU B.0300 Y/N	Room / Space	Quantity	Room Area M2	Total Area	AHFG's Standard Component Size m2	Deviation from Standard Component m2
	Y	Office - Shared Workstation, 3m2	8	3	24	3	8 x Registrars. Shared to reflect PT use
	Y	Office - Shared Workstation, 3m2	6	3	18	3	6 x RMO/CMO/Interns. Shared to reflect PT use
OFF-S9	Y	Office - Single Person, 9m2	3	9	27	9	1 x ADON, 2x Nurse Manager
	Y	Office - Shared Workstation, 5.5m2	3	6	17	6	2 x Clinical Support nurse, 1 x project officer
	Y	Office - Shared Workstation, 4.4m2	8	4	35	4	20 x Nav/Clin, 9 x CDN. Shared to reflect part time use
	Y	Office - Shared Workstation, 3m2	8	3	24	3	8 x Allied Health, includes physio, social work, OT, dietitian, pharmacy,
	Y	Office - Shared Workstation, 4.4m2	2	4	9	4	2 equipment officers / biomed designated to ED
	Y	Office - Shared Workstation, 4.4m2	4	4	18	4	Psych reg, MHC, CAMHS. Shared to reflect part time use
Subtotal					667		
Discounted Circulation				30%	200	0	
Total					867		

Summary -ED Clinical Department only			Total Area
Total Room Area			667
Circulation Allowance	Ave	30%	200
Total Department / Unit Area			867

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11. Abbreviations

Abbreviation	Description
ACTPAS	ACT Patient Administration System
ADM	Automated Dispensing Machine
ADS	Alcohol and Drug Services
AGV	Automatic Guided Vehicles
BAR	Behavioural Assessment Room
CAMHS	Child and Adolescent Mental Health Service
CARHU	Child At Risk Health Unit
CCTV	Closed Circuit Television
CFMS	Clinical Forensic Medical Service
CT	Computed tomography
ED	Emergency Department
EDIS	Emergency Department Information System
EDSU	Extended Day Surgery Unit
EMM	Electronic Medication Management
EMU	Emergency Medicine Unit
FFE	Furniture, Fittings and Equipment
FPU	Functional Planning Unit
FTE	Full Time Equivalent
HPU	Health Planning Unit
ICT	Information Communication Technology
IPU	Inpatient Unit
MAU	Medical Assessment Unit
MJHADS	Mental Health, Justice Health, Alcohol and Drug Service
MHS-ID	Mental Health Service for People with an Intellectual Disability
MHSSU	Mental Health Short Stay Unit
OPMHS	Older Persons Mental Health Service
OPG	Orthopantomogram
PEHR	Personal Electronic Health Record
PICS	Purchasing Inventory Control System
PPE	Personal Protective Equipment
RTLS	Real Time Location System
SAU	Surgical Assessment Unit
SPIRE	Surgical Procedures, Interventional Radiology and Emergency
WAC	Women's Assessment Centre
WOW	Workstation on Wheels

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HPU brief development participants

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ACT
Government

ACT Health

ACT HEALTH

DATE: OCTOBER 2018



HEALTH PLANNING UNIT BRIEF

PERIOPERATIVE & INTERVENTIONAL CENTRE

ACT Health
date: October 2018

Health Planning Unit Brief – Perioperative & Interventional Centre v0.6

Approvals

Name	Position	Signature	Date
	A/g Executive Director, Surgery & Oral Health Division		
	Deputy Director General, Canberra Hospital and Health Services		
	For Information - Executive Sponsor, Chief of Clinical Operations, ACT Health		

Outstanding issues

Subject	Issue
Surgical Booking office	Proposed Territory-wide Surgical Bookings office. Decision and location to be determined.
Data analysis required	Further analysis to confirm number of types of Operating Rooms and PACU numbers.
Confirm number of PACU bays	37 bays allocated. AusHFG recommendation 1.5 bays per OR, plus 1 bay per Interventional suite, plus 1 bay per hybrid room, + 1 bay per non periop outliers. 20 OR's (30bays) + 4 Interventional (4 bays), plus 2 hybrid + 1 non periop outliers = 37 bays
Number and type of OR/IR	The composition to be confirmed following the completion of the Specialty Service Plans (SSP) relating to Surgery.
Allocation of 6 OR's to WY&C	To be confirmed once the SSP for Maternity, Gynaecology and Paediatric are completed to inform service requirements.
Workforce	Workforce recurrent costs have not been included in the document. This will be provided in the detailed Business Case. Staff profiles are subject to review by Workforce Policy and Planning Unit.
Blood product management	Confirmation of electronic systems in place for the Blood Bank services.
Diagnostic Imaging stakeholder engagement	Consultation with Diagnostic Imaging clinical stakeholders remains outstanding.

Document version history

Rev No	Issue Date	Issued By	Issued To	Reason for Issue
Draft v0.1	16/4/18	Capital Insight	ACT Health	Draft for review
Draft v0.2	23/4/18	Capital Insight	ACT Health	Draft for review
Draft v0.3	24/4/18	ACT Health	Capital Insight	Client feedback
Draft v0.4	1/5/18	Capital Insight	ACT Health	Final Draft
Draft v0.5	24/5/18	HSPU	ACT Health	Final draft for review
Draft v0.6	08/10/18	HSPU	BHSP	For progression to Design Consultant for proof of concept

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1. Introduction

In September 2016, ACT Government announced the construction of a Surgical Procedures, Interventional Radiology and Emergency (SPIRE) Centre to be built at Canberra Hospital (CH). This infrastructure project is part of the ACT Government's 10-Year Health Plan and is in response to the increasing demand on ACT hospitals and health services across the territory.

The ACT Government 2017 Budget provided funding for the first stages of the SPIRE project which includes planning and the commencement of design. A Health Planning Unit (HPU) Brief is a planning document that defines the activities and functions to be undertaken within a unit/ service. This HPU Brief has been developed as part of the SPIRE planning component and articulates the operational requirements, functionalities and relationships for which the prospective design consultant can develop a suitable design response.

This HPU brief describes the perioperative facilities to be provided in SPIRE for the management of Surgical Booking and Preadmission Clinic facilities for elective surgery patients will be provided in the ambulatory care building and are not included in this brief.

2. Description of the Service

The Perioperative service provided at CH includes preoperative care, intraoperative treatment, and postoperative support for the management of Day Only (DO) patients, DoSA (Day of Surgery Admission) elective surgery patients, inpatients, or emergency patients in an operating room environment.

2.1. Surgery types

The tertiary perioperative services provided at the CH include:

- cardio-thoracic
- dental
- ear, nose and throat (ENT)
- general
- gynaecology
- neurosurgery
- obstetrics
- oral-maxillary-facial
- organ retrieval
- orthopaedics
- ophthalmology
- paediatrics
- plastics
- trauma
- urology
- vascular.

Capacity will be required in the operating rooms/suites to undertake emergency endoscopy procedures and elective endoscopy and urology procedures requiring anaesthetic support in a major theatre environment due to the risk profile of the patient (e.g. patients with bariatric conditions, patients with multiple comorbidities and paediatric patients).

Low complex endoscopy, bronchoscopy services will continue to be provided in a "Gastroenterology" Endoscopy Procedure Suite external to Perioperative Services.

Separate HPU briefs have been prepared for:

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- Sterilising Services Department (SSD)
- Diagnostic Imaging, excluding Interventional Radiology
- Interventional Cardiology Laboratory (ICL)
- Procedure rooms (endoscopy & bronchoscopy).

3. Scope of service

The Perioperative service will continue to provide a level 6 role delineation service and will be comprised of:

- Day of surgery admissions
- Operating Theatres (general digital robotics)
- Interventional suites
- Hybrid operating suites
- Post Anaesthetic Care Unit
- Day surgery
- Extended Day Surgery
- Discharge Lounge
- Support Services (including technician support areas, office accommodation).

Services requiring or potentially requiring an anaesthetic intervention and post-anaesthetic/procedural support to be co-located e.g. hybrid and interventional suites. This is to eliminate duplication of specialised equipment, to utilise skilled staff effectively, and to promote improved patient care.

The scope of perioperative services covered by this brief is outlined in Table 1.

Table 1: Current and future perioperative Functional Planning Unit (FPU)

Core Service Areas	Current	Future	Comments
	L3 Bld12	SPIRE	
Preoperative Spaces			
Waiting (external pre clerical admission)	30	54	Currently used for pre-op overflow.
Preoperative patient cabins/bays	2	26	AusHFG: 1 per OR
Interview/consult rooms	4	3	Pt consults to occur in preop bays
Preoperative seating (internal post clerical admission)	40	0	See above
Bedrooms	0	3	Infectious, custodial, special needs, shared with post op
Holding bays – ready for surgery/procedure	4	26	At entry to 'pod' or suite
Intraoperative Spaces			
General digital robotic Operating Rooms	13	20	Complex/high volume short stay Emergency/elective
General digital robotic anaesthetic induction room	12	20	Complex/high volume short stay Emergency/elective
Hybrid Suites	0	2	Combined open, minimally invasive, image-guided and/or catheter-based procedures
Hybrid suite anaesthetic induction room	0	2	

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Core Service Areas	Current	Future	Comments
Interventional Suites	0	4	Image guidance to support diagnosis and surgical treatment
Interventional suite anaesthetic induction	0	4	
Postoperative Spaces			
PACU bays Stage 1	18	80	AusHFG: 1.5 bays per OR + 1 bay per interventional suite & hybrid suite + capacity to accommodate demand for services from outlying anaesthetic provision
DSU Post-operative bed bays- Stage 2	Utilises EDSU bed bays	93	Day Surgery Unit (DSU) – preoperative and postoperative, including designated areas for paediatrics, obstetrics, and miscarriage gynaecology patients. AusHFG: 3 per OR, 2 per hybrid, 2 per interventional + 3 additional 'ready to go'
EDSU	14 12 funded	78	AusHFG: 3 bays per OR
EDSU bedroom	0	4	Infectious, custodial, special needs, shared with pre-op
Discharge Lounge	0	78	AusHFG: 26 Rooms at 9m2 (3m2 x3 chairs per room) = 78 recliner chair spaces (assumes not all procedures will be require use of Discharge Lounge).

3.1.1. General digital robotic operating rooms

The SPIRE perioperative service will include visual and digital information operating rooms with robotic capability. These rooms provide the integration necessary to support minimally invasive and image guided surgery. Video integration can also occur outside of the theatre with the transfer of streamed video from instrumentation or cameras to an external location such as a training room or device.

The general digital robotic theatres will include provision for robotic surgery, 3D printing, mobile robot arms and tactile feel technology systems.

The operating rooms will be organised in pods of 4. Within these pods surgical specialties will be colocated. For example, the orthopaedic ORs will be grouped to utilise specialty operating theatre requirements, such as the laminar flow operating theatre used for implant surgery.

Robotics

Robotics used in surgery is similar to laparoscopic surgery facilitating the use of minimally invasive techniques. Robotics offer greater precision and control than is possible with conventional techniques. Operating rooms with robotics capability require additional space to house extra equipment as well as accommodate more staff who are present during a procedure.

3.1.2. Hybrid operating suites

The Hybrid operating suites will have robotic capability and fixed imaging platforms designed to support multi-disciplinary teams in delivering real-time intraoperative guidance for complex open and minimally invasive surgery. Examples include transcatheter aortic valve replacement, simultaneous Coronary Artery By-pass Grafting (CABG) and abdominal aortic endovascular aneurysm repair, simultaneous carotid endarterectomy and carotid stenting.

