

### CRM Devices 2019/20: 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	Hosp code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Addenbrookes Hospital	ADD	England	NHS Adult	99.8	99.4	97.8	100	99.2	99.8	97.4
Aintree University Hospital	FAZ	England	NHS Adult	98.5	98.8	0	96.6	99.6	99.2	97.5
Airedale General Hospital	AIR	England	NHS Adult	99.3	99.5	98.2	98.5	98.5	100	97.3
Alder Hey Hospital	ACH	England	Children's	94.6	98.9	100	100	98.7	97.3	94.6
Arrowe Park Hospital	WIR	England	NHS Adult	99.5	99.7	0	99.8	99.6	100	99.7
Barnet General Hospital	BNT	England	NHS Adult	98.2	96	81.7	82.4	99	99.6	95.9
Barnsley Hospital	BAR	England	NHS Adult	100	99.8	0	87.8	100	100	99.3
Barts & The London	BAL	England	NHS Adult	98.7	99.2	72.9	99	90.2	99.9	96.7
Basildon Hospital	BAS	England	NHS Adult	100	95.8	91	94.2	60.5	99.2	20.3
Basingstoke & North Hampshire Hospital	NHH	England	NHS Adult	100	69.4	90.1	99.7	99.8	99.8	96.6
Bedford Hospital	BED	England	NHS Adult	100	89	0	97.8	100	92.1	100
Birmingham Children's Hospital	BCH	England	Children's	100	88.9	93.8	85.3	94.5	93.8	93.8
Birmingham City Hospital	DUD	England	NHS Adult	99.8	99.1	99.2	98.2	98.2	99.7	96.2
Blackpool Victoria Hospital	VIC	England	NHS Adult	92.2	96.3	95	81.5	94.2	98.3	91.4
BMI The Alexandra Hospital	AHM	England	Private	12.5	51	40	39.6	94.5	93.6	88.5
BMI The Meriden Hospital	BMI	England	Private	50	98.3	100	43.8	100	100	100
Bradford Royal Infirmary	BRD	England	NHS Adult	99.8	98.8	96.9	100	100	100	98.5
Bristol Hospital for Children	BRC	England	Children's	100	100	0	0	100	100	100
Bristol Royal Infirmary	BRI	England	NHS Adult	99.8	95.4	78.3	91.1	92.1	100	88.9
Bronglais General Hospital	BRG	Wales	NHS Adult	100	88.5	0	46.7	93.2	85.2	92.6
Broomfield Hospital	BFH	England	NHS Adult	100	97.2	0	94.8	73.6	100	47.1
Calderdale Royal Hospital	RHI	England	NHS Adult	99	97.7	96.6	70.7	98.3	99.7	98.3
Castle Hill Hospital	CHH	England	NHS Adult	99.4	96.8	96.7	90.8	95.9	97.8	88.5
Central Middlesex Hospital	CMH	England	NHS Adult	96.2	95.7	100	89.2	97.3	100	94.6
Cheltenham General Hospital	CHG	England	NHS Adult	98.7	98	95.2	98.5	97.4	99.6	95.8
Chesterfield Royal Hospital	CHE	England	NHS Adult	99.5	49.1	0	96.5	99.8	99	95.3
Colchester General Hospital	COL	England	NHS Adult	74.5	67	0	32.1	88	99.4	88.3
Conquest Hospital	CGH	England	NHS Adult	100	78.6	66.2	92.3	99	96.3	76.1
Countess of Chester Hospital	COC	England	NHS Adult	99.8	98.3	0	99.2	96.7	99.9	98.5
County Hospital Hereford	HCH	England	NHS Adult	100	99	100	98.5	100	100	100
Cromwell Hospital	CRO	England	Private	24.1	93.2	57.5	46.3	100	100	88.9
Croydon University Hospital	MAY	England	NHS Adult	99.7	99.6	94.9	97.8	76.7	97.2	54
Cumberland Infirmary	CMI	England	NHS Adult	99.1	77.1	0	82	96.9	65.7	95.3
Darent Valley Hospital	DVH	England	NHS Adult	98.2	87.3	25	23.6	79.2	98.4	42.6

Hospital	Hosp code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Darlington Memorial Hospital	DAR	England	NHS Adult	100	98.7	0	97.1	97.7	100	98.9
