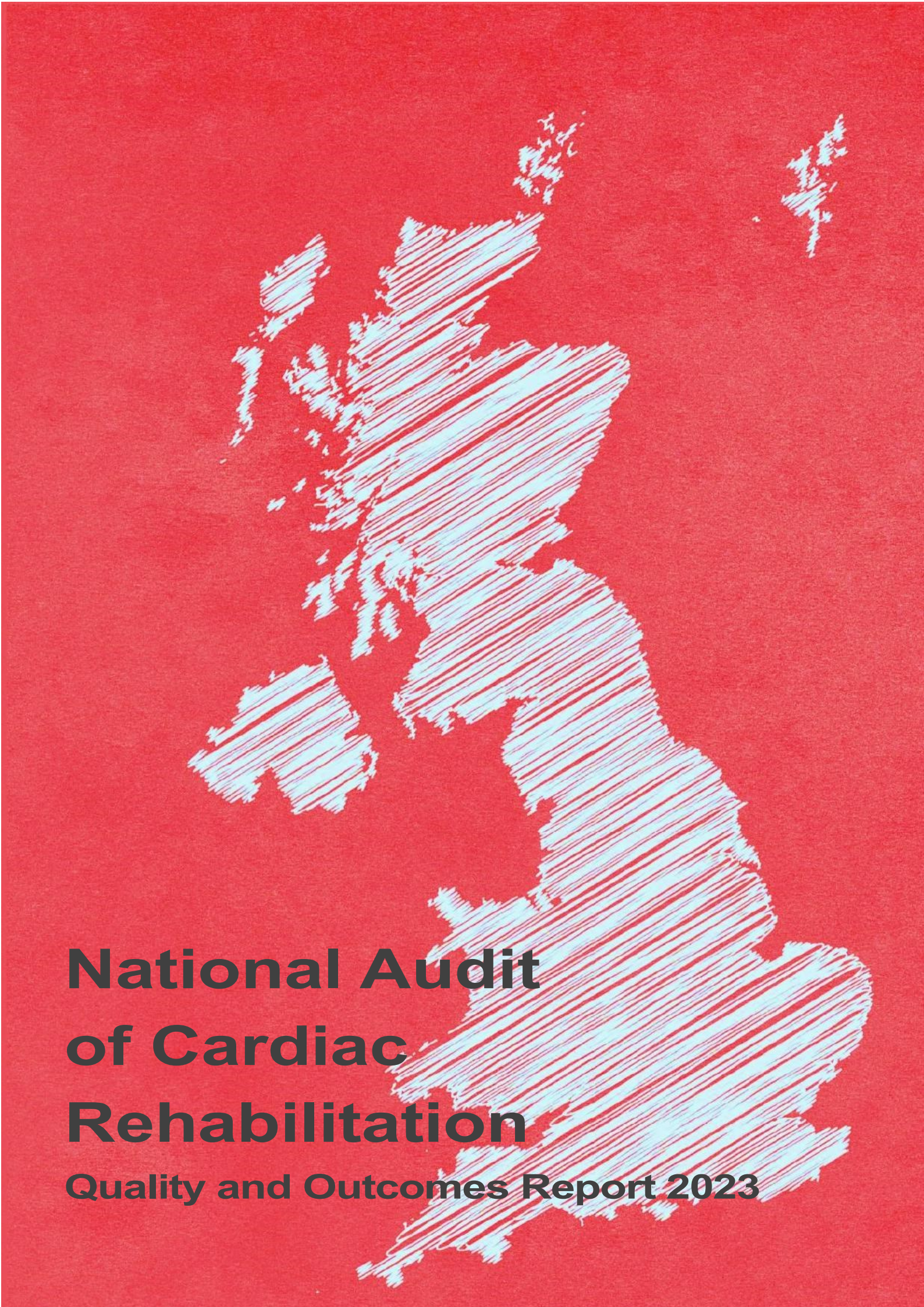


National Audit of Cardiac Rehabilitation

Quality and Outcomes Report 2023

Executive Summary

The 2023 NACR Quality and Outcomes Report shows encouraging signs of a recovery within cardiac rehabilitation (CR) services following the pandemic, evident in a higher quality of service delivery and a greater level of patient choice in respect to the mode of delivery of CR. This is indeed good news and programmes should be commended for their work in moving CR to a better position. That said the report also emphasises that there is much more to do in ensuring that all patients who start CR are supported to complete their programme.

This report highlights the need for a more proportional approach to the mode of delivery of CR. At the same time around 20% of men and women across all ethnic groups are dropping out of CR and not completing their tailored programme. Of equal importance is the finding that patients from areas of greater social deprivation (most deprived) are less likely to complete their rehabilitation and prevention programme. This inequality finding exists in each of the three nations.

The report also features data from our annual staffing survey of CR services, highlighting some positive aspects in terms of a recovery of staff resources compared to the hard hit 2020/21 Covid years. However, survey responses from clinicians highlight significant challenges facing some CR teams in the recruitment and retention of staff.

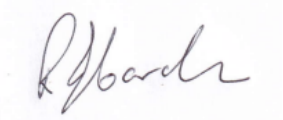
Data from the National Certification Programme for CR (NCP_CR) shows that, of the 209 programmes included, 83 (40%) were Green certified. At the same time there has been a slight increase in Amber status (meeting 4-6 of the seven KPIs) from 69 to 71 programmes. The number of programmes in the Fail category (meeting no KPIs) was 19 which, although three less than last year, remains a major issue.

The NACR team will continue to work collaboratively with the NHS England policy team, the British Association of Cardiovascular Prevention and Rehabilitation (BACPR), the Northern Ireland Department of Health and Social Care, the All Wales Group, the British Heart Foundation (BHF) and patients through the Coronary Care Partnership (CCPUK). The international standing of UK CR and prevention services remains high and is aided by the ongoing commitment to pursue a quality service from clinical teams and associated Integrated Care Boards/Cardiac Networks, Health and Social Care Trusts and Health Boards. Collectively we aim to implement the recommendations based on this year's audit findings.

Professor Patrick Doherty, Director - National Audit of Cardiac Rehabilitation

Heather Probert, President - British Association for Cardiovascular Prevention and Rehabilitation

