

## CRM Devices 2018/19: Data completeness and validity

Completeness (expressed as %) has been calculated for aggregates of a number of fields: demographics (NHS No, Postcode); clinical (basic – indication for pacing, other cardiac disease, etc); clinical (complex – additional clinical data only required for ICD/CRT devices such as QRS width); GMC No (first operator + consultant); procedure details (device and procedure type, etc); generator details (make, model, serial no). Validity checks whether “maximum system capacity” (the type of system implanted) concurs with the generator model.\* All data are given as percentages, and colour-coded with red <90%, amber 90-95%, and green ≥95%.

\*occasionally, an “invalid” entry may be correct, e.g. a CRT generator implanted without a left ventricular lead will be a dual chamber system.

Hospital	Hospital code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Addenbrookes Hospital	ADD	England	NHS Adult	99.8	95.1	100	100	99	100	100
Aintree University Hospital	FAZ	England	NHS Adult	99	94.4	-	98.8	99.2	100	99.6
Airedale General Hospital	AIR	England	NHS Adult	99.8	95	99.7	100	100	100	98.6
Alder Hey Hospital	ACH	England	Children's	97.5	82	82.1	98.8	100	100	95.1
Arrowe Park Hospital	WIR	England	NHS Adult	100	71.5	-	100	100	100	99.6
Barnet General Hospital	BNT	England	NHS Adult	99.7	86.5	72.4	85.6	99	99.5	91.5
Barnsley Hospital	BAR	England	NHS Adult	100	90.8	-	66.8	100	100	95.3
Barts And The London	BAL	England	NHS Adult	99.8	92.3	76.1	100	100	99.9	97.8
Basildon Hospital	BAS	England	NHS Adult	99.9	92.4	93.9	98.3	98.8	99.3	92.4
Basingstoke & North Hampshire Hospital	NHH	England	NHS Adult	100	61.3	96.8	99.5	99.8	77.3	95.1
Bedford Hospital	BED	England	NHS Adult	100	83.1	-	98.7	100	100	100
Birmingham Children's Hospital	BCH	England	Children's	98.8	84	100	82	95.3	100	90.9
Birmingham City Hospital	DUD	England	NHS Adult	97.9	90.7	95.1	100	98.9	99.1	93.3
Blackpool Victoria Hospital	VIC	England	NHS Adult	98.2	88.9	88	82.7	92.9	97.7	90.8
BMI The Alexandra Hospital	AHM	England	Private	50.8	24.3	0	5.7	93.8	96.8	92.9
BMI The Meriden Hospital	BMI	England	Private	50	95	100	50	100	100	90.9
Bradford Royal Infirmary	BRD	England	NHS Adult	99.8	74.3	98.2	99.8	99.2	99.3	96.8
Bristol Royal Hospital For Children	BRC	England	Children's	100	43.8	66.7	57.1	100	100	100
Bristol Royal Infirmary	BRI	England	NHS Adult	98.3	83.2	87.2	77.7	83.8	85.3	85.9
Bronglais General Hospital	BRG	Wales	NHS Adult	94.5	-	-	0	100	0	-
Broomfield Hospital	BFH	England	NHS Adult	100	69.3	-	89	98.4	100	97.6
Calderdale Royal Hospital	RHI	England	NHS Adult	99.8	92.4	95	63.9	99.1	99.7	97.6
Castle Hill Hospital	CHH	England	NHS Adult	99.2	89.2	96.4	85.8	95.8	100	89.1
Central Middlesex Hospital	CMH	England	NHS Adult	99.5	93.9	100	94.6	95	97	95.5
Chelsea & Westminster Hospital	WES	England	NHS Adult	98.7	97.7	-	100	97.4	100	95.5
Cheltenham General Hospital	CHG	England	NHS Adult	99.8	94.1	96.2	99.3	97.3	99.3	96.8
Chesterfield Royal Hospital	CHE	England	NHS Adult	100	58.5	-	91.8	93.6	99	85.9
Colchester General Hospital	COL	England	NHS Adult	99	60.6	0	44.5	95.5	98.8	93