Derriford Hospital	PLY	England	NHS Adult	98.8	92	99.1	93.9	97.3	99.5	80.8
Diana, Princess of Wales Hospital Grimsby	GGH	England	NHS Adult	100	99.3	100	35.5	99.7	100	89.3
Doncaster Royal Infirmary	DID	England	NHS Adult	100	95.8	0	96.8	95.3	100	89.6
Dorset County Hospital	WDH	England	NHS Adult	99.5	90	99.4	99	99.2	100	98.5
Duchy Hospital, Truro	DUC	England	Private	99.2	96.5	82.1	100	100	99.5	98.5
Ealing Hospital	EAL	England	NHS Adult	99.5	90.7	0	91.7	97.3	91.9	83.3
East Surrey Hospital	ESU	England	NHS Adult	99.1	87	88.3	98.5	97.6	98.9	90
Eastbourne District General Hospital	DGE	England	NHS Adult	99.8	98.2	86.5	63.7	99.8	98.2	86.1
Edinburgh Royal Infirmary	ERI	Scotland	NHS Adult	99	86.9	0	98.7	50	99.6	0
Epsom Hospital	EPS	England	NHS Adult	100	98.2	0	85.5	99.5	100	100
Evelina Children's Hospital	GUY	England	Children's	98.8	97.5	50	61	100	98.8	82.1
Exeter Heart	EXH	England	Private	46	97.9	95.6	56	94	91.7	91.7
Fairfield General Hospital	BRY	England	NHS Adult	100	99.4	99.9	92	96.3	99.4	94.8
Forth Valley Royal	FVH	Scotland	NHS Adult	81	81.8	92.3	0	92	98.5	81.5
Freeman Hospital Newcastle	FRE	England	NHS Adult	99.7	98.8	97.8	100	99.1	94.9	99.2
Frenchay Hospital	FRY	England	NHS Adult	87.7	92	39.5	70.9	88.2	99.6	69.1
Frimley Park Hospital	FRM	England	NHS Adult	99.2	99.3	97.9	70	98.2	99.5	89.7
George Eliot Hospital	NUN	England	NHS Adult	94.8	98.8	0	99.6	94.2	95.9	95
Glan Clwyd District General Hospital	CLW	Wales	NHS Adult	99.7	97.7	0	93.3	89.3	99.7	93.4
Glangwili General Hospital	WWG	Wales	NHS Adult	98.4	76.6	0	29.4	89.7	93.9	80.3
Glenfield Hospital	GRL	England	NHS Adult	99.8	100	99.1	100	100	100	99.7
Gloucestershire Royal Hospital	GLO	England	NHS Adult	100	95	100	100	100	100	100
Golden Jubilee Hospital	GJH	Scotland	NHS Adult	49.5	52	49.3	0	77.6	99.3	58
Good Hope Hospital	GHS	England	NHS Adult	99.6	96.4	85.9	99	48.6	95.5	94
Grantham & District Hospital	GRA	England	NHS Adult	100	0	0	0	100	0	0
Great Ormond Street Hospital	GOS	England	Children's	92.5	81.7	97.1	75	61.2	100	66.7
Gwynedd Hospital	GWY	Wales	NHS Adult	97.3	92.1	89.4	90.8	97.8	99.3	83.7
Hammersmith Hospital	HAM	England	NHS Adult	98.8	92.7	99.9	81.8	98.2	99.1	96.1
Harefield Hospital	HH	England	NHS Adult	99.3	95.2	99.6	94.5	99.2	87.3	97.6
Harley Street Clinic	HSC	England	Private	43	99.8	77.5	99.1	98.4	100	94.2
Harrogate District Hospital	HAR	England	NHS Adult	98.5	92.5	5.6	13.2	89.9	99.2	76.8
Hospital of St Cross	RUG	England	NHS Adult	99	0	0	100	100	0	0
Huddersfield Royal Infirmary	HUD	England	NHS Adult	100	0	0	50	100	100	100
John Radcliffe Hospital	RAD	England	NHS Adult	96.8	70.8	86.6	92.7	98.2	99.4	95.3
Kent Institute of Medicine & Surgery	KIM	England	Private	42.2	35.1	35.8	71.8	93	99.1	94.4
Kettering General Hospital	KGH	England	NHS Adult	97.2	96.9	100	93	62.1	99.5	89.1
King George Hospital Goodmayes	KGG	England	NHS Adult	100	49.9	0	92.3	87.3	98.5	73.2
Kings College Hospital	KCH	England	NHS Adult	98.9	99.8	99.2	99.5	100	100	99.6
Kings Mill Hospital	KMH	England	NHS Adult	100	80.1	74.3	92.5	95	98.9	92.9