Diane Saunders, CVD Programme Lead - NHS England



Richard Corder, President, Cardiovascular Care Partnership UK

Contents

SECTION 1

UK perspective

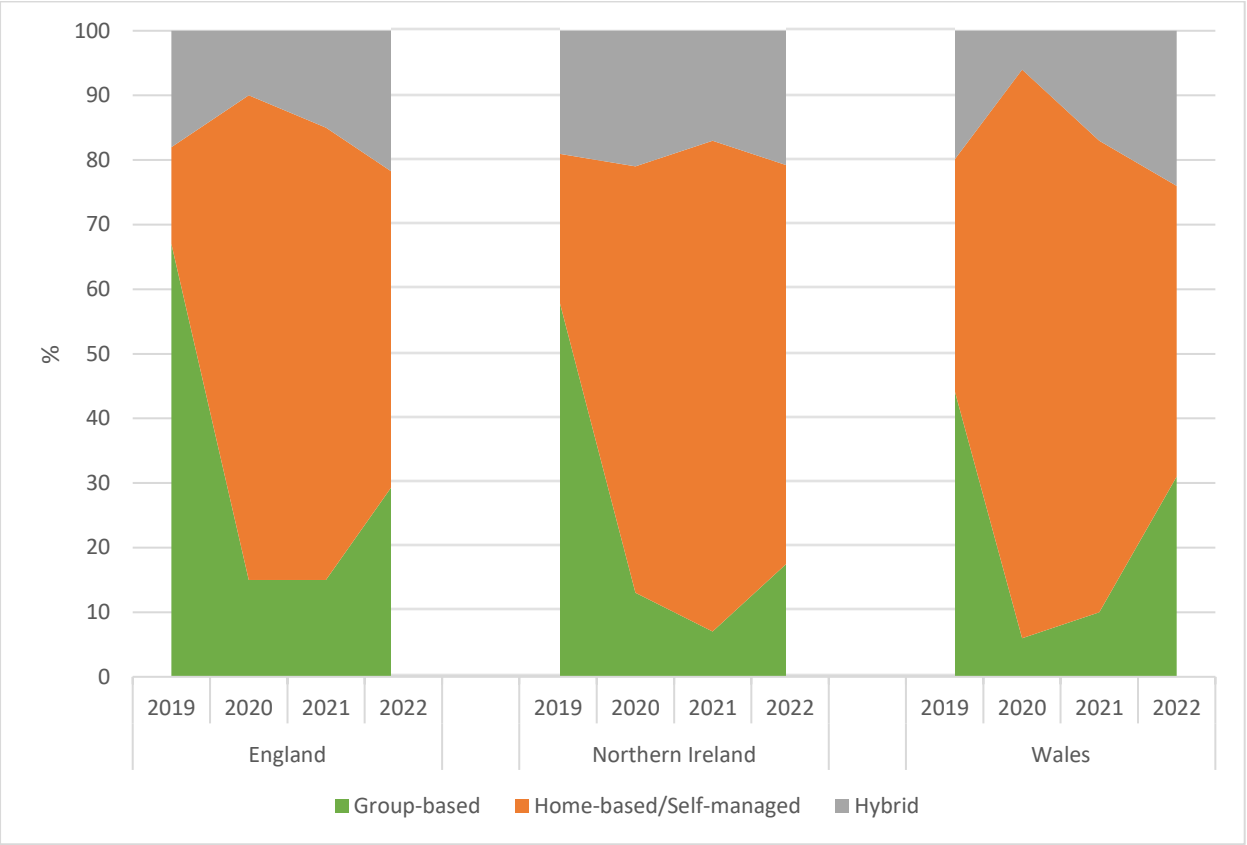
Cardiac rehabilitation (CR) continues to adapt to patient need, leading to greater choice in the mode of delivery across three nations of the UK (England, Northern Ireland and Wales) represented in this report (Figure 1). What is clear from the graph is that CR services are recovering from the devastating impact of Covid service changes experienced by the NHS.

The 2023 NACR Quality and Outcomes Report data period covers Jan-Dec 2022, with comparison to other years also covering the Jan-Dec period within the year labelled.

On average in 2019 around 60% of all patients starting CR received a group-based programme whereas in the 2023 report period group-based accounted for around 27% of all patients starting CR. Despite being less than half the pre-pandemic levels, group-based is now 17% higher than in 2021. In this year's report, home-based CR accounts for the largest share (50%) of patients starting CR with a further 23% of patients taking up a hybrid version (group+home). The trend in mode of delivery offer is very similar for England and Wales showing that group-based in 2022 has recovered some ground and that a proportional menu is emerging. The Northern Ireland offer remains dominated by home-based CR with 61% of patients receiving it and only 18% of patients receiving group-based CR.

Even with the above variability the UK is leading the way internationally in offering patient choice through a varied menu of CR modes of delivery, aided by service innovation support through the NHS. NACR is supporting service innovation by benchmarking the quality and inclusiveness of service provision across Integrated Care Systems/Boards (ICSs/ICBs) in England, Health and Social Care Trusts in Northern Ireland and Health Boards in Wales. Although the menu and choice of mode of delivery has improved there remains a need to be vigilant around the quality of CR delivery especially in terms of equality of service provision. The next section of the report provides a service quality analysis for the 209 programmes across the three nations of England (188), Northern Ireland (9) and Wales (12).

Figure 1. Trend in cardiac rehabilitation mode of delivery by nation in 2019 to 2022



N = England 150,723, Northern Ireland 8,431, Wales 13,579

Equality of service provision

Since being commissioned by NHS England in 2021 NACR has made significant progress with data validation and timely reporting on a quarterly basis which is being utilised to improve service quality and to target NHS funding in tackling service inequalities. NACR continues to provide tailored quarterly data to ICBs and clinical networks, Health and Social Care Trusts in Northern Ireland, and Health Boards in Wales to inform service evaluation. The ability of NACR to report timely data at a national, regional and local level has enabled the NHS England policy team to allocate funding over the last two years to improve service provision and tackle data informed service inequalities.

In the last 12 months NACR has provided targeted and tailored reports on key aspects of CR delivery and variation in patient provision. These include a moving programme of in-depth analyses into service delivery and inequalities of those participating in CR. Although the focus of each quarterly report is different, each targeted area is re-run the following quarter to check progress and data completeness. In the next year NACR will re-run previous reports to monitor progress over time. In 2023 NACR quarterly reports focused on the proportion of patients completing CR via gender, ethnicity and social deprivation. An example of some of the reports are shown in the section below.

Inequalities by completion

In 2023 NACR produced a series of quarterly reports summarised in the following areas:

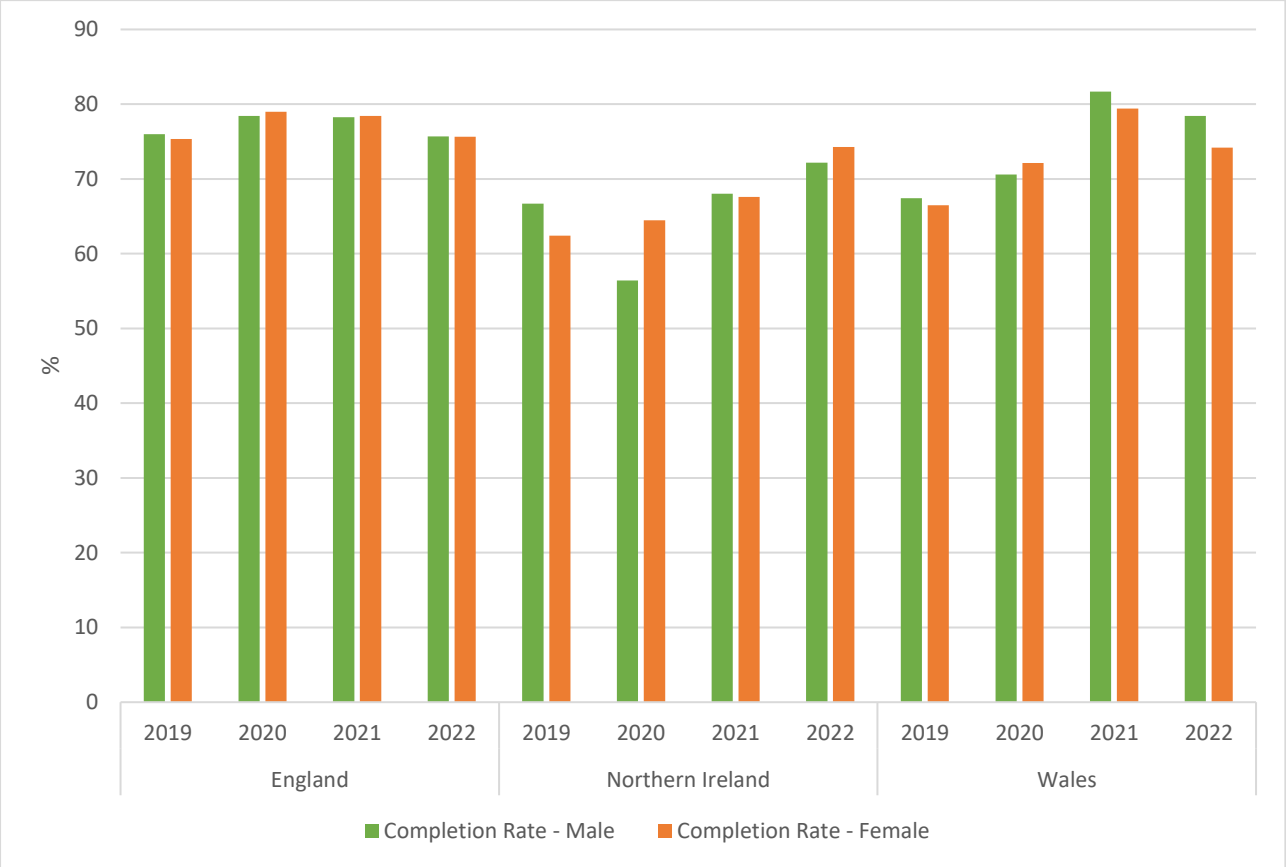
- Gender and completion (April 2023 extract)
- Social deprivation and completion (July 2023 extract)
- Ethnicity and completion (October 2023 extract)

Across all patients, in the UK, the completion rate is approximately 70-80%. However, key demographics show inequalities in completion. Figures 2-4 show some of these variations. For more detail on these reports and the local programme figures go to: **NACR Quarterly Reports**

For each of these service inequality analyses data is for all patients entered onto the NACR who had their Core/Phase 3 start date in the reporting period. All patients include those with Acute Coronary Syndrome (ACS) including revascularisation and Heart Failure (HF) patients. Patients were allocated to programmes based on where they had their Core/Phase 3 rehabilitation. The percentage metric for completion is based on the starting CR count (DENOMINATOR) and the completing CR count (NUMERATOR).

The analysis of CR completion by gender (Figure 2) shows that, throughout the difficult years of service delivery (2020 and 2021), completion rates between males and females have remained stable. England shows the greatest parity in completion which continues into the 2023 report period whereas Wales has slightly lower completion for females. Northern Ireland has a different trend for 2022 indicating that females have a higher rate of CR completion than males. This may be related to the previous section findings where Northern Ireland was shown to have by far the greatest proportion of patients attending home-based CR as research suggests that home-based CR has a higher rate of completion amongst females compared to group-based. Visit NIHR evidence alert weblink for details [NIHR Alert - Home-based cardiac rehabilitation may be a convenient alternative to centre-based rehabilitation]

Figure 2. Completion rate of patients in 2019 to 2022 in England, Northern Ireland and Wales split by gender

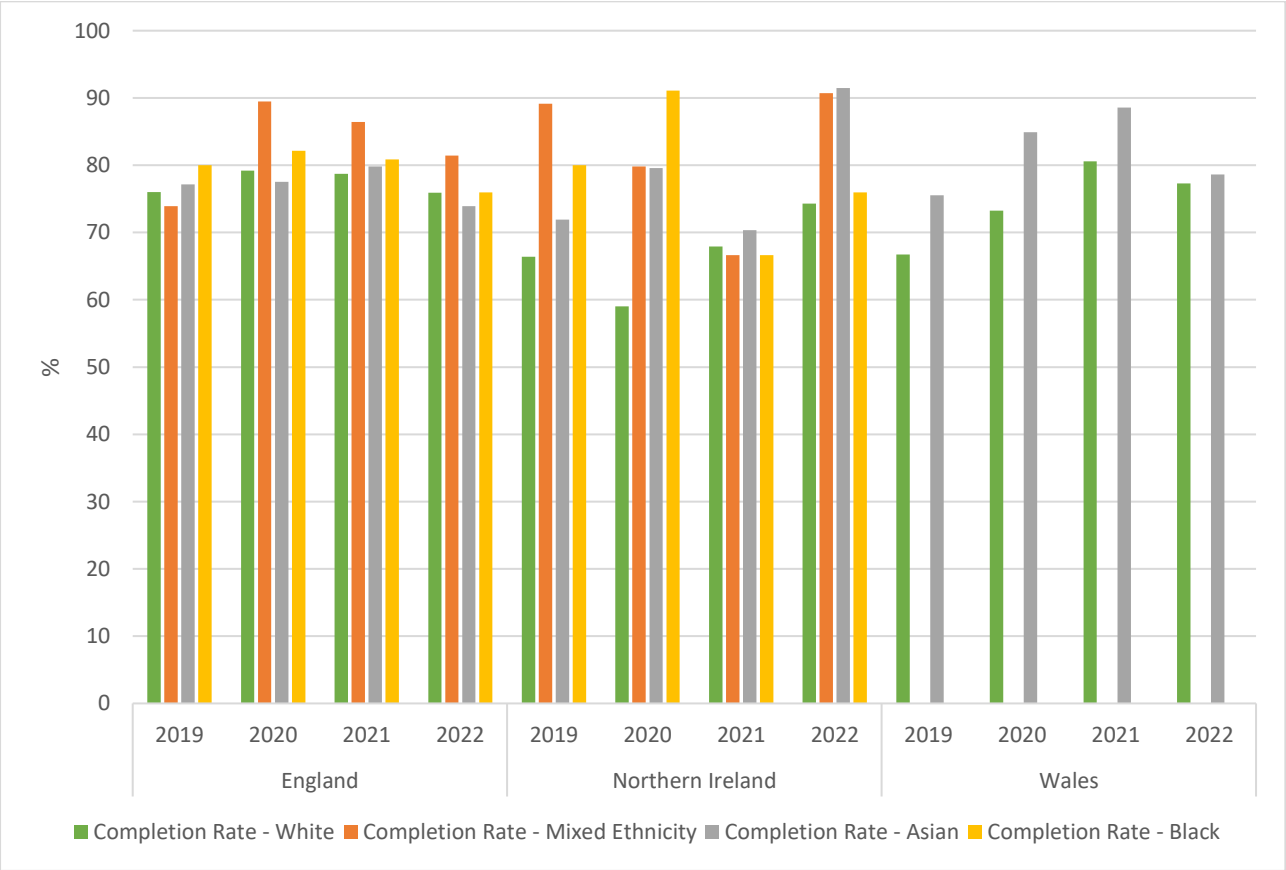


N = England 222,968, Northern Ireland 10,774, Wales 18,637

The proportion of patients that complete CR within each of the four reported ethnicity categories (White, Asian, Mixed and Black) (Figure 3) shows higher overall completion in England with comparable distributions year-on-year. Northern Ireland has greater variation year-on-year with a more positive distribution in 2022. Ethnicity categories for Mixed and for Black ethnic groups are not reported for Wales due to very low numbers. Although White ethnicity has the lowest completion rate when expressed as a percentage of starters it is important to note that around 88% of patients starting CR (>50,000 patients) reside in this ethnic category. The much lower actual numbers of starters in the other ethnic categories (<5,000 in total) mean that these analyses should

be interpreted with caution. That said it is encouraging to see that despite the lower number of patients from Asian, Mixed and Black ethnic groups they are not hindered from completing CR.