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Initially it is expected that hybrid theatre activity will be focussed in the following four surgery specialties:

- Interventional Neurology
 - digital angiography is used for neurovascular surgery and spinal surgery
 - CT scan or MRI scan is applied in brain tumour surgery
- Neurosurgery/Orthopaedic surgery - the O-arm system is specifically used in spinal surgery
- Vascular
- Cardiothoracic.

Use of hybrid theatre techniques is evolving rapidly. Other areas where hybrid surgery techniques could expand in the medium term include orthopaedics and trauma.

3.1.3. Interventional operating suites

Interventional suites will have robotic capability, MRI, interactive imaging, 3D modelling, and navigational image guidance to support tightly coupled diagnosis and surgical treatment. These tools enable a surgeon to navigate and execute procedures with full knowledge of the surrounding anatomy. Examples of procedures include laparoscopic assisted pancreatic necrosectomy, endoscopic sinus surgery, spinal surgery, interstitial laser treatment for brain tumours, cryoablation for metastatic colorectal cancer, and MRI-guided prostate brachytherapy treatment with computer control.

An integrated and co-located interventional suite creates an environment where all interventional procedures requiring anaesthetic support can be provided from one hospital location.

3.1.4. Post Anaesthetic Care Unit (PACU)

The Post Anaesthetic Care Unit (PACU), operated by specialist nursing staff, is responsible for the management of patients' immediate post-procedural period.

The SPIRE perioperative service will include Stage 1 Recovery, and Stage 2 Recovery Areas.

- Stage 1 Recovery:
 - a service that accommodates unconscious patients who require constant observation and monitoring
 - with a one-to-one patient nurse ratio
 - open planned bays are provided that can be observed from a staff station.
- Stage 2 Recovery:
 - accommodates patients who have regained consciousness after an anaesthetic however require further observation
 - patients who have undergone procedures with local or sedation anaesthetic who may require less supervision than Stage 1 Recovery.
 - post-operative obstetric patient needs including facilitating breast feeding as per the breast feeding-friendly hospital policy.

3.1.5. Day Surgery Unit (DSU)

The Day Surgery Unit will be a flexible area integrated into Perioperative Services where patients can have their entire episode of care within the perioperative environment and be discharged on the day of surgery. It will provide facilities to support the post-operative care of patients undergoing a range of surgical procedures.

3.1.6. Extended Day Surgery Unit (EDSU)

The SPIRE perioperative service will include a 23 Hour Extended Day Surgery Unit. It will be a flexible area where patients can have their entire episode of care within the perioperative environment and

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be discharged as per criteria. Bed allocation will be for patients who meet the 23 Hour Extended Day Surgery Unit criteria and do not require admission to an Inpatient Unit as they are discharged within 23 hours post op surgery/procedure.

3.1.7. Discharge Lounge

The discharge lounge provides comfortable chairs for patients who are awake and waiting for a medical discharge, medication, instructions etc. The patient may eat and drink in this area.

3.1.8. Support Services

Support Services are a requirement within the perioperative service. Support Services will include:

- Central Sterilising Services Department (CSSD)
- Clinical/Biomedical Engineering
- Pathology
- Medical Imaging
- Body Viewing Room
- Waste Management
- Cleaning Services
- Hospital Assistant services
- Wards Persons services
- Sterile Stock Rooms
- General stock rooms
- Prosthetic and implant consignment management facilities
- Medication Stock Rooms – Automatic dispensing machines
- Equipment Store Rooms
- Technology garaging facilities
- 3D implant printing facilities
- Administration Staff services
- Anaesthetic Department
- Medical Physics & Radiation Engineering
- Clinical education resources
- Bone and Tissue Bank.

4. Model of care summary

The key principles that underpin the Model of Care (MoC) for Perioperative Services are outlined in the following SPIRE Project Perioperative Services principles and assumptions:

- the perioperative service will comprise of three separate functional zones i.e. general digital robotic operating room suite, hybrid suite, interventional suite.
 - the general digital robotic operating room suite will comprise of operating rooms for general digital robotic surgery, anaesthetics, and shared Admissions, Holding Bay, PACU (Stage 1 and Stage 2) and Support Services.
 - the hybrid suite will comprise of digital robotic operating rooms, and fixed imaging platforms designed to support multi-disciplinary teams in delivering real time intraoperative image guidance, anaesthetics, and shared Admissions, Holding Bay, PACU (Stage 1 and Stage 2) and Support Services
 - the Interventional Suite will comprise of integrated operating rooms designed to facilitate the use of robotic capability, MRI, interactive imaging, 3D modelling, and navigational image guidance to support tightly coupled diagnosis and surgical treatment and the interaction of

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multidisciplinary clinical care teams, shared Admissions, Holding Bay, PACU (Stage 1 and 2 Recovery) and Support Services.

- the SPIRE perioperative service will provide for planned Day of Surgery Admission, Day of Procedure Admission, unplanned emergency surgery/procedure and elective surgery/procedure. The majority of patients presenting at the SPIRE perioperative service will have been managed in preadmission clinics located in an Ambulatory Care setting. All Zones (see dot point 1 above) will be responsible for the clinical management of their patients within the perioperative service. All zones will be staffed with specialty staff.
- the SPIRE perioperative service will provide standardised layout of rooms for all general digital robotic operating rooms, interventional suites, and hybrid suites as well as Post Anaesthetic Care Unit (Stage 1 & 2 Recovery), Day Surgery Unit, Extended Day Surgery Unit and Discharge Lounge where possible. This will facilitate familiarity to staff.
- all perioperative services will be co-located
- the Post Anaesthetic Care Unit (PACU) will require flexible use of Stage 1 and Stage 2 Recovery, as well as DSU/EDSU and a Discharge Lounge due to the high volume turnover of some ORs.
- ambulant and non-ambulant patients will be admitted via separate entrances to facilitate patient flow through the unit
- Day Surgery, Extended Day Surgery and Discharge Lounge facilities will be shared by the operating room suite, the hybrid suite and the interventional suite.
- the suites will be a security controlled environment to provide facilities for non-elective, emergency surgery, and elective planned surgery. Emergency non-elective patients will be booked via the team leader of the required procedure/surgery zone.

4.1.1. Patient flow

The proposed patient flow is summarised as follows:

- on the day of surgery, all elective/planned admissions will present to the DoSA for clerical admission.
- following registration, patients undergo nursing and anaesthetic assessment where required, and don surgical gowns for their procedure in the DoSA preoperative area
- within the DoSA there will be separate streams and holding/recovery areas for paediatric/youth, obstetric, and miscarrying gynaecology patients, to optimise flow and the patient experience
- DoSA patients will proceed from the DoSA preoperative area to a "ready for procedure" holding area at the entry to the pod where the procedure will be undertaken
- inpatients and emergency patients will be transferred directly to the relevant holding area from the inpatient unit or Emergency Department (ED)
- patients are transferred to the anaesthetic bays for further assessment and anaesthetic interventions whilst the operating room is cleaned and prepared for their care
- patients are transferred into the operating room for their procedure
- patients who have had a general anaesthetic or sedation will be transferred to the designated PACU area (paediatric/youth, obstetrics and miscarrying gynaecology patients, general) following their procedure for observation and monitoring until they regain consciousness and are stabilised post procedure; a cohort of acutely unwell patients or those already expecting immediate admission to ICU will bypass the PACU and go directly to Intensive Care Unit (ICU)
- on regaining consciousness and post-surgery clinical stability:
 - inpatients will be transferred to an inpatient unit including obstetrics and miscarrying gynaecology patients requiring an extended recovery (>4 hours)
 - patients requiring high dependency will be transferred to the ICU

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- Day surgery unit (DSU) patients will be transferred to the designated DSU postoperative area (paediatric <4 hours only/youth, obstetrics and miscarrying gynaecology <4 hours, general) DSU postoperative area - stage 2 and stage 3 (discharge)
- Paediatric patients <16 years requiring >4 hours recovery (or a stay beyond 2100 hours) will be transferred to the Paediatric DSU or an inpatient unit
- Extended Day surgery Unit (EDSU) patients will be transferred to the EDSU and discharged within 23 hours.
- patients who have undergone procedures with local anaesthetic or light sedation will:
 - transfer to the inpatient unit if they are an inpatient after assessment in PACU
 - transfer to the designated DSU postoperative area (paediatric, obstetrics and miscarrying gynaecology, general) - stage 2 and stage 3 (discharge) if they are a DO patient
 - transfer to the EDSU if their stay is expected to be more than 23hrs.
- emergency surgery/procedures for neonates will continue to be undertaken in the Neonatal Intensive Care Unit (NICU).

4.1.2. Work flow

- overall staff workflows are guided by the patient pathways through perioperative services. Perioperative services involve a wide-ranging number of specialised staff.
- A perioperative management structure supports efficient and effective fiscal, human resource, and materials management practices for both elective and emergency streams. This includes utilisation of an Operating Room and Anaesthetic Management System.
- Information management unit staff support the provision of sound data for planning and analysis.

Variations to workflow and process: the impact of procedure type

- The category of operating room and surgical subspecialty required varies in the intraoperative phase according to a range of characteristics, including:
- the body part involved and procedural complexity e.g. simple day procedures (e.g. closed reduction of a fractured bone) compared to a more complex operating room procedure (e.g. hip replacement)
- the degree of invasiveness and associated procedural techniques e.g. minimally invasive techniques using endoscopy, open surgery
- equipment needed e.g. lasers, hybrid theatre imaging equipment, robotic surgery
- number of surgeons or other proceduralist involved, which can vary from one to several for a complex trauma or organ retrieval case.
- The procedural characteristics determine the numbers of anaesthetic, nursing and technical staff together with non-clinical staff in the intraoperative phase e.g. more wardspersons are required to assist with patient movement in multi trauma surgical cases.

4.1.3. Workforce

Projected staff profiles will be developed to inform this stage of planning and will be subject to adjustment both in numbers and classification as better clarity is gained around MoCs/service delivery models. The staffing profile is required to develop the Schedule of Accommodation only (e.g. offices, staff stations and receptions). Staff profiles are subject to review by Workforce Policy and Planning. Future workforce requirements will be determined using relevant College standards e.g. Australian College Operating Room Nursing (ACORN) Standards for Perioperative Nursing.

5. Policies impacting on the built environment

The department design, configuration and functionality must comply with all relevant and applicable standards, building codes and regulations.

The Perioperative Service and associated general digital robotic operating, interventional, and hybrid suites will adhere to the relevant design and space standards outlined in the *Australasian Health Facility Guidelines (AusHFG) Part B – Health Facility Briefing and Planning*

Key guidelines and policies include:

- ACT Health Infection Control policies and procedures
- Australian and New Zealand College of Anaesthetists (ANZCA)
- Royal Australian and New Zealand College of Radiologists (RANZCR)
- Australian College Operating Room Nursing (ACORN) Standards
- Royal Australian College of Surgeons (RACS), Surgical Education and Training (SET) requirements
- Workcover Design and Handling of Surgical Instrument Transport Cases 2011
- Gastroenterology Society of Australia (GENSA).
- Biomedical College of Engineers Australia

There needs to be capability to address the impact of new and updated policies as they come on line.

6. Operational description and associated design requirements

6.1. Access

6.1.1. Hours of operation

- general digital robotic operating rooms, interventional, and hybrid suites will be routinely staffed Monday to Friday 0730 – 2100 hours
- additional staff will be on 'close call' for emergency surgery from 2100 – 0730 hrs Monday to Friday and on the weekend/public holidays.
- emergency theatres and PACU will be open 24 hours per day, seven days per week

6.1.2. Access to the unit

- the zoned approach to the SPIRE perioperative service will prevent unauthorised access to staff areas of the building
- ambulant and non-ambulant patients will be admitted via separate entrances to facilitate patient flow through the unit
- access required for equipment to be serviced and replaced.