Kingston Hospital	KTH	England	NHS Adult	99.7	99.8	0	100	100	100	97.8
Leeds General Infirmary	LGI	England	NHS Adult	99.8	89.2	91.2	81.2	84.6	100	99.5
Lincoln County Hospital	LIN	England	NHS Adult	100	99.8	96.4	98.7	99.9	100	97.5

Hospital	Hosp code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Liverpool Heart & Chest Hospital	BHL	England	NHS Adult	96.8	98.2	94.9	99.6	99.6	99.3	92.1
London Bridge Hospital	LBH	England	Private	40.6	78.9	67.6	55.5	84.8	99.7	79
London Independent Hospital	IND	England	Private	76.1	27.5	0	46.5	91.3	100	84.6
Luton & Dunstable Hospital	LDH	England	NHS Adult	100	99.8	0	77.2	50	87.6	0
Maelor Hospital Wrexham	WRX	Wales	NHS Adult	97.8	71.4	12	88.3	98.3	99.9	93.3
Maidstone Hospital	MAI	England	NHS Adult	99.7	98	97.1	83.5	99.1	97.7	91.8
Manchester Royal Infirmary	MRI	England	NHS Adult	99.6	98.5	99.5	98.6	97.8	99.3	95.6
Medway Maritime Hospital	MDW	England	NHS Adult	92.5	95.2	92.4	65	98.3	99.4	96.3
Milton Keynes Hospital	MKH	England	NHS Adult	94.6	95.1	92.8	89.2	99.4	100	99.1
Monklands District General Hospital	MDG	Scotland	NHS Adult	49.2	71.5	0	97.3	99.2	100	96.4
Morriston Hospital	MOR	Wales	NHS Adult	99.5	97.5	98.8	92.7	99.5	87.5	91.6
Musgrove Park Hospital	MPH	England	NHS Adult	97.3	96.6	88.3	89.9	98.2	99.9	82.3
New Cross Hospital (Wolverhampton Heart Centre)	NCR	England	NHS Adult	100	98.5	98.9	99	99.2	99.8	94
Norfolk & Norwich University Hospital	NOR	England	NHS Adult	99.8	99.8	99.6	97.5	99.3	98.1	96
North Devon District Hospital	NDD	England	NHS Adult	90.5	82.5	65.9	0	49.7	99.1	19.5
North Middlesex University Hospital	NMH	England	NHS Adult	47.8	74.1	0	53.3	94	100	91
Northampton General Hospital	NTH	England	NHS Adult	93.5	98.4	100	88.6	65.6	96.9	80.7
Northern General Hospital Sheffield	NGS	England	NHS Adult	100	91.1	81.1	99.7	90.2	96.1	84
Northwick Park Hospital	NPH	England	NHS Adult	93.8	85.7	97.1	66.7	98.6	99.3	92.9
Nottingham City Hospital	CHN	England	NHS Adult	99.8	99.2	98.8	97.8	96.8	99.5	99.4
Papworth Hospital	PAP	England	NHS Adult	99.9	98.6	58.3	94.4	99.3	99.5	79.7
Peterborough City Hospital	PET	England	NHS Adult	98.2	92.8	0	54.7	99.7	88.1	97.5
Pinderfields General Hospital	PIN	England	NHS Adult	99.6	99	96.5	98.5	99.4	99.8	98
Poole Hospital	PGH	England	NHS Adult	100	100	0	100	99.8	94.6	98.8
Prince Charles Hospital	PCH	Wales	NHS Adult	96	88	0	60.3	86.4	99.3	73.9
Princess Alexandra Hospital Harlow	PAH	England	NHS Adult	100	99.6	0	99.7	100	99.4	98.2
Princess of Wales Hospital	POW	Wales	NHS Adult	100	79.2	74.3	99.7	93.2	78.2	79.6
Princess Royal Hospital Telford	TLF	England	NHS Adult	92	74.8	82.4	50.2	94.8	99.2	88.3
Queen Alexandra Hospital	QAP	England	NHS Adult	100	99.7	99.9	96.3	100	100	99
Queen Elizabeth Hospital Birmingham	QEB	England	NHS Adult	99.5	97.5	96.4	94.5	95.6	94.5	87.2
Queen Elizabeth Hospital Gateshead	QEG	England	NHS Adult	92.2	74.4	0	48.5	97.8	100	97.5
Queen Elizabeth Hospital Greenwich	GWH	England	NHS Adult	99.6	96.8	87.9	91.8	96.9	98.8	89.7