Figure 3. Completion rate of patients in 2019 to 2022 in England, Northern Ireland and Wales split by ethnicity

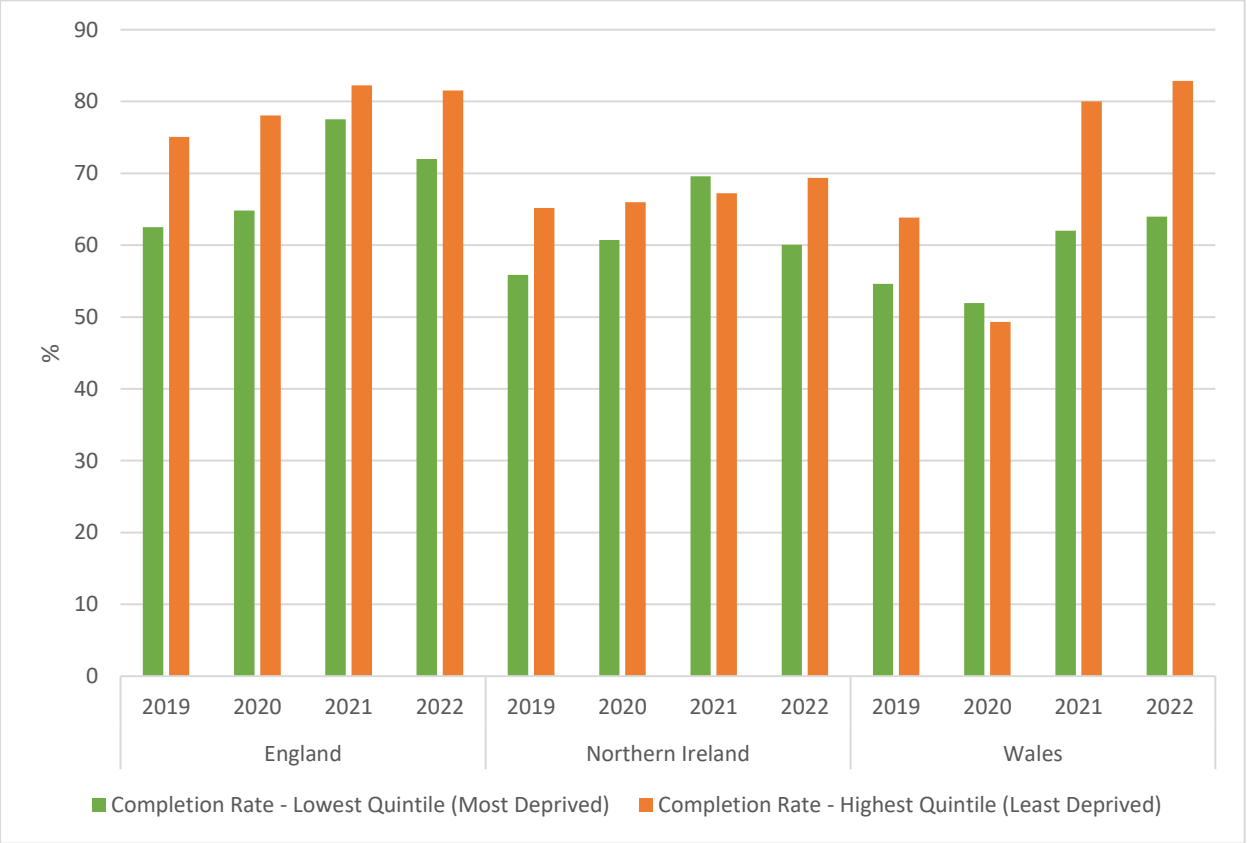


N = England 217,716, Northern Ireland 10,713, Wales 18,503
*Ethnicity categories for the Mixed and Black groups are not reported for Wales due to low numbers

Completion of CR reported by the highest and lowest level of social deprivation over the last four years (Figure 4) reveals a stark reality that patients from areas of higher levels of social deprivation are less likely to complete CR. Taking nation specific differences in 2022, our data indicates that 10%, 9% and 19% fewer patients from areas of highest deprivation completed CR in England, Northern Ireland and Wales respectively.

Audit data over many years has identified poor uptake to CR from deprived areas but this is the first analysis showing that even after starting CR this group of patients is further disadvantaged by not being able to complete CR. The well documented benefits of risk factor management and the associated benefits from adopting a healthier lifestyle occur once a patient completes CR (BACPR 2023). Given the limited resources available for CR and the once-only nature of the service offer it seems like a missed opportunity for patients to not complete their cardiovascular rehabilitation and prevention programme. Tackling this inequality should be a major priority for service providers over the next two years.

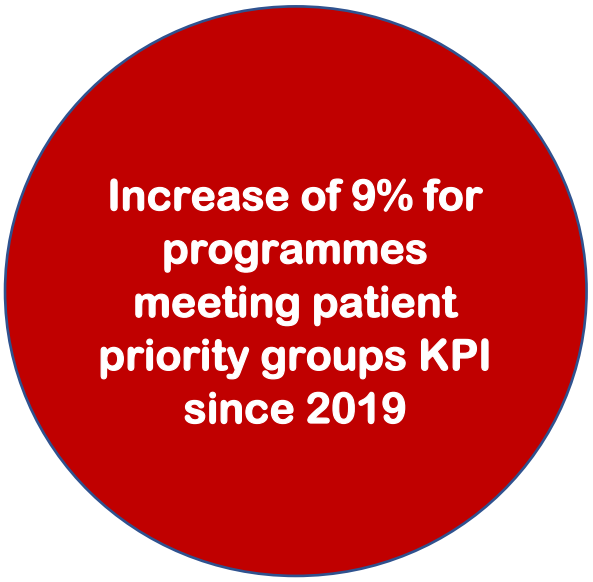
Figure 4. Completion rate of patients in 2019 to 2022 in England, Northern Ireland and Wales split by deprivation



N = England 222,693, Northern Ireland 10,851, Wales 18,651

SECTION 2

Improvements to the Cardiac Rehabilitation pathway, delivery and reporting



In the last two years NHS England has, through the Targeted Funding Programme, supported services to deliver against key priorities. As part of this year's Quality and Outcomes Report NACR aims to monitor changes in these four priorities across the UK, in England, Northern Ireland and Wales.