Conquest Hospital	CGH	England	NHS Adult	99.5	62.2	78.3	88.4	97.8	88.5	86.6
Countess Of Chester Hospital	COC	England	NHS Adult	100	96.2	-	99.8	100	100	100
County Hospital Hereford	HCH	England	NHS Adult	100	87.7	96.3	52.8	100	100	98.7
Craigavon Area Hospital	CRG	N Ireland	NHS Adult	100	83.3	-	43	49.3	100	0
Cromwell Hospital	CRO	England	Private	50	94.3	82.9	58.1	100	100	96.8
Croydon University Hospital	MAY	England	NHS Adult	50	89.5	97.8	96.3	99.5	100	93.7

Hospital	Hospital code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Cumberland Infirmary	CMI	England	NHS Adult	100	93.7	-	99	99.5	100	96.2
Darent Valley Hospital	DVH	England	NHS Adult	99.5	88.2	70	43	98.6	98.6	74.6
Darlington Memorial Hospital	DAR	England	NHS Adult	99.9	92	-	46.8	88.2	99.7	80.3
Diana, Princess Of Wales Hospital Grimsby	GGH	England	NHS Adult	100	89.9	99.1	37.7	99.8	100	84.5
Doncaster Royal Infirmary	DID	England	NHS Adult	100	86.8	-	99.8	99.2	100	100
Dorset County Hospital	WDH	England	NHS Adult	99.9	95.5	99.2	98.7	99.5	98.8	97.8
Duchy Hospital, Truro	DUC	England	Private	100	97.8	87.4	98.8	100	97.6	100
Ealing Hospital	EAL	England	NHS Adult	99.5	88.6	-	96.6	97.6	82.5	84.7
East Surrey Hospital	ESU	England	NHS Adult	99.8	56.9	0	91.7	95.8	84.3	72.4
Eastbourne District General Hospital	DGE	England	NHS Adult	99.5	92.3	-	73.2	50.6	97.1	1.4
Epsom Hospital	EPS	England	NHS Adult	99.5	94.8	-	59.6	83.8	96.2	88.6
Evelina Children's Hospital	GUY	England	Children's	90.9	75	62.5	54.5	100	100	100
Exeter Heart	EXH	England	Private	53.9	92.7	86.7	50	100	100	88.5
Fairfield General Hospital	BRY	England	NHS Adult	100	91.5	99.2	94.8	98.1	98.9	95.6
Forth Valley Royal	FVH	Scotland	NHS Adult	98.2	78.8	61.5	0	95.3	98	84.3
Freeman Hospital Newcastle	FRE	England	NHS Adult	99.7	93.8	93.6	100	100	100	98.7
Frenchay Hospital	FRY	England	NHS Adult	98.5	87.6	60	91.1	94.7	99.7	83.6
Frimley Park Hospital	FRM	England	NHS Adult	99.8	95.6	99.3	77.2	96.8	99.8	92.4
George Eliot Hospital	NUN	England	NHS Adult	99.2	94.4	-	72.6	96.3	99.2	96.7
Glan Clwyd District General Hospital	CLW	Wales	NHS Adult	99.2	81.6	-	86.7	91.8	99.3	92.3
Glangwili General Hospital	WWG	Wales	NHS Adult	94.3	71.3	-	1.2	95.2	100	90.9
Glenfield Hospital	GRL	England	NHS Adult	100	93.1	99.4	100	100	99.9	93.2
Gloucestershire Royal Hospital	GLO	England	NHS Adult	100	83.3	100	100	100	100	93.8
Golden Jubilee Hospital	GJH	Scotland	NHS Adult	50.4	50.6	54.4	0	74.7	99	50.5
Good Hope Hospital	GHS	England	NHS Adult	100	94	85	100	99.7	98.1	96.2
Grantham and District Hospital	GRA	England	NHS Adult	100	-	-	0	100	0	-
Great Ormond Street Hospital	GOS	England	Children's	96	77.3	66.7	39.5	36	100	28.9
Gwynedd Hospital	GWY	Wales	NHS Adult	91.2	88.8	-	96.1	82.7	99.8	59.6
Hammersmith Hospital	HAM	England	NHS Adult	98.3	76.7	99.6	83.8	99.6	99.5	94.9
Harefield Hospital	HH	England	NHS Adult	99.3	83.5	99.7	80.8	98.9	100	97.9
Harley Street Clinic	HSC	England	Private	50	91.5	88.8	100	99.2	100	100
Harrogate District Hospital	HAR	England	NHS Adult	100	80.8	0	33.5	86.2	99.2	74.8
Huddersfield Royal Infirmary	HUD	England	NHS Adult	95.8	92.1	99.2	74.3	98.8	100	97.3