Queen Elizabeth The Queen Mother Hospital	QEQ	England	NHS Adult	94	91.8	84.3	73.5	98.8	99.1	95
Queens Hospital Burton	BRT	England	NHS Adult	98.4	72.5	0	0	72.6	99.3	58.6
Rotherham Hospital	ROT	England	NHS Adult	100	98.9	84.7	88.3	98.7	99.7	82.3
Royal Albert Edward Infirmary	AEI	England	NHS Adult	97.1	57.3	0	0	75.3	98.9	58.1
Royal Berkshire Hospital	BHR	England	NHS Adult	98	98.5	93.5	90.5	99.4	100	96.1
Royal Blackburn Hospital	BLA	England	NHS Adult	98.3	91.8	73.7	90.5	94	97.9	91.8
Royal Bolton Hospital	BOL	England	NHS Adult	100	95.3	97.4	99	96.2	96	93.9
Royal Bournemouth Hospital	BOU	England	NHS Adult	100	97	89.3	88.2	98.9	99.6	98.7
Royal Brompton Hospital	NHB	England	NHS Adult	93.9	95.3	98.4	93.9	98	88.9	97.8
Royal Cornwall Hospital	RCH	England	NHS Adult	99.6	97.6	89.9	100	84.3	99.3	65.2
Royal Derby Hospital	DER	England	NHS Adult	99.9	97.7	95.7	88.8	92.2	72.8	95.8

Hospital	Hosp code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Royal Devon & Exeter Hospital	RDE	England	NHS Adult	97.2	93.5	88.5	95.5	99	99.2	96.9
Royal Glamorgan Hospital	RGH	Wales	NHS Adult	98.1	88.8	77	92	95.8	99.7	90.4
Royal Liverpool University Hospital	RLU	England	NHS Adult	97.9	99.4	0	99.4	98.8	100	100
Royal Preston Hospital	RPH	England	NHS Adult	96.5	95.5	0	80.3	98.5	99.5	96.1
Royal Surrey County Hospital	RSU	England	NHS Adult	98	98.3	80.8	82.5	96.5	98.8	96.5
Royal Sussex County Hospital	RSC	England	NHS Adult	99.8	98	99.2	98.6	89.2	80.6	25.1
Royal United Hospital Bath	BAT	England	NHS Adult	99.9	98.3	0	81.2	99.6	94.3	96.1
Russells Hall Hospital	RUS	England	NHS Adult	93.2	94.5	91.2	97.8	96.4	99.3	88.8
Salford Royal Hospital	SLF	England	NHS Adult	99.2	100	0	99.4	100	100	100
Salisbury District Hospital	SAL	England	NHS Adult	99.6	98.2	99.1	46.2	99.8	100	97.2
Scarborough Hospital	SCA	England	NHS Adult	95.3	89.6	0	47.6	99	99.3	99.3
Scunthorpe General Hospital	SCU	England	NHS Adult	100	78	0	39.3	96.6	100	96.7
South Tyneside District Hospital	STD	England	NHS Adult	92.8	86.3	0	0	96.9	100	99
Southampton General Hospital	SGH	England	NHS Adult	95.2	99.1	92.7	99.8	100	99.6	98.6
Southend University Hospital	SEH	England	NHS Adult	100	54.7	0	98.6	93.5	95.5	81.8
Southmead Hospital	BSM	England	NHS Adult	98.8	87.5	0	27.8	91.8	100	100
Spire Bristol	GHB	England	Private	51.3	98.1	90	99.2	97.8	97.7	93.1
Spire Hospital Cardiff	SPC	Wales	Private	75	100	25	37.5	75	100	66.7
Spire Hull & East Riding Hospital	HBP	England	Private	77.2	100	0	100	100	100	100
Spire Nottingham Hospital	SPN	England	Private	50	100	100	98	98.5	100	73.9
Spire Southampton Hospital	CBS	England	Private	73.8	92.3	84.4	95.2	97.6	100	100
St Antonys Hospital	ANT	England	Private	47.6	94.8	89.3	29.7	98.8	98.9	92
St George's Hospital	GEO	England	NHS Adult	99.1	99.2	97.6	76	99.5	99.3	93.4
St Mary's Hospital Isle of Wight	IOW	England	NHS Adult	96.2	99.5	0	0	96.2	100	92.9
St Peter's Hospital	SPH	England	NHS Adult	99.2	99.9	96	99.2	100	99.5	97.5
St Richard's Hospital	STR	England	NHS Adult	94.7	96.3	95.2	42	94.4	99.5	82.2