Programme Priorities

1. Support set up for CR in areas with no current service
2. Enhance current service to increase scope to eligible groups not covered
3. Enhance choice to offer more than one mode of delivery
4. Enhance service provided to increase the CR offer

Support set up for CR in areas with no current service

In England, Northern Ireland and Wales, there has always been good coverage of CR services. However, considering the pressure for services to increase uptake and successfully deliver to all eligible patients it is essential that all areas of the UK should be covered by CR and represented in NACR. Presently, only England has a stated target of 85% for the ACS group and 33% for HF. Based on 2022 data all 42 ICBs in England, five Health and Social Care Trust in Northern Ireland and seven Health Boards in Wales are represented within NACR.

One of the key coverage successes derived from recent NHS England CR funding has been the onboarding of CR programmes in the North East of England, whereby, many services utilising SystmOne will be able to upload data to NACR.

Despite the good news stories in areas like the North East, there is still ongoing work to tackle a back log of patient data entry experienced by some services. The 2023 NHS England CR funding round has invested in these services to help overcome data entry issues.

Enhance current service to increase scope to eligible groups not covered

As part of the NHS Long Term Plan (LTP), published in 2019, an aim was set to achieve 85% uptake for ACS patients and 33% for HF patients (NHS 2019). To meet this target, all patient types included in the NHS LTP metrics and National Certification Programme for CR (NCP_CR) Standard Two priority groups should be offered CR.

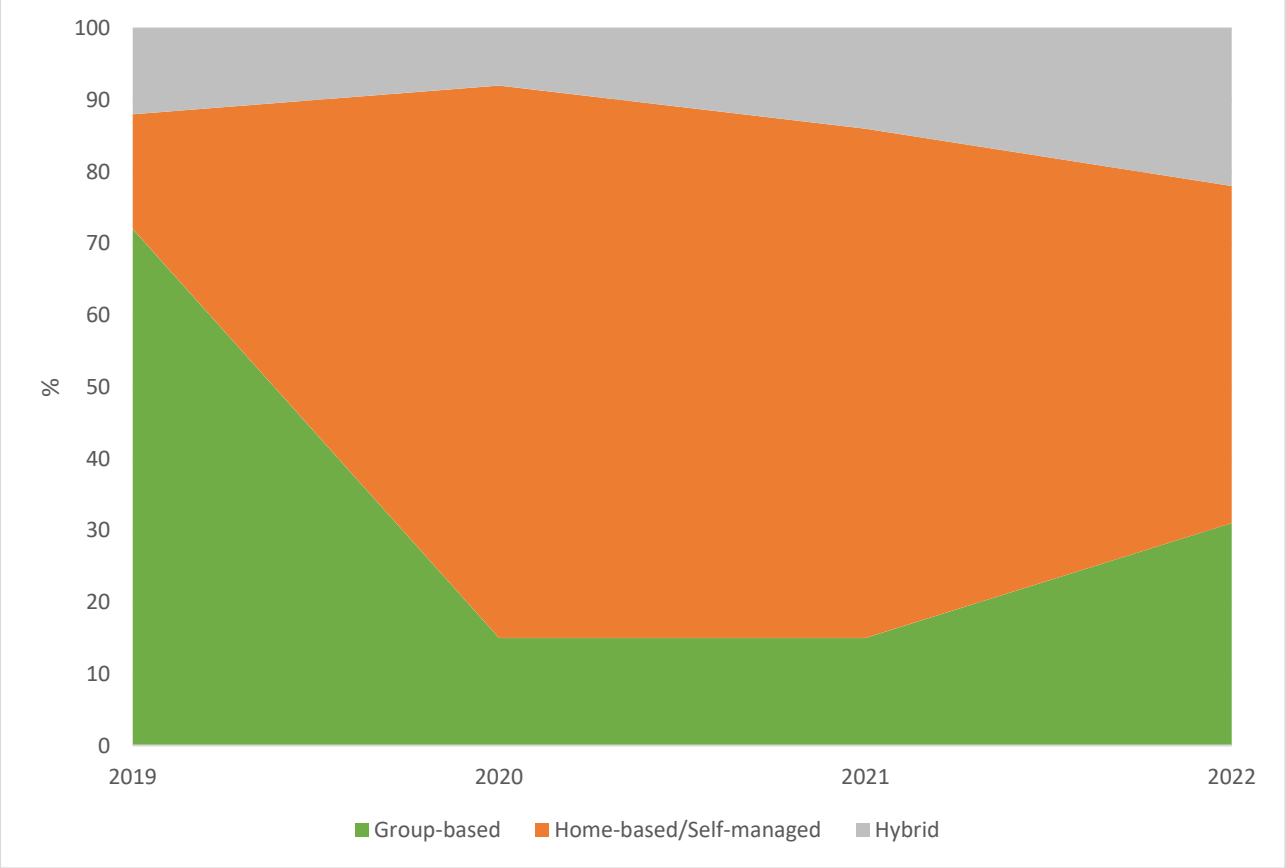
The data presented in Table 1 shows the change between NCP_CR 2019 and NCP_CR 2023 in programmes meeting the standard and thus delivering CR to eligible patient groups - over a 4-year period there was an increase in 27 programmes meeting the standard (9.6%). This is a combination of the increase in NACR data from services but also many services now delivering to HF patients, which was not seen previously. For example, NHS England has supported the roll out of REACH-HF to many CR services.

Table 1. Change in programmes meeting the priority group KPI from 2019 to 2022				
	National Certification Programme 2019 (Mar-Apr 2017-2018)		National Certification Programme 2023 (Jan-Dec 2022)	
	Count	%	Count	%
Not Meeting Standard	68	34.3	52	24.9
Meeting Standard	130	65.7	157	75.1
Total	198		209	

Enhance choice to offer more than one mode of delivery

In 2019 NACR, working with NHS England data developers, updated the mode of delivery list as it was clear from clinical team feedback and wider literature reviews that services were offering more than just group-based or home-based CR. This strategic decision was even more valuable due to what happened to CR services during the pandemic in 2020/21, and as programmes increased their service delivery options post-Covid. The graph below (Figure 5) shows UK wide changes in CR mode of delivery from 2019 to 2022 confirming that in the 2023 report period the offer is becoming more balanced and proportional. There is still more work to do as approximately 12% of local programmes are offering only one mode of delivery which is contrary to BACPR Standards and Core Components (BACPR 2023).

Figure 5. Trend in cardiac rehabilitation mode of delivery in 2019 to 2022



N = 172,733

Enhance service provided to increase the CR offer

This evaluation focused on the provision of CR for patients with ACS and HF.

Work continues with NHS England and other National Cardiac Audit Programme/National Institute for Cardiovascular Outcomes Research registries to provide robust reporting at ICB and clinical network levels as well as across England.

Platforms for sharing data have been built and piloted with NACR on inequalities of provision at ICB level, for reporting through the Model Health System and FutureNHS dashboard. The exact method for validation and presentation of these metrics, and development of infographics is on-going and will be fully implemented and further reported on by NACR in 2024. This approach to reporting will help highlight key aspects of inequalities, such as age, gender and levels of deprivation.