6.2. Description of the service

- a day of surgery/procedures admission model will be in place for all non-inpatient elective/booked surgical patients and identified emergency non-elective patients
- the majority of elective surgical patients will have had an appropriate pre-admission assessment; either at a pre-admission clinic or by telephone, depending on the patient risk profile. Pre-operative preparation will have been documented and consent obtained during the pre-admission process
- emergency surgical patients managed through the Acute Surgical Unit (ASU) or ED and will be received by nursing staff and managed in a holding bay or directly into required Room / Operating Theatre

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- visitors such as company representatives will not be permitted to enter the Unit. Visitors will be received in the Manager's office or an adjacent meeting room.

6.2.1. Paediatric, obstetric, and miscarrying gynaecology patients access

- paediatric, obstetric, miscarrying gynaecology patients presenting on day of surgery/procedure will access the DoSA and DSU via separate streams with designated waiting and reception areas
- the paediatric, obstetric and miscarrying gynaecology patient streams will be managed by specialised paediatric and women's health nursing/midwifery staff
- the designated obstetric operating room for obstetric emergencies (Category A) must be accessible in less than 10 minutes (knife to skin within 30 minutes)
- paediatric patients may be accompanied by a parent or guardian in the holding/anaesthetic bay and recovery areas; surgically assisted birthing women may be accompanied by a support person who may also be present in the OR
- private space is required within the PACU for skin to skin contact following a caesarean section.

6.2.2. Family/Carer access

- family members/carers will be given an estimation of procedure time and be asked to return to the DoSA waiting room at that time. The waiting area will include a designated area for family/carers who wish to remain close by
- a quiet room will be provided for use by distressed or grieving families
- family members/carers will be able to join DSU/EDSU patients in the Discharge Lounge
- interview rooms for surgical leads to talk with the families/carers post surgery
- a meeting room will be available in the Discharge Lounge for informing patients and accompanying family/carers about postoperative care following discharge.

6.2.3. Staff access

- staff access into and throughout the Perioperative Service Units, Operating /Interventional Suites will be controlled by a proximity access identification (swipe) card
- all staff working within the Operating Suites will be required to change into work attire on arrival to work
- staff amenities will be provided so that staff can change into appropriate attire and then enter the Operating Suites via restricted circulation.
- separation of public and staff areas.

6.2.4. Amenities for staff

- staff will use the change room facilities serving the Perioperative service and will access lockers for their possessions
- staff toilets will be provided within the units
- staff working on the DSU will have access to locker facilities on the unit
- staff will have internal access to a staff room/lounge located within the unit
- breastfeeding parents will have access to a parent's room in the Hospital.

6.3. Clinical support

6.3.1. Pathology Services, Blood Bank

- blood products will be managed using the Electronic Blood Release System (EBRS)
- blood products will be delivered by courier in accordance with current protocols including the Massive Blood Transfusion protocol
- storage will be required for skull flaps, allogenic bone bank, other tissue e.g. skin grafts with back-to-base-monitoring

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- specimens will be collected by procedural staff, a pathology e-order generated and transferred to the Pathology Laboratory by pneumatic tube system, where appropriate
- some specimens (frozen sections) will be examined on-site by the anatomical pathologist in a dedicated area. Planned frozen sections will be co-ordinated to allow pathology staff to be present in the Operating Suite to undertake slide review consideration of specimen management and requirements for storage and transport of specimens
- facilities for the safe decanting of formalin for the preservation of large biological specimens is required.
- the SPIRE perioperative suite will have access to blood gas machines.

6.3.2. Bone and Tissue Bank

- the Bone Bank will require freezer space for the storage of femoral heads and skull flap bone. The room must be able to house two freezers to -80 degrees Celsius. It will need to be located immediate to the operating theatre within the Operating Theatre Suite.
- specialties including orthopaedics and neurosurgery will require access the freezers as well as Bone Bank Staff.
- the tissue bank provides for the storage of (primarily) skin graft tissue under cryogenic conditions
- the room is required to be temperature controlled and alarmed.

6.3.3. Diagnostic imaging

- mobile equipment garaging facilities will be provided adjacent to general digital robotic operating rooms/hybrid/intervention suites for the storage and recharging of mobile equipment and the appropriate storage of protective garments
- all operating rooms will require Information Communication and Technology (ICT) infrastructure to enable the viewing of high resolution Picture Archive and Communications Systems (PACS) images
- additional radiographers and equipment will be required given the increase in radiological requirements associated with the increase in interventional and hybrid procedures.

6.3.4. Robotics and clinical engineering

- garaging facilities will be provided within the hybrid/general digital robotic/interventional suites for the storage and recharging of mobile robotic devices and clinical engineering equipment
- a room for equipment testing and repair is required to meet advances in anaesthetics and perioperative technology. This room will be accessed by clinical engineering staff who require benches for equipment testing. Space is needed for storage of equipment and consumables. This includes space for medical gases and a range of perioperative equipment, including back-up anaesthetic machines. This room will be secure and accessible at all times.
- Hybrid and interventional suites, because of their extensive equipment use, require additional space for a range of technical support staff.

6.3.5. Medication management

- medications will be stored in clean utility/medication rooms designed to house all unit medications and associated consumables in one location including impress drugs, refrigerated drugs, space for sterile manipulation of IV admixtures, electronic prescribing and controlled drug storage
- the electronic medicine management system will interface with the electronic medical record to provide real time electronic medical record updates and alerts
- provision for the installation of automated (medication) dispensing machines (ADMs) is required, including data and power
- locked medication storage will be required in each operating room for S4D (prescription only) and S8 (controlled) drugs.

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6.3.6. Infection control

- patients with a known multi-resistant organism (MRO) infection will be transferred straight to the operating/interventional room from the inpatient unit and will not wait in a holding bay
- isolation rooms will be provided in the DoSA, PACU, EDSU and DSU
- ideally isolation rooms will be located between the DSU preoperative and DSU stage 2/3 areas to enable use for preparation and recovery
- clinical handwash basins (Type B) will be provided at the ratio of 1 per 4 holding/recovery bays in DSU, PACU and EDSU
- non-alcohol based hand rub will be provided in all patient care areas and at the entries to the unit.
- negative pressure OR capability
- there must be a flow that supports a known or potentially infectious patient (e.g. tuberculosis patient requiring a bronchoscopy) through the Interventional Suite. This pathway must include 1x Negative Pressure Procedure Room and 1 Class N single room for the recovery of the patient.

6.3.7. Patient transfer

- patients admitted on day of procedure will be transferred to the operating/interventional suites on a day surgery trolley
- DoSA patients to be admitted overnight will be transferred to the inpatient unit on an inpatient bed
- inpatients will be transported by inpatient bed
- bed holding space will be required within the Operating Suites adjacent to each theatre.
- a fully integrated Wards Person call system that ensures Wards Persons are responding to calls appropriately and in a timely manner that will lead to improved patient care and safety. An area is required to provide seating when waiting for calls.

6.3.8. Sterilising Services

Please refer to the Sterilising Services HPU Brief.

6.3.9. Emergency Call

A fully integrated Emergency call system that ensures medical emergencies are responded to appropriately and in a timely manner that will lead to improved patient care and safety alleviating the need of calling for the external Medical Emergency Team (MET) team except for neonatal emergencies.

6.4. Non clinical Support**6.4.1. Information Communication Technology (ICT)**

The Interventional Suite should incorporate a fully integrated ICT system that supports the national E-Health and ACT Health enterprise strategies.

- each operating/interventional room, anaesthetic room, PACU bay, holding area, E/DSU and DoSA bed space and the operational management areas will require immediate access to an Operating Room and Anaesthetic Management System (OR&AMS)
- an integrated Patient Information Management System (PIMS) will be implemented to streamline the tracking of request for admission (RFA) and associated patient management, bookings and scheduling, consumables and equipment
- all operating/interventional rooms will require ICT infrastructure to enable the viewing of high resolution PACS images
- the Hybrid/general digital/robotic/interventional operating rooms will require integrated operating room systems, the Hospital's information system (HIS), PACS, internet access, and video

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and audio technology with staff able to access images, results and medical records via sterile touch screens via sterile touch screens or non-touch technology

- the operational management hub will require large screen viewing capability of the electronic booking and patient flow management system
- T-DOC or an equivalent system will be required in each operating/interventional room for instrument tracking – forward planning to include either or both tray level/instrument to patient URN
- monitors, cameras and certain instruments will be suspended from the ceiling instead of sitting on carts beside the operating table
- some operating/interventional rooms are to be equipped with pendant mounted cameras for the recording and real time transmission of operative procedures for clinical review and training purposes
- an internal communication/call system is required within the operating/interventional rooms with annunciator panels (location to be determined during the design phase)
- the DSU and PACU patient bays will be equipped with communication/call systems in accordance with the AusHFG.

6.4.2. Booking of Post Anaesthetic Care Unit / recovery spaces

Electronic booking and patient flow management system will be required for the optimal management of the PACU and E/DSU recovery areas i.e. Operating Room and Anaesthetic Management System.

6.4.3. Administration

- provision will be made will be made for finance and supply clerical officers undertaking administrative duties as part of the Perioperative team.
- offices will be required for Perioperative nursing, anaesthetic and surgical operational management

6.4.4. Food Services

- DSU patients will have a light meal prior to discharge
- light meals and beverages will be provided fresh daily for EDSU patients
- appropriate refrigeration and clean up areas will be supplied

6.4.5. Supply Services

- direct entry access to the Operating/Interventional Suite receiving area via service corridors must be provided
- imprest supplies will be delivered by the ACT Supply Service and levels will be monitored electronically for in time replacement.
- RMD and loan sets from Supply Services will be delivered directly from the dock area to the set-up/ sterile stock area in the Operating/Interventional Suite.
- systems are required to be in place to ensure ready access to emergency supplies during disaster events.
- a secure dedicated space is required for the delivery and checking of up to 20 large consignment trays
- storage space required for storage carts/shelving for set-ups
- supply rooms will have a consistent layout across the campus
- the SPIRE perioperative service must have a streamlined and effective logistics system that facilitates the distribution of surgical supplies including consumables and equipment, instruments including consignment, loan equipment and sterile instruments .This approach will be to reduce the reliance on bulk storage space but must ensure that services and supplies are delivered to the point of use in a timely fashion.

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- an integrated ICT system to track and detail the location of equipment, medical supplies and specialised equipment. All systems must interact with each other.

6.4.6. Environmental Services

- the cleaning service will require access to a cleaner's room in immediate proximity to each operating room, and within each Perioperative service unit as well as centralised storage for supplies and equipment
- all waste and sharps will be removed from the operating rooms to clean-up rooms in immediate proximity to each OR.
- all waste and sharps will be removed from the Perioperative service units and operating/interventional suites to a disposal room located on the perimeter of the unit or suite adjacent the service corridor and lift.
- waste streaming at the source (including secure document disposal) will be supported. The service will be consistent with the ACT Health Waste Management Plan. Waste management will include clean, contaminated, radioactive, chemotherapy, pharmacy, and recycling.

6.4.7. Linen Services

Deliveries, based on an agreed impress, will be arranged as required from the Linen Service. Dirty linen will be held in the Disposal Room ready for collection.