John Radcliffe Hospital	RAD	England	NHS Adult	97	57.8	88.3	96.2	98.2	85.3	94.2
Kent Institute Of Medicine And Surgery	KIM	England	Private	50	95.2	81.7	44.3	91.6	97.1	78.3
Kettering General Hospital	KGH	England	NHS Adult	100	80.9	99.4	97.8	90.4	99.1	96.6
King George Hospital Goodmayes	KGG	England	NHS Adult	100	86.5	-	92.6	97.4	98	94
Kings College Hospital	KCH	England	NHS Adult	99.6	94.3	100	99.6	99.8	99.8	98.3
Kings Mill Hospital	KMH	England	NHS Adult	100	86.6	69.3	81.5	97.9	99.7	94.6
Kingston Hospital	KTH	England	NHS Adult	100	97.2	-	100	100	100	100
Leeds General Infirmary	LGI	England	NHS Adult	99.7	91	90.7	89.6	86.4	99.9	99.6
Lincoln County Hospital	LIN	England	NHS Adult	100	89.3	79.5	100	100	99.9	99.7
Lister Hospital	LIS	England	NHS Adult	100	-	-	50	100	100	100
Liverpool Heart & Chest Hospital	BHL	England	NHS Adult	99.8	83.1	92.5	99.8	99.4	99.4	91.1

Hospital	Hospital code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
London Bridge Hospital	LBH	England	Private	50.4	81.8	67.2	54.2	89.2	99.7	87.9
London Independent Hospital	IND	England	Private	50	33.3	0	25	100	100	100
Luton & Dunstable Hospital	LDH	England	NHS Adult	100	83.9	-	92.4	99.1	99.6	94.3
Maelor Hospital Wrexham	WRX	Wales	NHS Adult	98	47.3	0	15	51.7	100	13.6
Manchester Royal Infirmary	MRI	England	NHS Adult	98.8	92.3	98.4	96.3	96.2	98.6	96.4
Medway Maritime Hospital	MDW	England	NHS Adult	94.8	92.5	94.4	76	98.1	99.7	93.6
Milton Keynes Hospital	MKH	England	NHS Adult	99.5	92.5	88.5	94	99.6	99.9	97.8
Monklands District General Hospital	MDG	Scotland	NHS Adult	50	60.8	10.7	93.8	100	100	100
Morrison Hospital	MOR	Wales	NHS Adult	100	76.4	93	89.5	98.7	85.7	90.2
Musgrove Park Hospital	MPH	England	NHS Adult	99.5	90.3	87.7	89.9	99.4	99.8	80.2
New Cross Hospital (Wolverhampton Heart Centre)	NCR	England	NHS Adult	99.8	93	99.9	97.2	98.3	99.8	90.4
Norfolk & Norwich University Hospital	NOR	England	NHS Adult	99.9	95.5	98.7	99.5	99.2	98.6	97.3
North Devon District Hospital	NDD	England	NHS Adult	95.7	73.6	62.8	0	55.4	98.8	37.7
North Middlesex University Hospital	NMH	England	NHS Adult	96.2	85.6	0	53.8	96.2	100	92.5
Northampton General Hospital	NTH	England	NHS Adult	90.5	93.2	80	95.2	55.5	100	93.7
Northern General Hospital Sheffield	NGS	England	NHS Adult	100	61.3	81.4	100	89.6	69.2	83.6
Northwick Park Hospital	NPH	England	NHS Adult	97.8	93.5	96.2	93.6	98.5	99.9	93.5
Nottingham City Hospital	CHN	England	NHS Adult	99.8	77.4	92.8	85.8	96.2	99.6	91.8
Papworth Hospital	PAP	England	NHS Adult	100	88.3	59.3	71.7	85.2	95.6	55.1
Peterborough City Hospital	PET	England	NHS Adult	99.8	68.1	-	39.4	99.7	99.2	96.5
Pinderfields General Hospital	PIN	England	NHS Adult	100	96.3	100	99.5	99.4	99.8	99.2
Poole Hospital	PGH	England	NHS Adult	100	87.4	-	97.6	99.4	100	99.5
Prince Charles Hospital	PCH	Wales	NHS Adult	97.1	71.8	-	84.1	95.3	100	94.8
Princess Alexandra Hospital Harlow	PAH	England	NHS Adult	100	76	-	100	100	100	99.4
Princess Of Wales Hospital	POW	Wales	NHS Adult	100	75	31.8	97.5	84.8	82.3	71.5
Princess Royal Hospital Telford	TLF	England	NHS Adult	99	63.1	82.9	52	95.6	98.8	90.7