The methodology applied for the England system will be replicated and developed for Northern Ireland and Wales once a precedent has been developed. This will also consider local nation specific referral and delivery differences.

SECTION 3

Staffing

Building on last year's information, the NACR team supported an updated survey of staffing and workforce challenges. The context shifted from recent years' focus on Covid service redeployment to sustained staff loss (i.e., movement of staff to new posts as well as retirement), recruitment issues and challenges in working without a full complement of staff.

The analysis below focuses on the impact of NHS service change on staffing alongside the questions asked on the survey.

Staffing

Table 2 shows the spread of staff types across England, Northern Ireland and Wales. Across the three nations, the highest staff type by proportion is Nurses (between 97-100%). The most common other staff are Physiotherapists/Physiotherapy Assistants (84%), Secretarial/Admin (68%) and Exercise Specialists (64%).

Programmes in England make up the greatest proportion of the services and therefore the UK national average tends to mirror England's data. Northern Ireland has some nuance in their staff profile with a greater representation of Physiotherapists (100%), and Pharmacists and Dietitians (75% each).

Table 2. Proportion of staff type by country

	England (n=184)		Northern Ireland (n=8)		Wales (n=12)		Total (n=204)	
	Count of services	% of services	Count of services	% of services	Count of services	% of services	Count of services	% of services
Nurse	178	97	8	100	12	100	198	97
Nursing Associate*	2	1	0	0	0	0	2	1
Physiotherapist	105	57	8	100	7	58	120	59
Physiotherapy Assistant	45	24	1	13	4	33	50	25
Occupational Therapist	21	11	2	25	6	50	29	14
Pharmacist	46	25	6	75	2	17	54	26
Dietitian	65	35	6	75	3	25	74	36
Psychologist	35	19	1	13	2	17	38	19
Counsellor	11	6	0	0	1	8	12	6
Doctor	33	18	2	25	0	0	35	17
Health Care Assistant	24	13	5	63	1	8	30	15
Secretarial/Admin	124	67	4	50	10	83	138	68
Exercise Specialist	123	67	1	13	7	58	131	64
Other Staff type	33	18	3	38	2	17	38	19

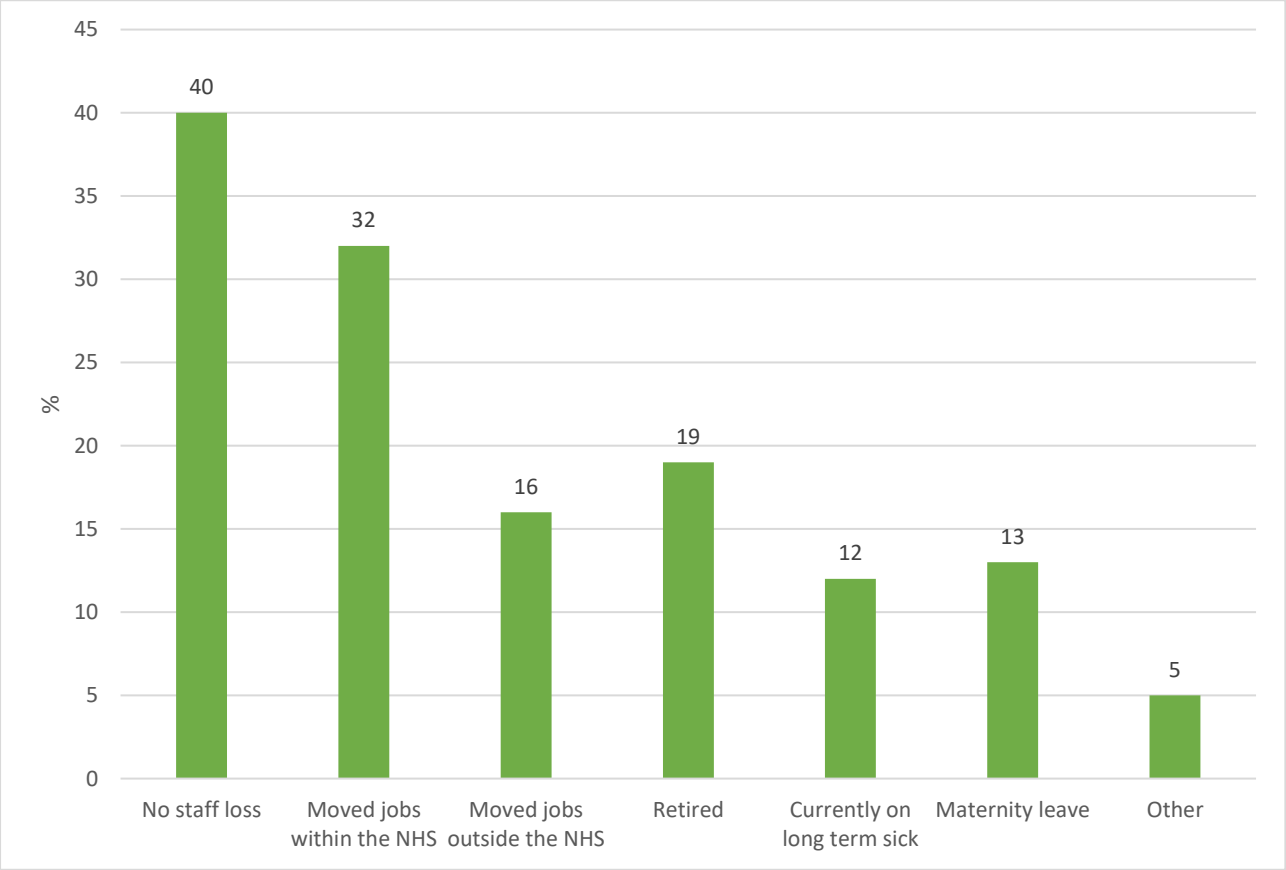
*under band 4

Staff Loss

The NACR staffing survey asked about the extent to which services experienced staff loss throughout this year. Figure 6 shows that at the programme level, 40% (n=79) did not experience staff loss and that 60% of services did experience staff loss (n=121). The main reasons for staff loss (not exclusive) were moving jobs within the NHS (32%), retirement (19%) and moving jobs outside the NHS (16%).

Programmes were also asked about the type of staff they had lost, where programmes lost more than one staff within or across type this was recorded. In total there were over 240 staff that left teams in the 2023 report period. Due to the nature of the workforce being dominated by Nurses, it is no surprise that the greatest departure was therefore Nurses. However, the other groups highly impacted were Physiotherapists, Exercise Specialists and Secretarial/Admin staff. These findings are even more important in 2023 as the NHS is facing unprecedented challenges in recruiting, especially senior staff, to take up service leadership roles.