6.4.8. Teaching, education and research

- the service will provide teaching and learning opportunities for staff and students from a range of disciplines
- the service is required to meet accreditation requirements for surgical and anaesthetic training
- in-service education will be routinely conducted in the unit and will require access to a shared meeting room with capacity for 15 people
- staff are encouraged to take up and complete professional development packages and will require access to computer workstations to access eLearning applications
- multidisciplinary learning and development opportunities are promoted and encouraged. Teaching rounds are conducted regularly
- clinical placement is provided for nursing, allied health and medical students. These clinical placements, lasting up to ten weeks, are provided for students from Australian National University (ANU) Medical School, University of Canberra, Australian Catholic University, and the Charles Sturt University
- access to clinical simulation and assessment facilities is required
- the Canberra Hospital will have strong links with health faculties from many external educational facilities. The SPIRE perioperative service will provide an appropriate environment for undergraduate teaching, clinical placements and postgraduate training together with a full range of staff development services. Space is provided within the Interventional Suite to support this activity. A centralised online booking system will be utilised to book rooms.

6.4.9. Safety and security requirements

- all perioperative service units and operating/interventional suites will be secured, and only authorised staff will have access
- staff access to and within the unit will be controlled by proximity access card
- public access to the holding, DSU and PACU areas will be restricted and controlled from the reception or staff station
- a duress alarm will be required at all reception points and staff stations
- CCTV monitoring at designated access and egress points.
- security arrangements will be in line with ACT Health policies and procedures

- staff will be able to utilise the multifunctional wireless phones and mobile duress alarms in addition to existing duress systems.

7. Specific design requirements

7.1. Overarching design requirements

7.1.1. Overarching principles

- design will be evidenced based
- the design must have the capacity to respond efficiently and effectively to the flows of patient, staff and supplies.
- the overall design of the Interventional Suites must have the capacity for potential changes in practice around surgical and interventional procedures including future changes in the use of the Interventional Suite (for example, more Interventional Suites may be required for procedural use and less for surgical purposes).
- the three separate functional zones i.e. general digital robotic operating room suite, hybrid suite, interventional suite must be flexible enough to allow patient management models to change over time.
- there must be capacity for the future expansion of the perioperative service without disruption to the delivery of clinical services to patients
- physical infrastructure must be able to be repaired/replaced without adversely impacting on surgical activities in neighbouring spaces
- perioperative support spaces will be designed to accommodate surgical activity demand, overall clinical functionality and support for patients with adequate storage for equipment/technology current and future
- the design will enable the separation of patient flows for adults, paediatrics, and obstetric from miscarriage gynaecology patients while ensuring flexible use of available space and efficient service delivery
- capacity to manage patients with bariatric conditions weighing up to 250kg; designated surgical rooms and holding/recovery areas will be required for those weighing up to 350kgs
- separation of clean and dirty flows is essential
- separation of public and staff areas
- separation of support services i.e. food, linen, supplies and waste management, traffic to enabling services to occur without interfering with patients and the public
- circulation routes are to support logical flow with legible and clear way finding
- connectivity with the existing CH campus to support direct access to critical care areas and easy access to support services
- network infrastructure, building and floor distribution rooms are designed to ensure high levels of redundancy and support healthcare technology principles and standards
- network infrastructure must be accessible for on-going maintenance without impacting on surgical activities
- ICT systems connected to medical equipment or installed within patient areas will be designed, installed, commissioned and maintained as medical grade ICT networks.
- PACU, EDSU, Discharge Lounge and Staff Areas have access to natural light.
- rooms will be laid out the same to ensure familiarity to staff, allow efficient use of time and space and reduce stress and fatigue.
- the design must support maximum productivity and efficiency and short travel distances for staff and patients.

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- a fully integrated nurse call system that ensures nurses calls are responded to appropriately and in a timely manner that will lead to improved patient care and safety.
- all zones will have an integrated wall mounted clock including hours, minutes and seconds.
- all zones will have wall mounted integrated RIS/PACs Screens.
- Wi-Fi will be accessible to all zones.

7.2. Specific design requirements

7.2.1. Pre-operative

Waiting

- the waiting areas for patients and carers will have a tracking system so they can be kept informed of where the patient is up to in the perioperative process e.g. holding area, OR, PACU
- there will be separate waiting areas for paediatric, obstetrics and miscarriage gynaecology patients, and patient with special needs.
- waiting areas will be incorporated within the Admissions areas.
- segregation of area for reception of children will be required to screen children from and avoid distress to adults. Acoustic privacy will be required.
- entertainment (e.g. television/Wi-Fi) will be provided in the waiting area.

Admissions

- there will be a common admission point for the hybrid/general digital robotic /interventional operating suite
- planned admissions will present to the Admissions areas for a clerical and clinical admission. These will include Day of Surgery Admission, Day Surgery Unit or Day of Procedure Admission patients.
- Preadmissions clinics are located in the ambulatory care settings
- emergency non-elective patients will be booked via the team leader of the required procedure zone.
- interview rooms will be provided so that medical staff can communicate privately to family members and patients regarding procedures.
- a fully integrated queue management system will be implemented.

DoSA

- discrete bays or "cabins" offering increased privacy without compromising nursing supervision.
- designated bays or "cabins" for paediatric use
- facilities for the containment of custodial patients, the isolation of infectious patients e.g. MRO and ensuring the privacy of distressed patients e.g. miscarriage
- the DSU will require a paediatric friendly pod including parent waiting and play space, separated from those areas used by adult patients
- storage system for day stay personal belongings that supports and facilitates the day stay patient journey.
- facilities for provision of safe patient care of bariatric patients is required

7.2.2. Intraoperative

The operating rooms, interventional suites and hybrid suites are to be configured in service/specialty specific pods bringing together specific skills sets; each pod will have access to a sterile stock store, specialty equipment bays/garages etc.

- All operating rooms, interventional suites and hybrid suites must have fully integrated IT with seamless access to images regardless of specialty. This will also include the teaching and research area.

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General digital robotic operating rooms

- general digital robotic surgery operating rooms with garaging facilities for robotic tools for use by all surgical specialties (where appropriate). For example Ear, Nose and Throat (ENT), urology, gynae-oncology, colorectal, paediatric services and appropriate emergency cases.
- the intraoperative general digital/robotic operating rooms will be configured in service/specialty specific pods. Each pod will have access to a sterile stock store, clinical engineering workroom, specialty equipment bays/garages, reporting areas, 3D printing etc.
- all theatres will need to accommodate a digital environment and robotics.
- all Operating Theatres will require an anaesthetic room, exit bay and direct access to a core sterile store. Exit bay will have shelving. Anaesthetic bay will have handwashing within benchspace, cupboards and shelving.
- operating theatres will be designed into pods There will be 4x Operating Theatres per Pod.
- operating Theatres must be arranged in pairs with a scrub bay in between. This can allow for grouping of Operating Theatres to form Pods.
- 2x Laminar flow Operating Theatres required for Implant Surgery for Orthopaedic Surgery.
- X-ray gown storage located through-out department. A higher concentrated close to Orthopaedic, Urology, Vascular, General and Emergency Operating Theatres.
- storage garaging for Image equipment close to Orthopaedic and General Operating Theatres.
- consignment storage area close to orthopaedic pod. Efficient storage solutions required
- consignment storage area for other specialties. Efficient storage solutions required
- large storage area for large equipment such as traction tables, spare operating Theatre beds, accessories, etc.
- chemotherapy store area (bay).
- reporting stations for medical Officers within the Operating Theatres.
- reporting Stations for Nurses within the Operating Theatres.
- Automated Dispensing Machine.
- 2x Negative pressure (Class N) Operating Theatres (1x Complex Surgery Operating Theatre and 1x High Volume Operating Theatre).
- large core sterile stock store. Compactors required.
- large non- sterile stock store. Compactors required.

Hybrid operating suite

- project specific design requirements to be developed during schematic design for two hybrid operating rooms with angiography, robotic, equipment requiring control and computer rooms suitable for cardiothoracic, vascular surgery (endovascular aneurysm repair), neuro interventional and trauma cases
- the hybrid suites will have access to a sterile stock store, clinical engineering workroom, specialty equipment bays/garages, reporting areas, 3D printing etc.
- 1 x Negative pressure (Class N) hybrid suite.

Interventional Suite

- four interventional suites with direct access to specialised imaging equipment, yet to be determined e.g. MRI, Computed Tomography (CT), radiological image guidance (X-ray fluoroscopy, ultrasound)
- the suite will be configured to support the streaming of interventional suite patients
- all rooms are to be 'Anaesthetic' ready
- the interventional suites will have access to a sterile stock store, clinical engineering workroom, specialty equipment bays/garages, reporting areas, 3D printing etc.
- 1 x Negative pressure (Class N) interventional suite

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- Storage -additional storage space incorporating storage systems including hard case sterile instrument storage required as TCH is the only L6 regional hospital South of Sydney in the ACT & NSW area.
- Radio frequency equipment tracking

7.2.3. Post operative

PACU

- patient access to PACU is required from operating rooms, interventional suites, hybrid suites, and external clinical areas
- the PACU requires capacity for midwives to provide care for baby post caesarean e.g. cot, bed, visitor. (Mother cared for by PACU nurse). Allocate two recovery spaces to mother and baby
- paediatric PACU bays require space for one carer in attendance
- PACU requires immediate access to adult resuscitation, paediatric resuscitation and neonate resuscitation trolley/bay.
- isolation rooms will be provided with negative pressure capability for infectious patients
- the SPIRE perioperative suite must have shared flexible stages of recovery spaces which will cope with models of change over time
- Stage 1 Recovery Spaces and Stage 2 Recovery Spaces must be identical in layout, to allow flexing between them to accommodate peaks and troughs in work flows

DSU

- the DSU will interconnect with the EDSU for short stay patients requiring an extended stay of up to 23 hours

EDSU

- the EDSU will interconnect with the DSU for short stay patients requiring an extended stay of up to 23 hours
- isolation rooms will be provided with negative pressure capability for infectious patients

7.2.4. Anaesthetic and Perioperative Medicine Department

- 19 single person offices
- six, two-person shared offices
- shared workroom for up to 6 visiting medical officers (VMOs)
- office space for five administrative staff
- approximately a third of the office space must be in close vicinity to Perioperative and Interventional Centre, the remainder can be some distance away
- two overnight rooms for registrars and one overnight room for on call consultant within two minutes' walk/run of the operating/interventional rooms

7.2.5. Clinical Education Support

- shared workroom capacity with direct access to perioperative services for clinical development nurses to support live time competency assessments, mock scenarios and transition to practise activities.
- multipurpose spaces that are flexible enough to accommodate a range of functions including multi disciplinary meetings and tutorial rooms to enable electronic learning and the use of technology to broadcast procedures to different locations.
- AV Functionality – video links, projectors.

8. Functional relationships

8.1. Internal relationships

The new general digital robotic, hybrid, and interventional operating suites will be co-located (horizontal or vertical linkage) to enable the sharing of DoSA, the DSU and PACU facilities, where feasible.

Immediate (<1 minute)	Being the shortest direct, horizontal route. The route must be an Unimpeded Route. Door to door travel time between the two areas or services identified as having an "Immediate" functional relationship must not exceed one minute.
Direct (<2 minutes)	Being a direct horizontal or vertical route. The route must be an Unimpeded Route. Door to door travel time between the two areas or services identified as having a "Direct" functional relationship must not exceed two minutes and there must be minimal corner turns between the two areas or services.
Ready (<5 minutes)	Being a horizontal or vertical route. Door to door travel time between the two areas or services identified as having a "Ready" functional relationship must not exceed five minutes.
Easy (<10 minutes)	Being a horizontal or vertical route. Door to door travel time between the two areas or services identified as having an "Easy" functional relationship must not exceed ten minutes.