Queen Alexandra Hospital	QAP	England	NHS Adult	99.8	95.3	99.6	97.8	99.5	100	95.2
Queen Elizabeth Hospital Birmingham	QEB	England	NHS Adult	99.3	84.5	91.5	94.1	92.7	99.1	83.5
Queen Elizabeth Hospital Gateshead	QEG	England	NHS Adult	94.3	64	-	48.4	98.2	100	95.3
Queen Elizabeth Hospital Greenwich	GWH	England	NHS Adult	99.8	92.8	81.2	91.2	98.6	99.4	88.8
Queen Elizabeth The Queen Mother Hospital	QEQ	England	NHS Adult	97.7	91.1	90.7	96.8	98.3	99.4	95.2
Queens Hospital Burton	BRT	England	NHS Adult	99.8	86	-	0	92.7	99.7	72.4
Rotherham Hospital	ROT	England	NHS Adult	100	92.2	80.4	80	99.4	100	78.6
Royal Albert Edward Infirmary	AEI	England	NHS Adult	98.7	64.9	-	0	77.7	100	54.7
Royal Berkshire Hospital	BHR	England	NHS Adult	99.8	90.5	99.8	94.3	99.9	100	97.2
Royal Blackburn Hospital	BLA	England	NHS Adult	99.5	90.8	67.2	92.5	98	99.1	94.4
Royal Bolton Hospital	BOL	England	NHS Adult	99.1	93.2	92	98.9	98	99.9	96.3
Royal Bournemouth Hospital	BOU	England	NHS Adult	99.8	92.7	89.6	99.5	99.2	99.7	98.1
Royal Brompton Hospital	NHB	England	NHS Adult	97.3	83.5	98.9	48.8	99.5	99.7	98.5
Royal Cornwall Hospital	RCH	England	NHS Adult	100	89.2	88.8	100	99	99.9	99.6
Royal Derby Hospital	DER	England	NHS Adult	99.9	85.8	61.8	81.8	93.9	72	92
Royal Devon & Exeter Hospital	RDE	England	NHS Adult	99.5	88.7	91.6	88.2	98	98.9	95.4
Royal Glamorgan Hospital	RGH	Wales	NHS Adult	99.7	77.1	88.3	98.4	97.8	99.6	94.6
Royal Infirmary Aberdeen	RIA	Scotland	NHS Adult	50	51.1	0	0	97.6	100	93.8

Hospital	Hospital code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Royal Liverpool University Hospital	RLU	England	NHS Adult	98.8	90.2	-	78.7	100	100	99.2
Royal Preston Hospital	RPH	England	NHS Adult	99.8	90.7	-	53.6	96.7	99.7	92.4
Royal Surrey County Hospital	RSU	England	NHS Adult	99.2	94.4	100	50.3	96.7	99.7	98.4
Royal Sussex County Hospital	RSC	England	NHS Adult	99.9	89.3	97	98.8	85.2	97.6	65.8
Russells Hall Hospital	RUS	England	NHS Adult	98.3	90.5	95.2	98.8	96.8	99.3	88.3
Salford Royal Hospital	SLF	England	NHS Adult	100	93.9	-	99.3	100	100	100
Salisbury District Hospital	SAL	England	NHS Adult	100	93.2	100	98.1	100	100	99
Scarborough Hospital	SCA	England	NHS Adult	97.2	74.4	-	44.5	97.7	100	96.5
Scunthorpe General Hospital	SCU	England	NHS Adult	100	73.1	-	100	95.8	99.3	93.1
Solihull Hospital	SOL	England	NHS Adult	100	75	-	100	100	100	100
South Tyneside District Hospital	STD	England	NHS Adult	97.7	80.6	-	0	98.7	99.3	98
Southampton General Hospital	SGH	England	NHS Adult	99.9	94.2	91	100	100	99.7	98
Southend University Hospital	SEH	England	NHS Adult	99.5	59.2	-	98.6	90.1	97.4	78.7
Spire Bristol	GHB	England	Private	51	92.4	73.3	93.5	94.9	100	93.3
Spire Hospital Cardiff	SPC	Wales	Private	50	91.7	-	33.4	83.3	72.2	66.7
Spire Hull And East Riding Hospital	HBP	England	Private	70.8	90	100	100	100	100	100
Spire Nottingham Hospital	SPN	England	Private	50	100	90	50	100	100	100
Spire Southampton Hospital	CBS	England	Private	75	75	33.3	100	100	100	100
St Anthony's Hospital	ANT	England	Private	50	94.5	95.6	0	98.7	100	96.1
St George's Hospital	GEO	England	NHS Adult	100	89.8	93.4	98.1	99	99.4	98.4