Figure 6. Level of staff loss and the reasons for departure in Jan-Dec 2022



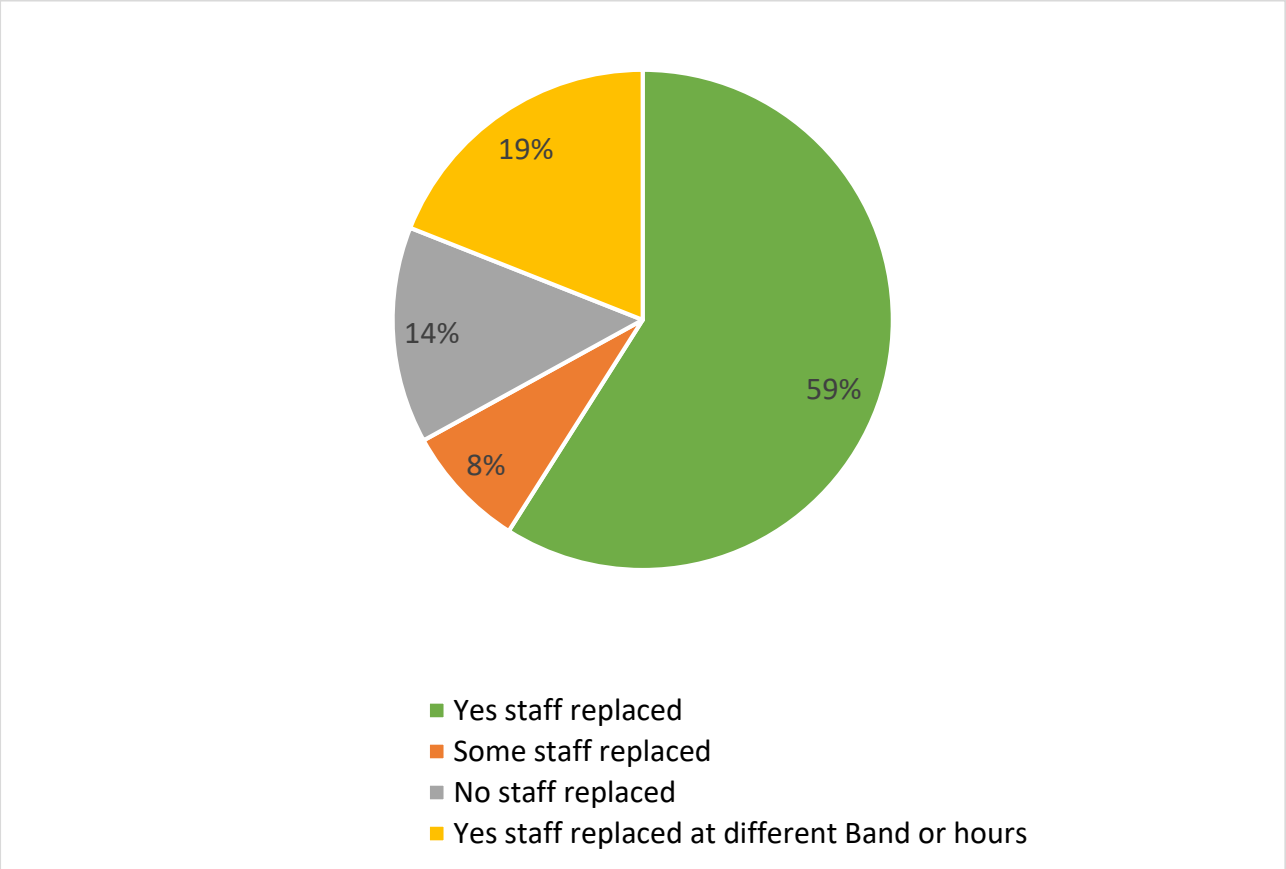
N = 200

Note- reasons for staff loss were not exclusive so may total more than 100%.

Staff replacement

Services were then asked about whether staff were replaced (Figure 7). Of the services that identified staff departure, the responses were collected for each staff type. Almost two thirds of those staff that left the team were replaced at the same band/FTE. Less than 10%, which accounted for 34 staff, were replaced at either different (lower) bands or hours and 14% were not replaced at all. The replacement at different bands or hours poses a possible risk to the service through the loss of more experienced senior staff or reduced hours meaning already stretched services are further lacking in staff time.

Figure 7. Rate of staff replacement in Jan-Dec 2022



N = 184

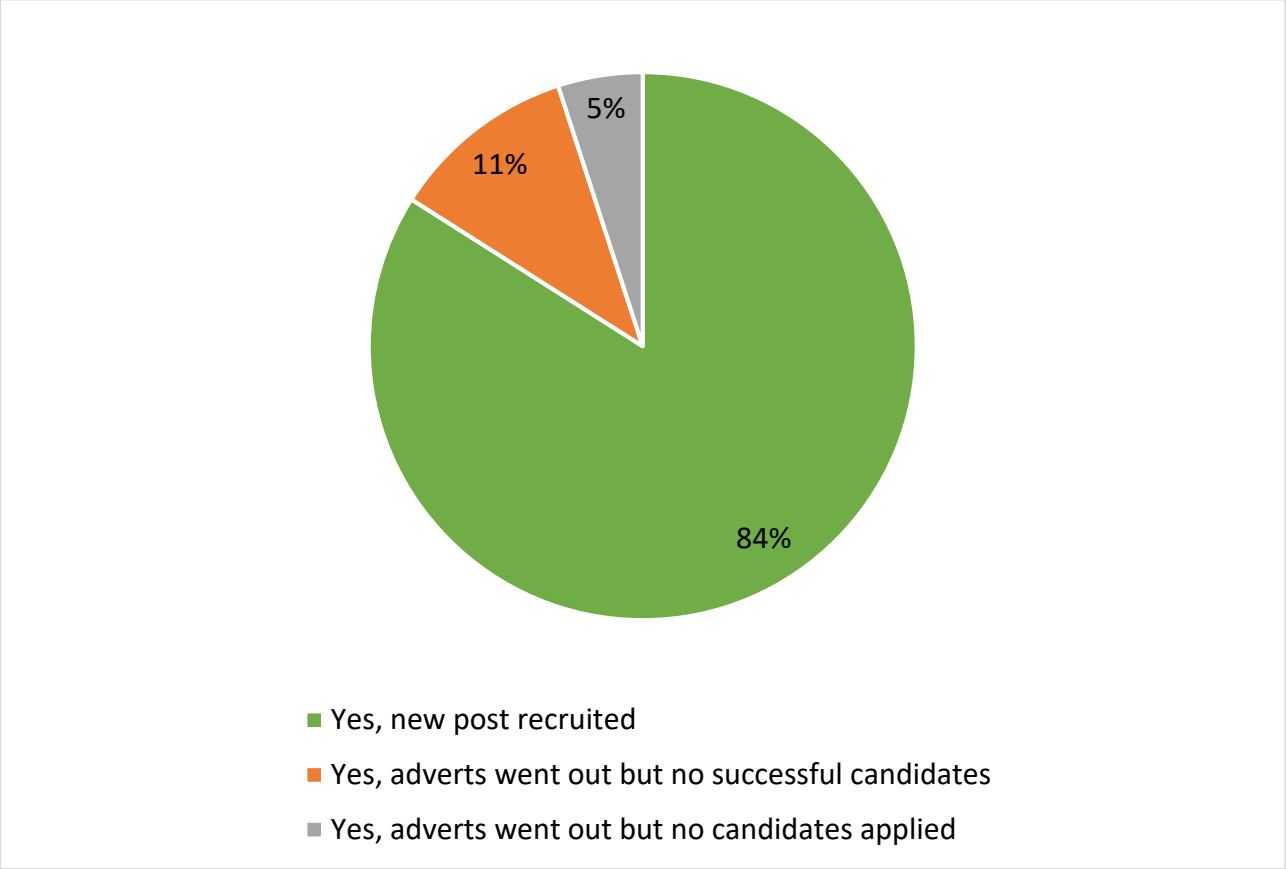
New Staff recruitment

Recent NHS investment in CR provided funding to employ more staff in addition to those staff being replaced due to staff loss. The final question of this year's staffing survey aimed to identify how many services did attempt to recruit new staff as well as the success rate (Figure 8).