Immediate

- admissions immediate to Holding Bay
- holding bays immediate to general robotic operating rooms, interventional suites, and hybrid suites
- anaesthetic induction bay immediate to each operating room/suite
- exit clean-up room immediate to operating room/suite
- set-up room immediate to operating room/suite
- set-up room immediate to Core Sterile Stock room
- large equipment garaging adjacent to pods
- store - Sterile Stock for consignment immediate to orthopaedic pod
- Operating Room Coordinator immediate to Control desk
- CNC Office (1x) immediate to Control desk
- CNC Offices immediate to relevant specialty
- E/DSU immediate to Discharge Lounge
- Resource Office area immediate to Core Sterile Stock Room.
- Bone/ Tissue banks immediate to Operating theatres with outside access (grey area)
- Clinical Engineering immediate to Operating Theatres with outside access (grey area)
- Pathology room with immediate access to Operating Theatres with outside access (grey area)

Direct

- offices including - Anaesthetic Director, Anaesthetic Supervisor of Training, Anaesthetic Staff Specialist, Anaesthetic Office Managers, ADON, Nurse Manager, and Wards Person direct to operating rooms and suites
- workstations including: - Radiographer, CDN, direct to operating rooms and suites
- PACU Stage 1 and stage 2 recovery direct to operating rooms and suites
- deboxing room direct to resource area
- Surgical Bookings direct to perioperative services

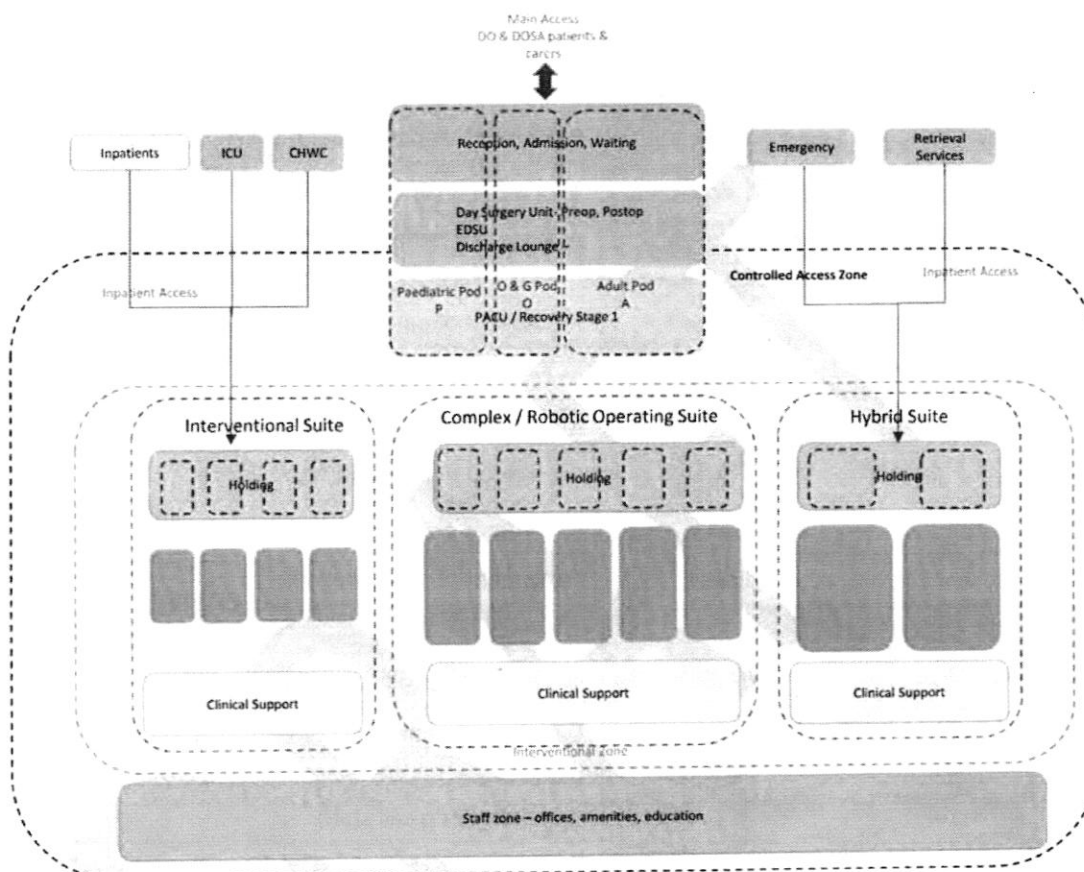
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Ready

- offices including Staff Anaesthetist, Anaesthetic Visiting Medical Officers, Quality and Safety Officer, Research Officer, Billing officer ready to Operating Theatres.
- PACU Stage 2 Recovery ready access to EDSU.

Figure 1: Perioperative and Interventional Centre internal functional relationships



8.2. External relationships

Key external functional relationships are prioritised in the following Table 2 and as per the criteria in Table 3.

Table 2: Perioperative and Interventional Centre external functional relationships

Service/Unit	Priority	Comments
Sterilising Services Department (SSD)	Immediate	Movement of equipment and staff
Intensive Care Unit (ICU)	Direct	Movement of equipment and staff
Interventional Cardiology Laboratory (CCL/EPL)	Direct	Movement of patients
Emergency (ED)	Direct	Movement of equipment and staff

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Birthing / Delivery Suite	Direct	Movement of patients and staff
Preadmission Clinic	Direct	Movement of consultant anaesthetic staff
Clinical Engineering	Direct	Movement of equipment and staff
Helipad	Direct	Movement of patients and staff
Acute Surgery Unit (ASU)	Ready	Movement of patients and staff
Diagnostic Imaging	Ready	Movement of equipment and staff
Inpatient Units	Ready	Movement of patients and staff
Pathology	Ready	Movement of specimens and staff
Surgical Bookings Office	Ready	Access to Preadmissions Clinic, pending integrated bookings IT system
Main Entry	Easy	Movement of patients and visitors
Administration Centre	Easy	Movement of staff
General (Hotel) Services	Easy	Movement of staff, supplies, linen & waste
Pharmacy	Easy	Movement of medications
Food services	Easy	Movement of staff, supplies
Linen services	Easy	Movement of staff, supplies
Site Interfaces		
Loading Dock	Easy	Movement of staff and goods
Mortuary	Easy	Discrete movement of patients
Carparking – Staff	Easy	Movement of staff; swipe card access control (particularly on call staff)
Public Transport	Easy	Movement of staff

Table 3: Adjacency criteria

Immediate (<1 minute)	Being the shortest direct, horizontal route. The route must be an unimpeded route. Door to door travel time between the two areas or services identified as having an "Immediate" functional relationship must not exceed one minute.
Direct (<2 minutes)	Being a direct horizontal or vertical route. The route must be an unimpeded route. Door to door travel time between the two areas or services identified as having a "Direct" functional relationship must not exceed two minutes and there must be minimal corner turns between the two areas or services.
Ready (<5 minutes)	Being a horizontal or vertical route. Door to door travel time between the two areas or services identified as having a "Ready" functional relationship must not exceed five minutes.
Easy (<10 minutes)	Being a horizontal or vertical route. Door to door travel time between the two areas or services identified as having an "Easy" functional relationship must not exceed ten minutes.

9. Future service developments and innovation

- operating and Interventional rooms will be configured along open digital architectural lines to allow the progressive and seamless introduction of digital, robotic and other equipment to the suite
- the implementation of radio frequency identification systems for tracking instruments and implants.

10. Schedule of accommodation

Table 4: SoA for Perioperative and Interventional Centre

AusHFG Code	Deviation from HPU Y/N	Room / Space	Qty	Room Area M2	Total Area m2	AHFG's Standard Component Size m2	Deviation from Standard Component m2
DOSA - ADMISSIONS / RECEPTION							
RECL-10	N	Reception / Clerical, 15m2	1	15	15	15	0
RECL-10	N	Reception / Clerical, 10m2	1	10	10	10	0
RECL-10	N	Reception / Clerical, 10m2	1	10	10	10	0
PLAP-10	N	Play Area - Paediatric, 10m2	1	10	10	10	0
STPS-8	N	Store - Photocopy / Stationery, 8m2	1	8	8	8	0
WAIT-10	N	Waiting	1	45	45	45	0
WAIT-10	N	Waiting	1	10	10	10	0
WAIT-10	N	Waiting	1	10	10	10	0
WCAC	N	Toilet - Accessible, 6m2	1	6	6	6	0
WCPU-3	N	Toilet - Public, 3m2	3	3	9	3	0
		Subtotal			133		0
		Discounted Circulation		30%	40		0
		Total			173		0
DSU - PREOPERATIVE AREA							
CHPT	N	Change Cubicle - Patient, 2m2	0	0	0	0	0
CHPT-D	N	Change Cubicle - Accessible, 4m2	0	0	0	0	0
1BR-H-12	N	1 Bed Room, 12m2	3	12	36	12	0
ENS-ST	N	Ensuite - Standard, 5m2	3	5	15	5	0
INFA	N	Interview Room, 12m2	3	9	27	9	0
PBTR-H-9	N	Patient Bay - Holding, 9m2	20	9	180	9	0
PBTR-H-9	N	Patient Bay - Holding, 9m2	4	9	36	9	0
PBTR-H-9	N	Patient Bay - Holding, 9m2	2	9	18	9	0
	N	Locker Bay - Patient	2	3	6	3	0
BHWS-B	N	Bay - Handwashing, Type B	7	3	21	3	0
ENS-BA	N	Toilet/Shower - Patient Accessible, 6m2	4	6	24	6	0
WCPT	N	Toilet - Patient, 4m2	4	4	16	4	0
CLUR-14	N	Clean Utility / Medication Room, 14m2	1	12	12	12	0
DTUR-S	N	Dirty Utility - Sub, 8m2	1	12	12	12	0
BLIN	N	Bay - Linen	2	2	4	2	0
BBW	N	Bay - Blanket / Fluid Warmer	2	1	2	1	0
STEQ-8	N	Pt trolley store	1	10	10	10	0
		Subtotal			419		0
		Discounted Circulation		40%	168		0
		Total			587		0
HOLDING AREA - Hybrid Suite - 2 rooms							
PBTR-H-9	N	Patient Bay - Holding, 9m2	2	9	18	9	0
SSTN-10	N	Staff Station, 10m2	1	10	10	10	0
BHWS-B	N	Bay - Handwashing, Type B	1	3	3	3	0
STEQ-20	N	Equipment Garage	1	20	20	20	0
		Subtotal			51		
		Discounted Circulation		40%	20		
		Total			71		
OPERATING ROOM AREA - Hybrid Suite - 2 rooms							
ANIN	N	Anaesthetic Induction Room, 16m2	2	16	32	16	0
	Y	Hybrid Operating Room, 75m2	2	75	150	0	150
	Y	Hybrid OR Control Room	2	15	30	0	30