St Thomas' Hospital	STH	England	NHS Adult	97.7	98.8	93.5	95.7	100	99.7	94.6
Stepping Hill Hospital	SHH	England	NHS Adult	100	86.3	0	92.2	97.2	66.3	94.4
Sunderland Royal Hospital	SUN	England	NHS Adult	58.3	99.5	0	0	99.5	99.1	97.8
Tameside Hospital	TGA	England	NHS Adult	95.3	98.1	0	91.6	98	99.7	95.4
The Alexandra Hospital	RED	England	Private	100	0	0	0	100	0	0
The Great Western Hospital	PMS	England	NHS Adult	99.3	98.9	99.5	99.2	99.7	99.5	95.5
The Ipswich Hospital	IPS	England	NHS Adult	99.9	99.7	66.7	100	99.9	99.9	95.2
The James Cook University Hospital	SCM	England	NHS Adult	99.8	100	99.3	99.2	95	99.5	98.3
The Princess Royal University Hospital Bromley	BRO	England	NHS Adult	99.7	96.9	0	85.8	89.6	98.6	88.7
The York Hospital	YDH	England	NHS Adult	97.5	96.7	97.1	94.5	99.2	99.6	97.2
Torbay Hospital	TOR	England	NHS Adult	99.7	97.4	96.3	93	96.7	100	94.9
University Hospital Coventry	WAL	England	NHS Adult	99.5	95.9	95.3	88.3	99.1	97.9	91.3
University Hospital of Hartlepool	HGH	England	NHS Adult	99.3	99.2	97.1	95.9	98.8	98.5	98
University Hospital of North Staff	STO	England	NHS Adult	97.8	83.8	87.5	95.3	98.3	93.1	98.3
University Hospital of North Tees	NTG	England	NHS Adult	100	97.4	91.2	90.9	99.4	100	100
University Hospital of Wales	UHW	Wales	NHS Adult	83.2	98.4	76.2	94.8	98.2	99.4	88
Victoria Hospital Kirkcaldy	KIR	Scotland	NHS Adult	57.1	96.5	72.3	46.6	97.9	98.9	82.1

Hospital	Hosp code	Region	Category	Demographics	Clinical (basic)	Clinical (complex)	GMC	Procedure details	Generator details	Validity (generator)
Walsall Manor Hospital	WMH	England	NHS Adult	97.3	99	94.1	91.2	99.8	99.9	96.2
Wansbeck General Hospital	ASH	England	NHS Adult	98.2	96.8	95.2	62.4	97.3	99.5	94.4
Warrington Hospital	WDG	England	NHS Adult	98.8	99.6	0	98.6	100	99.8	98.6
Warwick Hospital	WAR	England	NHS Adult	94.5	97	94.9	18.2	97.1	99.7	89.5
Watford General Hospital	WAT	England	NHS Adult	96.5	98.1	98.3	77.9	97.9	99.8	95.3
Wellington Hospital North	HHW	England	Private	48.9	99.1	100	98.7	99.7	100	99.1
West Suffolk Hospital	WSH	England	NHS Adult	99.5	98.5	0	49.1	99.8	99.5	85.5
Westmoreland General Hospital	WGK	England	NHS Adult	94.6	97.9	95.1	97.3	98.5	99.9	96.4
Weston General Hospital	WGH	England	NHS Adult	98.5	100	0	0	99.2	98.5	93.5
Wexham Park Hospital	WEX	England	NHS Adult	96.3	93	95.8	86.3	99.7	99.2	90.2
Whiston Hospital	WHI	England	NHS Adult	93.5	98.2	0	54.4	100	100	100
William Harvey Hospital	WHH	England	NHS Adult	93.2	99	99.7	97.4	99.6	99.5	94.6
Wishaw General Hospital	WIS	Scotland	NHS Adult	98.6	41.5	0	82.7	99.1	100	98.6
Worcestershire Royal Hospital	WRC	England	NHS Adult	99.7	100	99.5	99.3	100	100	96
Worthing Hospital	WRG	England	NHS Adult	100	99.4	99.3	99.6	100	100	100
Wycombe Hospital	AMG	England	NHS Adult	99.7	99.1	98.3	96.5	97.8	100	98.2
Wythenshawe Hospital	WYT	England	NHS Adult	100	99.3	99.7	100	100	99.1	96.9
Yeovil District Hospital	YEO	England	NHS Adult	93.4	82.4	0	23.9	93.4	98.6	89.1
Yorkshire Clinic	YKC	England	Private	70	95	100	55	95	100	100