Provider line of sight table on report recommendations for submission to the funders						
Please can the provider complete the following details to allow for ease of access and rapid review						
Project and Title of report			**National Audit of Cardiac Rhythm Management Devices and Ablation 2021 Summary Report (2019/20 data).**			
1. What is the report looking at/what is the project measuring?			**All device (pacemakers, implantable cardioverter defibrillators and cardiac resynchronisation devices) and ablation procedures for the management of cardiac arrhythmias. The report describes procedures for cardiac rhythm management (CRM – devices and ablation) between 1st April 2019 and 31st March 2020 and looks at the data against a number of standards, describing safety, effectiveness and outcomes.**			
2. What countries are covered?			**All countries of the UK, though Northern Ireland did not submit in 2019/20 and submissions from Scotland have been patchy.**			
3. The number of previous projects (e.g. whether it is the 4th project or if it is a continuous project)			**This is a continuous project: there have been 13 previous device reports and 11 previous ablation reports.**			
4. The date the data is related to (please include the start and end points – e.g. from 1 January 2016 to 1 October 2016)			**1st April 2019 and 31st March 2020**			
5. Any links to NHS England/NHS Improvement objectives or professional work-plans (only if you are aware of any)			**Results are also used by CQC and GIRFT**			
Please can the provider complete the below for each recommendation in the report						
No.	**Recommendation**	**Evidence in the report which underpins the recommendation**	**Current national audit benchmarking standard if there is one**	**Associated NHS payment levers or incentives'**	**Guidance available (for example, NICE guideline)**	**% project result if the question previously asked by the project (date asked and result). If not asked before, please denote N/A. This is so that there is an indication of whether the result has increased or decreased and over what period of**

						time
Rec 1	Data submission: centres with apparently very low volumes of procedures should engage with the validation process to ensure they are not misrepresented. Device clinics should not submit records of follow-up patients they have 'inherited' from other implanting centres. The appropriateness and sustainability of centres with low volumes should be discussed locally and at network level.	NACRM report: Pages 21-27 45 hospitals failed to meet the standard of 80 PM implants, of which 20 were NHS adult hospitals (note 76 in 2014/15). 58 hospitals failed to meet the standard of 60 complex implants/upgrades, of which 38 were NHS adult hospitals (this was 81 in 2014/15) 17 hospitals failed to document meeting the standard of 100 ablations/year, of which 7 were NHS adult hospitals.	*Quality Standard 1 (Pacemaker Implants):* BHRS Standards (2015) recommend that pacing centres undertake a minimum of 80 pacemaker implants per year (this was 60 in the 2013 Standard). Training centres should conduct > 105 implants per year. *Quality Standard 2 (Complex device Implants):* BHRS Standards (2015) recommend that complex device centres undertake a minimum of 60 such procedures (ICD and CRT implant/upgrades) per year. *Quality Standard 3 (Catheter ablation):* BHRS Standards (2016) recommend that ablation centres undertake a minimum of 100 ablation procedures per year in total. *Quality Standard 4 (complex/AF ablation):* BHRS Standards (2016) recommend that centres undertaking AF ablation should perform a minimum of 50 such cases per year.	N/A	BHRS Standards	There are fewer lower volume centres but still a number of NHS hospitals that do not meet the standards

Rec 2	Consultants are reminded that submission of correct and complete data for procedures is their responsibility. Clinical directors should investigate whether low operator volumes are the result of poor data submission, or genuinely low activity. Genuinely low volume operators should be subject to close local audit for complications etc, and the sustainability of their practice should be examined.	NACRM report: Pages 27-32 62% of cardiology specialists undertaking device implants met the standard of ≥35 implants, and only 39% undertaking complex implants met the standard of ≥30 such procedures. 77% of ablating cardiologists were documented to meet the standard for simple ablation, and 85% of those undertaking complex ablation met the standard.	*Quality Standard 5 (Pacemaker Implantation):* The minimum volume for an implanting specialist is 35 total new devices per year. *Quality Standard 6: (Defibrillator/Cardiac Resynchronization Therapy):* For those undertaking complex implants/upgrades the recommendation is at least 30 such procedures within a total of 60 device implants per year. *Quality Standard 7 (Catheter ablation):* Interventional electrophysiologists undertaking catheter ablation should perform at least 50 procedures per year. *Quality Standard 8 (Complex ablation):* For those undertaking complex procedures (generally AF ablations) the recommendation is at least 25 such procedures within a total of at least 50 ablations per year; while ≥50 complex procedures is desirable.	N/A	BHRS standards	Many operators do not meet the current implant standards. These low values are, if anything, worsening. Under-reporting may account for some apparently low implant volumes, and some will undoubtedly be trainees at an early stage of training. The proportion meeting the standards for ablations overall has not changed significantly in the last three years. 85% of those undertaking complex ablations met the standard of ≥25 such procedures, an improvement over the last three years.
Rec 3	Hospitals with poor data compliance should ensure all members of the local CRM team comply with the requirements of	NACRM report: Pages 32-35 97% of adult NHS hospitals in	*Quality Standard 9:* Hospitals should achieve ≥90% completeness in each of 6 data domains for device and	N/A	BHRS Standards	Overall, data completeness is improving but some data domains are still poorly completed.