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	Y	Hybrid OR Computer Room	2	12	24	0	24
SCRB-10	N	Scrub-up / Gowning	2	4	8	4	0
SETUP-8	N	Set-up Room	2	8	16	8	0
	N	Exit Bay	1	16	16	16	0
CLUP-15	N	Clean-Up Room, 15m2	1	10	10	10	0
		Subtotal			286		204
		Discounted Circulation		40%	114		82
		Total			400		286
HOLDING AREA - Interventional Suite - 4 rooms							
PBTR-H-9	N	Patient Bay - Holding, 9m2	4	9	36	9	0
SSTN-10	N	Staff Station, 10m2	1	10	10	10	0
BHWS-B	N	Bay - Handwashing, Type B	2	3	6	3	0
STEQ-20	N	Equipment Garage	4	20	80	20	0
		Subtotal			132		0
		Discounted Circulation		40%	53		
		Total			185		
OPERATING ROOM AREA - Interventional Suite - 4 rooms							
ANIN	N	Anaesthetic Induction Room, 16m2	4	16	64	16	0
ORGN	N	Operating Room - General, 60m2	4	60	240	60	0
	Y	Imaging/MRI Control Room	4	14	56	0	56
	Y	Imaging/MRI Computer Room	4	10	40	0	40
SCRB-10	N	Scrub-up / Gowning	4	4	16	4	0
SETUP-8	N	Set-up Room	4	8	32	8	0
	N	Exit Bay	2	16	32	16	0
CLUP-15	N	Clean-Up Room, 15m2	2	10	20	10	0
		Subtotal			500		96
		Discounted Circulation		40%	200		38
		Total			700		134
HOLDING AREA - Operating Room General Digital- 20 rooms							
PBTR-H-9	N	Patient Bay - Holding, 9m2	20	9	180	9	0
SSTN-10	N	Staff Station, 10m2	5	10	50	10	0
BHWS-B	N	Bay - Handwashing, Type B	20	3	60	3	0
		Equipment Garage	10	20	200	20	0
		Subtotal			490		0
		Discounted Circulation		40%	196		
		Total			686		
OPERATING ROOM AREA - General Digital - 20 rooms							
ANIN	N	Anaesthetic Induction Room, 16m2	20	16	320	16	0
ORGN	N	Operating Room - General, 60m2	20	60	1200	60	0
SCRB-10	N	Scrub-up / Gowning	20	4	80	4	0
SETUP-8	N	Set-up Room	20	8	160	8	0
	N	Exit Bay	10	16	160	16	0
CLUP-15	N	Clean-Up Room, 15m2	10	10	100	10	0
		Subtotal			2020		
		Discounted Circulation		40%	808		
		Total			2828		
CLINICAL SUPPORT AREAS -							
BBW	N	Bay - Blanket / Fluid Warmer	5	1	5	1	0
BLIN	N	Bay - Linen	13	8	104	8	0
BMEQ-4	N	Bay - Mobile Equipment, 4m2	13	8	104	8	0
STGN-9	N	Store - General	2	30	60	30	0
STEQ-20	N	Store - Sterile Stock, 20m2	26	20	520	20	0
SRGN-9	N	Store - General	2	16	32	16	0
STEQ-20	N	Store - Equipment - Major	2	78	156	78	0
STEQ-20	N	Store - Equipment - Minor	2	65	130	65	0
SRGN-9	N	Store - General	2	38	75	38	0
	N	Store Bone Bank	1	15	15	15	0

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	N	Store Tissue bank	1	15	15	15	0
	N	Anaesthetic & Biomedical Workroom	1	35	35	35	0
	N	Perfusion Room - Set-up	1	20	20	20	0
	N	Store - Perfusion	1	20	20	20	0
	N	Audiovisual Workroom	1	12	12	12	0
CLRM-5	N	Cleaner's Room, 5m2	5	5	25	5	0
DISP-10	N	Disposal Room	1	35	35	35	0
BLST	N	Blood Store	1	4	4	4	0
BPATH	N	Bay - Pathology	1	18	18	18	0
STDR-10	N	Medication Room	2	10	20	10	0
OFF-WI-3	N	Office - Write-up, 3m2	13	8	104	8	0
OFF-S9	N	Office - Single Person, 9m2	5	0	0	0	0
WCST	N	Toilet - Staff, 3m2	5	3	15	3	0
		Subtotal			1524		0
		Discounted Circulation		40%	610		
		Total			2134		
PACU RECOVERY AREA							
PBTR-RS1	N	Patient Bay - Recovery Stage 1, 9m2	44	9	396	9	0
1BR-H-12	N	1 Bed Room, 12m2	2	12	24	12	0
SSTN-10	N	Staff Station, 10m2	3	10	30	10	0
CLUR-10	N	Clean Utility / Medication Room, 10m2	2	14	28	14	0
DTUR-12	N	Dirty Utility, 12m2	2	24	48	24	0
BLIN	N	Bay- Linen	4	2	8	2	0
BBW	N	Bay - Blanket / Fluid Warmer	4	1	4	1	0
STGN-8	N	Store - General, 8m2	2	8	16	8	0
BRES	N	Bay - Resuscitation	2	1.5	3.0	1.5	0
BHWS-B	N	Bay - Handwashing, Type B	11	1	11.0	1	0
MEET-9	N	Meeting Room, 9m2	2	9	18	9	0
SRM-35	N	Staff Room, 18m2	1	18	18	18	0
		Subtotal			604		0
		Discounted Circulation		40%	242		0
		Total			846		0
DSU - POSTOPERATIVE AREA							
1BR-H-12	N	1 Bed Room, 12m2	2	12	24	12	0
ENS-ST	N	Ensuite - Standard, 5m2	2	5	10	5	0
PBTR-H-9	N	Patient Bay - Holding, 9m2	37	9	333	9	0
	N	Discharge Lounge - Patient Recovery	37	4	148	4	0
BHWS-B	N	Bay - Handwashing, Type B	4	1	4	1	0
ENS-BA	N	Toilet/Shower - Patient Accessible, 6m2	6	3	18	3	0
WCPT	N	Toilet - Patient, 4m2	6	3	18	3	0
INTF	N	Interview Room	3	9	27	9	0
BRES	N	Bay - Resuscitation	1	1.5	1.5	1.5	0
SSTN-10	N	Staff Station, 10m2	1	14	14	14	0
CLUR-14	N	Clean Utility / Medication Room	1	14	14	14	0
DTUR-12	N	Dirty Utility - 12m2	1	14	14	14	0
BLIN	N	Bay- Linen	3	2	6	2	0
BBW	N	Bay - Blanket / Fluid Warmer	3	1	3	1	0
BBEV-OP	N	Bay - Beverage, Open Plan, 4m2	2	4	8	4	0
		Subtotal			643		
		Discounted Circulation		40%	257		
		Total			900		
DSU - SUPPORT AREAS							
BMT-4	N	Bay - Meal Trolley	2	4	8	4	0
PROP-2	N	Property Bay - Staff	2	3	6	3	0
BPATH	N	Bay - Pathology	2	5	10	5	0
OFF-CLW	N	Office - Clinical Workroom	1	1	1	1	0
OFF-S9	N	Office - Single Person, 9m2	1	9	9	9	0
STGN-9	N	Store - General, 9m2	1	28	28	28	0
SEQ-12	N	Store sterile stock	1	40	40	40	0
BMEQ-4	N	Bay mobile equipment	6	2	12	2	0
SRM-18	N	Staff Room, 18m2	1	18	18	18	0
WCST	N	Toilet - Staff, 3m2	2	3	6	3	0

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CLRM-5	N	Cleaner's Room, 5m2	2	5	10	5	0
DISP-10	N	Disposal Room	2	10	20	10	0
SUBTOTAL		<i>Subtotal</i>			168		0
CIRC		Discounted Circulation		25%	42		0
UNIT_TOTAL		Total			210		0
EDSU							
1BR-H-12	N	1 Bed Room, 12m2	2	12	24	12	0
ENS-ST	N	Ensuite - Standard, 5m2	2	5	10	5	0
PBTR-H-9	N	Patient Bay - Holding, 9m2	9	9	81	9	0
BHWS-B	N	Bay - Handwashing, Type B	2	1	2	1	0
ENS-BA	N	Toilet/Shower - Patient Accessible, 6m2	2	1	2	1	0
WCPT	N	Toilet - Patient, 4m2	2	1	2	1	0
INTF	N	Interview Room	1	9	9	9	0
BRES	N	Bay - Resuscitation	1	1.5	1.5	1.5	0
SSTN-14	N	Staff Station,	1	9	9	9	0
CLUR-14	N	Clean Utility / Medication Room	1	10	10	10	0
DTUR-12	N	Dirty Utility - 12m2	1	12	12	12	0
BLIN	N	Bay - Linen	1	2	2	2	0
BBEV-OP		Bay - Beverage, Open Plan, 4m2	1	4	4	4	0
		<i>Subtotal</i>			169		0
		Discounted Circulation		40%	67		
		Total			236		
EDSU - SUPPORT AREAS							
BMT-4	N	Bay - Meal Trolley	1	4	4	4	0
PROP-2	N	Property Bay - Staff	2	3	6	3	0
OFF-CLW	N	Office - Clinical Workroom	1	15	15	15	0
OFF-S9	N	Office - Single Person, 9m2	1	9	9	9	0
STGN-9	N	Store - General, 9m2	1	9	9	9	0
SRM-18	N	Staff Room, 18m2	1	18	18	18	0
WCST	N	Toilet - Staff, 3m2	2	3	6	3	0
CLRM-5	N	Cleaner's Room, 5m2	1	5	5	5	0
DISP-10	N	Disposal Room	1	10	10	10	0
SUBTOTAL		<i>Subtotal</i>			82		0
CIRC		Discounted Circulation		25%	21		0
UNIT_TOTAL		Total			103		103
STAFF AMENITIES							
CHST-20	N	Change - Staff (Female), 20m2	2	20	40	20	0
CHST-20	N	Change - Staff (Male), 20m2	2	20	40	20	0
SRM-18	N	Staff Room, 18m2	2	18	36	18	0
WCAC	N	Toilet - Accessible, 6m2	2	6	12	6	0
SUBTOTAL		<i>Subtotal</i>			128		0
CIRC		Discounted Circulation		40%	51		
UNIT_TOTAL		Total			179		
PERIOPERATIVE ADMINISTRATIVE SUPPORT AREAS							
OFF_S12	N	Office - Single Person, 12m2	1	12	12	12	0
OFF_S9	N	Office - Single Person, 9m2	8	9	72	9	0
	N	Office - Workstation, 5.5m2	8	5.5	44	5.5	0
	N	Office - Workstation, 4.4m2	12	5.5	66	5.5	0
MEET-9	N	Meeting Room, 9m2	2	9	18	9	0
MEET-L-30	N	Meeting Room, 30m2	2	30	60	30	0
MEET-L-30	N	Meeting Room, 30m2	1	50	50	50	0
BBEV-OP	N	Bay - Beverage, Open Plan, 4m2	4	4	16	4	0
WCST	N	Toilet - Staff, 3m2	4	3	12	3	0
SHST	N	Shower - Staff, 3m2	2	3	6	3	0
STPS-8	N	Store - Photocopy / Stationery, 8m2	2	8	16	8	0
STGN-9	N	Store - General, 9m2	2	9	18	9	0
SUBTOTAL		<i>Subtotal</i>			390		0
CIRC		Discounted Circulation		25%	98		0
UNIT_TOTAL		Total			488		0
PERIOPERATIVE EDUCATION SUPPORT AREAS							
OFF_S9	N	Office - Single Person, 9m2	2	12	24	12	0
OFF_S9	N	Office - Workstation, 5.5m2	8	5.5	44	5.5	0