St Mary's Hospital Isle Of Wight	IOW	England	NHS Adult	94.3	90.4	-	0	98.8	100	100
St Peter's Hospital	SPH	England	NHS Adult	99.8	95	99.8	99.2	99.9	100	99.5
St Richard's Hospital	STR	England	NHS Adult	97.4	94	94.4	46	97.5	99.6	90.6
St Thomas' Hospital	STH	England	NHS Adult	99.8	92	90.7	91.7	99.5	99.6	97.6
Stepping Hill Hospital	SHH	England	NHS Adult	99.8	69.2	-	91	95.5	66.4	91.6
Sunderland Royal Hospital	SUN	England	NHS Adult	99.5	84.8	-	0	95.8	99.3	94.8
Tameside Hospital	TGA	England	NHS Adult	98	94.1	-	48.8	95.8	99.7	96.9
The Alexandra Hospital	RED	England	Private	100	-	-	0	100	0	-
The Great Western Hospital	PMS	England	NHS Adult	100	90.6	98.1	99.9	99.9	99.8	95.5
The Ipswich Hospital	IPS	England	NHS Adult	100	95.8	-	100	100	100	83.4
The James Cook University Hospital	SCM	England	NHS Adult	99.9	91.8	100	99.6	94.2	99.5	97.2
The Princess Royal University Hospital Bromley	BRO	England	NHS Adult	100	92	-	28.4	41.5	98.3	30.3
The York Hospital	YDH	England	NHS Adult	98.7	92.2	93.2	98.1	98.5	99.5	95.8
Torbay Hospital	TOR	England	NHS Adult	99.9	90.2	90.6	83.1	92.5	81.6	88.6
University Hospital Coventry	WAL	England	NHS Adult	100	80.4	97.3	99.2	98.8	97.1	91.3
University Hospital Of Hartlepool	HGH	England	NHS Adult	100	93	97.9	90.7	99.8	100	97.6
University Hospital Of North Durham	DRY	England	NHS Adult	100	80	-	81.2	96.8	100	100
University Hospital Of North Staffs	STO	England	NHS Adult	99.8	94.8	70.3	95.5	99.9	99.7	98.1
University Hospital Of Wales	UHW	Wales	NHS Adult	95.5	82.2	79.3	91.6	99.3	99.8	93.4
Victoria Hospital Kirkcaldy	KIR	Scotland	NHS Adult	99.5	90	70.5	34.5	98.8	99.8	94.8
Walsall Manor Hospital	WMH	England	NHS Adult	99.5	93.3	92.4	96.5	99.2	99.8	94.9
Wansbeck General Hospital	ASH	England	NHS Adult	98.5	92.6	90.8	48	98.5	99.5	94.4
Warrington Hospital	WDG	England	NHS Adult	100	94.3	-	96.2	99.2	100	99.3
Warwick Hospital	WAR	England	NHS Adult	98.2	89.3	89	29.3	95.5	100	93.5

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Watford General Hospital	WAT	England	NHS Adult	99.1	96.4	99.4	92.5	98.5	100	98.6
Wellington Hospital North	HHW	England	Private	51.9	94.5	99.1	99.7	100	100	99.3
West Suffolk Hospital	WSH	England	NHS Adult	100	83.5	-	50.6	100	99.2	92.9
Westmoreland General Hospital	WGK	England	NHS Adult	97.4	89.1	91.3	87.8	92.4	99.9	82.8
Wexham Park Hospital	WEX	England	NHS Adult	99.7	89.4	93.7	99.2	99.7	99.6	87.3
Whipps Cross University Hospital	WHC	England	NHS Adult	97.6	95.5	-	46.1	100	100	100
Whiston Hospital	WHI	England	NHS Adult	99.4	67.1	75	33.3	100	100	98.6
William Harvey Hospital	WHH	England	NHS Adult	92.6	91	92	90.4	98.8	99.3	91.8
Wishaw General Hospital	WIS	England	NHS Adult	96	48.9	0	61.6	96.5	100	89.8
Worcestershire Royal Hospital	WRC	England	NHS Adult	100	93.5	99.6	100	100	100	93.8
Worthing Hospital	WRG	England	NHS Adult	100	90.1	99	99.2	100	100	98.4
Wycombe Hospital	AMG	England	NHS Adult	100	93.5	99.6	99.3	99.4	100	98.9
Wythenshawe Hospital	WYT	England	NHS Adult	100	90.5	97.9	100	99.8	99.9	96.5
Yeovil District Hospital	YEO	England	NHS Adult	92.8	70.6	0	0	92.3	98.6	92.3
Yorkshire Clinic	YKC	England	Private	92.8	100	-	50	100	100	100