	the national audit dataset. Local training on the importance of each data field may be required.	England & Wales achieve the standard for demographics. The findings are less good for clinical and procedural details, though these are slowly improving for device procedures. Low GMC number submission remains an issue for many hospitals. At a patient level there remain significant problems with recording the indications for device procedures and ablations, especially those relating to complex procedures. Only 41% of hospitals meet the standard documenting a primary prevention indication for new ICDs implants, and only 36% for secondary prevention indications.	ablation procedures.			In particular clinical information for complex device implants is lacking.
Rec 4	Centres with low scores on data validity for devices and ablation should undertake an urgent root cause analysis. Low validity often reflects simple data entry errors and can have serious effects on a centre's performance throughout this report. Misunderstanding of the key fields appears to be a common	NACRM report: Pages 36-37 A small number of hospitals are submitting lower quality data than in previous years. This is of particular concern with regard to ablation records, with a drop from 79% to 65% achieving the 90% validity standard, for reasons that are unclear.	*Quality Standard 10:* Hospitals should achieve ≥90% validity in key data domains for device and ablation procedures.	N/A	BHRS Standards	The proportion of valid records remains around 90% nationally, but is not improving. The proportion of hospitals not achieving the 90% standard has increased, though very few fall far below this standard.

	problem and can be dealt with by training of those completing records.					
Rec 5	Centres achieving <90% compliance with NICE guidance for pacemaker prescription (in particular those achieving <80% compliance) should consider carefully whether some operators are less confident with dual chamber implants and may be prioritizing expediency over the best treatment for their patients.	NACRM report: Pages 38-40 The proportion of hospitals documenting that ≥90% of their pacemaker implants are consistent with NICE recommendations remains level at approximately 77% in sinus node disease, and 70% in atrioventricular block. Performance against the previous standard (80% consistency with NICE) remains high at 95% and 88%, respectively. The national picture remains excellent, with 94% of patients paced for sinus node disease and 92% of those paced for atrioventricular block receiving dual chamber pacemakers.	*Quality Standard 11 (pacing for sinus node disease in the absence of atrial fibrillation):* 90% of pacemaker implants should be dual chamber. *Quality Standard 12 (pacing for atrioventricular block in the absence of atrial fibrillation):* 90% of pacemaker implants should be dual chamber.	N/A	BHRS Standards NICE guidelines (TA 324 and TA 88)	At present, data field completeness impacts on the accuracy of these figures, particularly for complex devices. For simple devices, compliance with national standards is excellent.
Rec 6	Centres not achieving the standard for appropriate use of ICDs should consider whether this is an issue of poor documentation or whether their threshold for ICD implantation is unduly low.	NACRM report: Pages 40-43 The proportion of patients nationally that are documented to have a NICE indication for ICD implants is now 81% for	*Quality standard 13 (ICDs for Primary Prevention):* 80% of ICD implants for primary prevention should be documented to meet at least one of the NICE criteria.	N/A	BHRS Standards NICE guidelines (TA 314)	At present, data field completeness impacts on the accuracy of these figures, particularly for complex devices. For complex devices,

	Low volume centres in particular should examine their case selection and documentation. It is not expected that 100% of patients receiving ICDs will meet NICE indications, however at least 90% documented compliance is expected.	primary prevention, and 84% for secondary prevention.	*Quality standard 14 (ICDs for Secondary Prevention):* 80% of ICD implants for secondary prevention should be documented to meet at least one of the NICE criteria.			compliance with national standards is improving, where documented.
Rec 7	Hospitals with reported re-intervention rates that remain high year-on-year, and those above the 97.5% control limit, should examine the reasons for re-interventions. In most cases, these will chiefly be complications, and centres should look at procedure times, protocols, operator procedure volumes, and whether juniors are adequately supervised. 'Tier 2' centres must improve reporting of NHS No. for each case: their true re-intervention rates are likely to be higher than reported.	NACRM report Pages 43-48 In the last four years, one-year reintervention rates have been stable at around 4% following pacemaker implants and 6% following complex device implants.	*Quality Standard 15 (Pacemaker reinterventions):* The rate of re-interventions within a year of a first pacemaker implant should be below the 95% upper control limit (national mean + 2 standard errors). *Quality Standard 16 (Complex device reinterventions):* The rate of re-interventions within a year of a first ICD or CRT implant should be below the 95% upper control limit (national mean + 2 standard errors).	N/A	N/A	These values are fairly stable and in line with published data on complications from other countries. Centres with very high re-intervention rates should audit their practice to see if there are particular reasons why this should be the case.
Rec 8	Hospitals with high re-intervention rates following ablation procedures should examine the techniques and endpoints for their procedures, and in particular case selection. Centres with very low re-intervention rates should consider	NACRM report: Pages 49-55 For simple ablations, the one-year reintervention rate is stable at 3%, increasing by 1% after a second follow-up year.	*Quality Standard 17:* the frequency of repeat interventions within a year of catheter ablation procedures (simple, complex atrial, and ventricular) should be below the 95% upper control limit	N/A	N/A	For simple ablations, the re-intervention rate is consistent with an expected permanent cure rate of 90-95% following such procedures.

	whether this reflects genuine success or whether some patients with recurrent arrhythmia are being denied the benefit of a second ablation.	For complex atrial ablations, the one-year reintervention rate has fallen from 10% to 8%, but almost as many patients have a second procedure in the second follow-up year. For ventricular ablations, one-year reintervention rates appear to have fallen from 12% to 8%, with a consistent additional 4% after a second year of follow-up.	(national mean + 2 standard errors). *Quality Standard 18:* the frequency of repeat interventions within a year of catheter ablation procedures (simple, complex atrial, and ventricular) should be below the 95% upper control limit (national mean + 2 standard errors).			These re-intervention rates for AF ablation are low by international standards: most studies report the need for a second AF ablation in 20-40% of cases (depending on clinical characteristics). For ventricular re-intervention rates, year-on-year trends should be interpreted with caution because total procedure numbers are small.