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MEET-L-20	N	Meeting Room, 20m2	4	20	150	20	0
MEET-L-30	N	Meeting Room, 30m2	1	30	25	30	0
MEET-L-31	N	Meeting Room, 30m2	1	30	25	30	0
STEQ-20	N	Store - Equipment, 20m2	1	20	20	20	0
SUBTOTAL		<i>Subtotal</i>			288		0
CIRC		Discounted Circulation		25%	72		0
UNIT_TOTAL		Total			360		0
ANAESTHETICS DEPARTMENT							
OFF_S12	N	Office - Single Person, 12m2	1	12	12	12	0
OFF_S9	N	Office - Single Person, 9m2	27	9	243	9	0
OFF-2P	N	Office - 2 Person Shared, 12m2	9	12	108	12	0
	N	Office - Workstation, 5.5m2	7	5.5	38.5	5.5	0
OFF-CLW	N	Office - Clinical Workroom	2	30	60	30	0
MEET-L-30	N	Meeting Room, 30m2	1	30	30	30	0
BBEV-OP	N	Bay - Beverage, Open Plan, 4m2	1	4	4	4	0
OVBR	N	Overnight Stay - Bedroom	2	10	20	10	0
WCST	N	Toilet - Staff, 3m2	2	3	6	3	0
SHST	N	Shower - Staff, 3m2	1	3	3	3	0
STPS-8	N	Store - Photocopy / Stationery, 8m2	1	8	8	8	0
STGN-9	N	Store - General, 9m2	1	9	9	9	0
SUBTOTAL		<i>Subtotal</i>			542		0
CIRC		Discounted Circulation		25%	135		0
UNIT_TOTAL		Total			677		0
					Total Area m2		Deviatl on from Standard Component m2
		Total Room Area			8568		300
		Total Discounted Circulation	Ave	37%	3193		120
		Total Department / Unit Area			11761		420

10.1. Abbreviations

Abbreviation	Description
ACCU	Acute Cardiac Care Unit
ACORN	Australian College Operating Room Nursing
ANZCA	Australian and New Zealand College of Anaesthetics
ASU	Acute Surgical Unit
AusHFG	Australasian Health Facility Guideline
BCA	Building Code of Australia
CCL	Cardiac Catheterisation Laboratory
CCTV	Closed Circuit Television
CH	Canberra Hospital
CHWC	Centenary Hospital for Women and Children
CT	Computed Tomography
DO	Day Only
DoSA	Day of Surgery Admission
DSU	Day Surgery Unit
EBRS	Electronic Blood Release System
ECT	Electro Convulsive Therapy
ED	Emergency Department
EDO	Extended Day Only
EDSU	Extended Day Surgery Unit
ENT	Ear, Nose and Throat
EPL	Electro Physiology Laboratory
ERCP	Endoscopic retrograde cholangiopancreatography
EVAR	Endovascular Aneurysm Repair
FFE	Furniture, Fittings and Equipment
FPU	Functional Planning Unit
FTE	Full Time Equivalent
HIS	Hospital information system
HPU	Health Planning Unit
ICL	Interventional Cardiology Laboratory
ICT	Information Communication Technology
ICU	Intensive Care Unit
IR	Interventional Radiology
MRO	Multi-resistant Organism
NICU	Neonatal Intensive Care Unit
OR	Operating Room
PAC	Pre-admission Clinic
PACU	Post Anaesthesia Care Unit
PIMS	Perioperative Information Management System
PPE	Personal Protective Equipment
RACS	Royal Australian College of Surgeons
RFA	Request for admission
RMD	Reusable medical devices
SET	Surgical Education and Training
SPIRE	Surgical Procedures, Interventional Radiology and Emergency
SSD	Sterilising Services Department
SSP	Specialty Service Plan
S4D	Schedule 4 medication. Prescription only.
S8	Schedule 8 medication. Controlled drug

VMO	Visiting Medical Officer
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11. HPU brief development participants

The following personnel were consulted in the preparation of this HPU brief	
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ACT Health
date: October 2018



ACT
Government

ACT Health

HEALTH PLANNING UNIT BRIEF

STERILISING SERVICES

ACT HEALTH

DATE: OCTOBER 2018

HEALTH PLANNING UNIT BRIEF –STERILISING SERVICES V0.1

Approvals

Name	Position	Signature	Date
	Deputy Director General, Canberra Hospital and Health Services		
	For Information - Executive Sponsor, Chief of Clinical Operations, ACT Health		

Outstanding issues

Subject	Issue
Workforce profile to be developed	Further analysis will be required to inform the future workforce profile.

Document Version History

Rev No	Issue Date	Issued By	Issued To	Reason for Issue
Draft v0.1	08 Oct 2018	HSPU	BHSP	For proof of concept - SPIRE

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HEALTH PLANNING UNIT BRIEF –STERILISING SERVICES V0.1

1. Introduction

The ACT Government committed to an expansion of the Canberra Hospital in the 2016 election with the development of a Surgical Procedures, Interventional Radiology, and Emergency (SPIRE) Centre. In September 2018, the Building Health Services Program Strategy Steering Committee agreed in-principle for the eastern corridor (North End) of the Canberra Hospital Campus, Garran be scoped as the future site of the SPIRE project.

This Health Planning Unit (HPU) Brief for Sterilising Services (SS) has been developed in response to the eastern corridor site proposal and will be used to inform early site planning, feasibility and proof of concept in the first instance.

This HPU defines the activities and functions to be undertaken by the SS. It is not the role of the HPU Brief to design the space, but rather to articulate the operational requirements, functionalities and relationships for which the architect can develop a suitable design response.

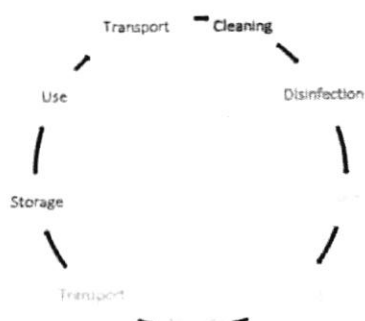
2. Description of the service

The role of the SS is to provide a comprehensive specialised sterilising service of Reusable Medical Devices (RMD) to Australian Standards for Canberra Health Services, Calvary Public Hospital Bruce (CPHB) and some private specialty clinics within the ACT and surrounding NSW region.

SS provides service for:

- reprocessing of RMD
 - disassembling, cleaning and disinfecting instruments, trays, utensils, containers and other reprocessable items. Most of these items will have been used in surgical or medical procedures carried out in operating theatres or other clinical areas
 - preparing, assembling, inspecting and packaging instrument trays and packs including device functionality and safety checks
 - sterilising completed trays and packs and providing disinfected items acceptable for patient use
- storing raw materials/components before they are assembled into instrument trays/packs
- storing goods processed in the department until they are ready for transfer to point of use
- collecting used items and distributing sterile products
- management of RMD purchases, repairs and maintenance
- purchasing and maintenance of sterilising equipment
- cleaning and reprocessing endoscopes and heat-labile accessories.

The decontamination life cycle represents each stage of the decontamination process.



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For effective decontamination, minimum acceptable standards have to be reached at each stage of the decontamination cycle.

Relative location of the unit

Where viable, centralised sterilising units minimise duplication and facilitate effective auditing while delivering a one way flow of items between soiled and clean areas. The Sterilising Unit should be located in an area that allows direct horizontal or vertical access to the Perioperative Suite and ease of access to departments in the hospital and the loading dock.

If vertically located to the Perioperative Suites then the Washers/Disinfectors need to be in one location directly beneath with the use of dedicated lifts. There should a lift for clean instruments and a lift for soiled instruments as per AS/NZ 4187 – 2014.

The main sterile storage should be accommodated in the Perioperative Suite to allow set-ups to be undertaken at all hours by Perioperative sterile stock room staff. This also allows Perioperative staff direct access to the sterile equipment and instrumentation when needed in an emergency situation. This store room will be stocked by Sterilising Services staff.

3. Scope of service

SS's are currently provided from a number of facilities.

Table 1: Location of Sterilising Services within ACT Health Directorate.

Location	
Mitchell	Mitchell Sterilising Service (SS)
Calvary Public Hospital Bruce (CPHB)	Pre-Rinse Sterilising Unit (PRSU)
Canberra Hospital (CH), Garran	Pre-Rinse Sterilising Unit (PRSU) Building 12
	Central Reprocessing Unit (CRU) Building 2

The proposal to relocate the current sterilising service from Mitchell to the CH campus offers the opportunity to consolidate all prerinse, sterilising and central reprocessing services from a number of satellite locations, into a single centralised unit. A concentration of reprocessing activities will offer the potential to deliver major improvements in the efficiency and efficacy of the delivery of the current sterilising service.

The Central Reprocessing Unit in Building 2 performs high level disinfection reprocessing to flexible endoscopes and probes for the following CHHS departments including:

- Gastroenterology and Hepatology Unit
- Cardiac Catheter Laboratory
- Intensive Care Unit
- Birthing
- Ambulatory Care
- Radiation Oncology
- Ward Areas.

Sterilising methods used in CRU include steam sterilisation (with Reverse Osmosis (RO) capability) and low temperature sterilisation (hydrogen peroxide).

As well as providing pre-rinse capability the Pre Rinse Sterilising Unit located in Building 12 cleans, disinfects and sterilises approximately 60% of Reusable Medical Devices (RMD) used in the existing operating theatres.

HEALTH PLANNING UNIT BRIEF –STERILISING SERVICES V0.1**3.1. Customers**

The new SS unit will continue to provide both internal and external services to customers of CHS. These will include but are not limited to:

Internal to the CHS:

- Perioperative Services (CH)
- Ambulatory and ward areas within Canberra Hospital and Community Health Centres
- Calvary Public Hospital Bruce (loan RMD only).
- External to the Health Directorate:
- Marie Stopes International
- Canberra Micro Surgery
- Canberra Eye Hospital
- Capital Day Surgery
- various Medical Specialists (private practice).

3.2. Reprocessing

The tables below are required data for the calculation for major medical equipment e.g. washer-disinfectors, sterilisers, etc.

Table 2: ACT Public Hospital Episodes with a Theatre Event provided by the Health Services Planning Unit. Note that the reprocessing figures exclude external customers.

2017/18	Count of episodes
Canberra Hospital	
Urgent	7,994
Semi Urgent	2,507
Elective	7,803
Statistical Admission	136
Organ Procurement	14
Status not assigned	0
TOTAL	18,454
Calvary Public Hospital Bruce	
Urgent	1,234
Semi Urgent	5
Elective	5,677
Statistical Admission	17
Organ Procurement	0
Status not assigned	576
TOTAL	9,581
Endoscopy ¹	2,021
Grand Total (Ex Endoscopies)	26,014

¹ Endoscopies are counted as admitted patients at CPHB

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4. Model of service delivery summary

4.1. Service objectives

There are special requirements needed to produce sterile products. Understanding of the basic service objectives and principles allows the process flow of the department to be understood:

- decontaminate to a level compatible with the intended use of the product
- minimise adventurous contamination through control of the environment, personnel and materials
- produce items that are fit for their intended purpose within the specified timeframe.

Decontaminate products in such a way as to safeguard patients and staff:

- within the constraints of the service, provide products in a timely manner
- ensure the location and facilities provide a high quality and cost-effective service
- provide adequate labelling and instructions for safe use
- ensure the process is validated, controlled and monitored
- hold appropriate documentation/records to demonstrate compliance.

4.2. Service requirements

The service can be described under the following three headings, which provide an overview of the requirements of the sterile services function.

- *environment* – segregation of process, control through environment, personnel and materials
- *equipment* – fit for purpose, validated and maintained to current guidance and standards
- *management* – documentation to demonstrate compliance, validated training and qualification for those involved in decontamination, individual training records

4.3. Operational principles

The location of a potential new build should consider vehicular access and effective delivery to and collection from the sterilising unit. Other considerations include distance from main users, turnaround time and instrument inventory.

While single use products and devices are replacing the use of RMD in many clinical services, the complexity of patient care and associated equipment is increasing the need for sterilising services. This has concentrated the activities of sterilising services to support:

- surgical services
- procedural services
- specialist clinical services and as required
- oral health.

As off campus facilities/services are also supported, systems of transport need to be available with timely delivery and access to pick up/deliver RMD.

The SS unit must ensure a clear, effective separation of clean and dirty activities. It will provide an environment that minimises the risk of cross contamination of cleaned, disinfected and sterile RMD. The work flow must be unidirectional from dirty to clean to sterile.

New generation major medical equipment and related infrastructure has resulted in major improvements to the efficiency and efficacy of sterilising services such as:

- central chemical dosing systems for washer disinfectors

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- automated systems to feed to and from steam sterilisers and batch washers – the new unit will be fully automated where possible to minimise manual handling and optimise productivity.
- locally installed Reverse Osmosis (RO) water supply to improve the quality of steam to units and
- chemically improved disinfecting solutions to improve life of RMD.
- computerised instrument tracking systems to capture the entire production cycle from decontamination, to sterilisation and to patient episode. All equipment and RMD will interface with the inventory management and tracking system to capture recordable events in the production cycle as well as provide life cycle management of equipment and instruments.

Gross debris and sharps will continue to be removed and disposed of at the conclusion of the surgical procedure in operating theatre/Interventional Suite in accordance with infection control policy.

All used RMD will be collected from the operating theatres in closed puncture proof containers prior to transport to the SS unit.

Transfer of the sterile RMD containers to the respective Peri-operative /Interventional Suites requires a trolley system whether open or closed.

Once equipment is sterilised it will be returned to the service/department and stored at point of use.

4.4. Surgical loan sets

The use of surgical loan sets requires careful coordination between surgical suppliers, transport companies, SS unit staff and peri-operative suite loans coordinator/s. The surgical loan sets arrive 24 hours prior to the planned surgical procedure. The loan sets require manual checking against the supplier's inventory for contents.

The loan sets then need to be disinfected/ decontaminated, packed and sterilised ready for use.

Used Loan sets are disinfected, decontaminated and reprocessed prior to return to surgical suppliers.

5. Workforce

The SS unit will be managed and staffed by the ACT Health Sterilising Services. Further data development will be required to inform the future workforce profile.

Table 1 -SSD workforce profile

Discipline Classification	Current FTE	Projected FTE	Current Headcount	Projected Headcount	Comments
Sterilising Technicians					
Manager/Technicians	49		55		
Total	49		55		

6. Policies impacting on the built environment

The SS unit design, configuration and functionality must comply with all relevant and applicable standards, building codes and regulations.

The SS unit will adhere to the relevant design and space standards outlined in the Australasian Health Facility Guidelines:

- AusHFG 0190: Sterilising Services
- Part D Infection Prevention and Control

Other key guidelines and policies include:

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- AS/NZS 4187:2014 "Reprocessing of reusable medical devices in health service organisations"
- AS/NZS ISO 9001:2015 Quality Management System (QMS)
- National Safety and Quality Health Service Standards for health care facilities
- GENCA Infection Control in Endoscopy (3rd Edition:2010)
 - ACT Health Infection Control policies and procedures
 - Australian New Zealand Sterilising Standard AS 4187, Section 5.6 Reprocessing of reusable medical devices in health service organisations
 - Infection Control in Endoscopy, Gastroenterology Society of Australia (GESA) , 2011
[http://www.genca.org/public/5/files/Endoscopy_infection_control%20\(low\).pdf](http://www.genca.org/public/5/files/Endoscopy_infection_control%20(low).pdf)

There needs to be capacity to address the impact of new and updated policies as they come on line.

7. Operational description and associated design requirements

7.1. Access

7.1.1. Hours of operation

- the SS unit will provide an extending hours service to support out of hours emergency sessions and elective surgery lists
- the service will operate between 07:00 – 21:00 hours, seven days per week. Outside of these times, an on call/emergency call roster may be in place.

7.1.2. Access to the unit

- A zoned approach to the SS unit will prevent unauthorised access
- proximity card security access is required 24 hours, seven days per week
- telephone communication will be required at all times between Perioperative Services and SS (noted is the additional need for a dedicated analogue telephone line for use in a disaster situation)
- access for equipment to be serviced and replaced
- access to a dedicated raised clean dock for receiving and dispatching RMD

Restricted access will be required by:

- general staff working within the unit
- perioperative services staff when required
- business support, supply and maintenance staff
- CHS staff as required
- visiting staff, cleaners, students and official visitors, etc.
- external visitors such as company representatives **will not** be permitted to enter the unit. Visitors will be received in the Manager's office or an adjacent meeting room.

7.1.3. Staff access

- all staff working within the SS unit will be required to change into work attire on arrival to work
- staff amenities will be provided so that staff can change into appropriate attire and then enter the unit via restricted circulation
- there will be a separation of staff working in clean and dirty areas of the unit each shift
- staff working in the decontamination area will be rostered to work in that environment for the shift and vice versa for staff working in the packing and sterilising areas.

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7.2. Non-clinical support

7.2.1. Storage

Only production materials and those items that are to be processed, or have value added should be stored or passed through the unit. Sufficient stock levels are important for the unit to operate smoothly. It is essential that enough storage is provided within the design of the unit. Three storage areas are required within the SS unit:

- store for raw materials. Sufficient stock levels of the raw materials that support 22 operating theatres is important for the SS unit to operate smoothly. It is essential that enough storage is provided for these items within the design of the department.
- chemical storage (in bulk) with automatic feeding to the sterilisers
- storage for processed products to support 22 operating theatres with adjacent area for trolleys and containers used to despatch processed goods.

7.2.2. Supply Services

- direct entry/access to the receive/dispatch loan kits/consignment work room via a service corridor must be provided
- supplies including loan instrumentation will be delivered directly from the dock area to the de-boxing area and consignment loans storeroom via services circulation

7.2.3. Equipment Tracking and Storage

- an electronic instrument tracking system such as T-Doc or equivalent will be used to track all RMD at each stage of the supply and reprocessing cycle
- transition to a boxed sterilisation (rigid container), storage and transport system for instrument sets is envisaged during the timeframe of the development of the SPIRE project.

7.2.4. Environmental Services

- high standards of cleanliness are essential for all areas within the SS unit. Therefore a number of cleaning rooms may be required so that the cleaning equipment can be segregated to the specific areas of use to minimise the risk of contamination from dirty area to clean.
- items returned to the unit for decontamination and sterilisation should have any sharps and biological waste removed at the source
- SS will be supported by the ACT Health Waste Management Plan and the Business Support Departure Document. This will include, but is not limited to:
 - waste streaming and recycling – all waste containers should be foot operated.
 - secure document disposal
 - disposal room availability for holding SS's waste prior to collection.
 - all waste will be removed through an exit maintaining clean and dirty flows within the SS to the main loading dock.

7.3. Amenities for staff

- SS staff will require change room facilities with access to toilet, shower and lockers
- an internal restricted circulation pathway for staff to and from the change rooms is required
- make use of natural light where appropriate for areas occupied by staff.
- The SS unit is a large department that is required to provide essential training to staff who are generally unable to leave the unit. Hot desks may be located within the SS tea room and be available for staff use for on line education.
- SS has multidisciplinary meetings with many clinical departments within the hospital and external customers where a meeting/training room is required.

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7.4. Safety and security requirements

7.4.1 Safety

The design and equipment selection will seek to eliminate or reduce many hazards. Examples include:

- height adjustable work benches, packing tables and sinks for instrument cleaning and packing
- carrier and trolley systems that integrate with major medical equipment such as batch washers and steam sterilizers to reduce manual handling
- the use of automated systems for loading and unpacking major medical equipment
- the use of lifters to manage loan equipment (as per WHS loan management policy)
- instrument boxes and packs will not exceed 7 kgs
- the feasibility of using automatic guided vehicles (AGVs) is to be assessed.

7.4.2 Security

- The unit will be secured, and only authorised staff will have access
- duress alarm will be required in the entry/reception area
- CCTV monitoring will be required at all entry and egress points.

7.4.3 Emergency power and uninterrupted power supply

- An emergency back-up system for the power supply is required for high priority equipment, lighting and systems such as lifters and plant e.g. automated chemical management system and Reverse Osmosis water.
- data logging and computer equipment will be on uninterrupted power supply (UPS).
- power to the height adjustable packaging tables will be ceiling suspended.

7.5. Infection control

Elimination of any risk of cross contamination or compromise to the integrity of sterile stock must be achieved through design wherever possible. Requirements include:

- restricted/controlled access to CSSD
- dirty to clean to sterile unidirectional workflow with the use of pass through equipment/hatch
- appropriate air handling systems and heat/moisture management as per AS/NZS 4187:2014
- dedicated storage areas that prevent cross-contamination of consumables
- access to hand washing facilities
- availability of personal protection equipment in all areas of CSSD
- the use of suitable materials and finishes that are easily cleaned
- appropriate facilities for cleaning and management/storage of waste
- provision of change facilities.
- hand wash basins and alcohol based hand rub (ABHR) at the entry and exit to all areas within the SS unit.

As is current practice, all RMD will be reprocessed to eliminate the risk of transmission of prion diseases such as Creutzfeldt-Jakob and bovine spongiform encephalopathy.

7.6. Information Communication Technology (ICT)

- a PC and monitor will be required at each packing bench for use by staff packing complex instrument sets
- the ICT system must support use of an electronic instrument tracking system such as T-Doc in the SS unit and the peri-operative suites
- a printer/scanner will be required for logging loan sets as they come in from outside

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- all equipment will interface with the inventory management and tracking system to capture recordable events in the production cycle as well as provide life cycle management of equipment and instruments.

7.7. Teaching, education and research

- the service will provide continuing education opportunities for all staff
- education and training facilities will be provided within the unit including e-learning hot desks and a meeting/tutorial room.

8. Design requirements

8.1. Overarching design requirements

8.1.1. Work flow

Two classifications of goods will be received at the SS unit, contaminated items and raw materials. The functional design of the department must support a continuous flow from designated dirty to clean to sterile areas for all reprocessed items. These areas must be physically separated to avoid creating routes and cross flows that can potentially re-contaminate processed items or adversely affect the microbiological status of raw materials.

8.1.2. Lighting

Natural lighting in the soiled/cleaning/decontamination room makes visual inspection easier and has a positive effect on staff morale. Roof lights are not recommended in the processing and storage areas. If unavoidable there should be insect-proof and waterproof, be double glazed and have drainage channels to prevent contaminating goods below.

The quality of light is crucial for all aspects of decontamination and should be appropriate for the activity carried out in each operational area. Careful consideration should be given to the colour balance between artificial lighting and daylight.

Task lighting, including magnification inspection lighting, is required where instruments and other items are inspected and should preferably be adjustable to suit the operative and the task being undertaken. Light fittings and controls in processing and storage areas should be carefully selected to avoid ledges or crevices where dust can collect. Light levels shall not be less than 400 lux at the working surface.

In storage areas lighting should be good enough to enable labels on stored items to be read easily.

8.1.3. Noise

Careful consideration should be given to the choice of finishes especially in the cleaning/disinfecting and packing rooms to achieve sound absorption while meeting cleaning and microbiological requirements.

The offices and staff room should be sited away from the noisy areas.

8.1.4. Door sets

Doors should be adequately sized to allow clear passage of equipment. Automatic/semi-automatic door closers make it easier for collection and distribution of trolleys to pass unimpeded and prolong the fabric of the building.

Where trolley movement occurs, protection is essential on all doors and door linings. Vision panels should also be provided in doors that are frequently used.