In total 81 services went out for new positions (38%) and the total number of posts equated to 103 (multiple new posts in some services). Of new posts, 84% were successfully applied for and new posts recruited, 11% had applicants but no successful appointees and there were 5% with no applicants.

Further to this question, issues have been raised by teams about appointing new positions, attracting candidates and even going out to advert due to the short-term nature of some funding. This may have hampered the appointment of new staff.

Figure 8. New staff recruitment in Jan-Dec 2022



N = 87

SECTION 4

National Certification Programme for Cardiac Rehabilitation

The BACPR and NACR run the NCP_CR which has, over the last five years, helped improve the quality of CR in the UK.

This section summarises the NCP_CR report published in October 2023 (Certification Reports)

This year's report shows that despite the many challenges faced by CR services over recent years many have maintained or improved service quality as defined by achieving minimum clinical standards. This is particularly impressive given the extent of staff retirement, reallocation to different roles and difficulties in recruitment to posts (replacement and new) in the last two years.

NCP_CR summary

A total of 209 programmes were eligible for certification which is one more programme than reported in 2022. When making UK comparisons please do keep in mind the change in programme numbers when comparing with NCP_CR national level percentages from previous years.

The trend, across all three nations, is towards more programmes achieving Green certified status and fewer programmes failing to meet any of the seven KPIs. As shown in Table 3, 83 programmes (40%) met all seven standards in the 2023 report.

One third (34%) of programmes attained Amber status which is comparable to last year. There was a reduction of three programmes in the Fail category resulting in 9% (19) of the 209 programmes in the UK failing to meet any of the minimum standards. Although more work is needed to ensure that all programmes meet minimum clinical standards this years' service quality analysis is encouraging as it shows that service quality in 2023 has (except for MDT staffing) surpassed that of the pre-Covid era. For example, in 2018 only 46 programmes met full certification status (Green certified) and 26 programmes failed to meet any of the seven standards. Given the challenges faced by clinical teams since 2020 they should be commended for improving the quality of services whilst adapting to significantly different ways of working.

Table 3. NCP_CR certification status for all CR programmes across England, Northern Ireland and Wales

	England N=188	N. Ireland N=9	Wales N=12	UK N=209
Green certified	74 (39%)	2 (33%)	7 (50%)	83 (40%)
Amber	60 (32%)	7 (67%)	4 (42%)	71 (34%)
Red	36 (19%)	0 (0%)	0 (0%)	36 (17%)
Fail	18 (10%)	0 (0%)	1 (8%)	19 (9%)

Green certified (7 standards met), Amber (4 to 6 standards met and Amber with 7), Red (1 to 3 standards met) and Fail (0 standards met)
Due to rounding, percentages may not add up to 100%

Nation specific certification outcomes

Overall England had an increase of one programme moving into Green certified with an additional four services meeting all seven KPIs (Amber with Seven), however, these did not have full data for the period so could not be certified. There were also three fewer services in the Fail category, although 10% of all services in England are still not meeting any of the standards – recent NHS England funding for onboarding data entry aims to address this issue.

Overall, this increase in programmes meeting all seven standards reflects the benefits of NHS England funding over the last two years which sought to ensure that all regions have access to good quality CR.

Northern Ireland, with nine programmes, has two Green certified programmes which equals that of last year, however, it is the first country to have all services achieving Amber or Green certified status.

Wales has maintained its level of Green certified status (58%) however, one programme failed to meet the standard for MDT resulting in a single programme in the Fail category.

SECTION 5

Recommendations and actions

Based on the data from this year's report the NACR Steering Committee proposes the following recommendations and actions for CR services:

Key recommendations	Recommended actions
Promote a more proportional approach to mode of delivery	Provide a diverse offer of mode of delivery to meet patient need
Increase the proportion of both men and women completing CR	Offer a wider range of CR modes with support, for example: • where fewer women are completing perhaps offer more home-based/self-managed provision • flexibility in the time of day and setting for CR delivery
Increase the proportion of patients from all ethnic groups completing CR	Gain further insight from patients in order to offer additional targeted and tailored support for individual patients based on their: • ethnicity • social deprivation levels
Reduce the inequalities in the rate of CR completion for patients from areas of higher social deprivation	
Reduce the number of programmes failing to meet minimum standards	If your programme is in the 'Fail or Red category' seek support to meet minimum standards from the clinical network and health regions
Improve staff recruitment and retention plans	Utilise business case support from your local and regional networks.

NCP_CR nation specific recommendations

England: of the 188 CR programmes spread across the 15 Cardiac Networks and 42 ICBs large scale progress is being made however there are still gaps in data provision which need to be addressed. Greater improvement is also needed across all standards particularly wait times and assessment.

Wales: Ensure data is provided from all 12 programmes/seven Health Boards and a renewed focus is required on referral to start wait times and completion of assessments 1 & 2.

Northern Ireland: of the nine CR programmes across five Health Trusts data coverage is good and most are doing well however, referral to start wait times and assessment 1 & 2 remains a challenge.

Acknowledgements

Thank you to NHS England for their ongoing commitment to CR and NACR. Specifically, our thanks go to Diane Saunders and Sarah Cooper.

Thanks also to BACPR particularly Sally Hinton and Kathryn Carver for their support as well as the wider NCP_CR Steering Group.

The optimal functionality of NACR relies on good quality data which is only possible through the willingness of clinical teams to audit their service and to work with us to improve CR quality. A major aspect of their work involves entering comprehensive patient data which is done alongside completing clinical assessments and questionnaires specific to our audit reporting. We would like to thank all clinical teams and staff for their continued support.

A huge thanks to Alison Roe and Chris Dew (formerly of NHS Digital and now NHS England) for their oversight and operational support which has made a valuable contribution to the reputation of NACR.

As the patient voice for CR in the UK, the Cardiovascular Care Partnership UK (CCP UK) continues to support NACR enabling the audit and its findings to become more meaningful for patients and carers. Thanks to Richard Corder and Roland Malkin.

Thank you also to the NACR Steering Group for their continued support, expertise and critical friend role which is one of the main reasons NACR is fit for purpose.

Alison Allen (Wales User representative)
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Wendy Caulkin (Patient representative)
Richard Corder and Roland Malkin (CCP UK Presidents)
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For further information and contact details please visit: NACR Website

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List of Supplements

In addition to the data and figures within this report, NACR provides local and regional reports online. These supplements can be used to inform services and drive improvement. The full list of available supplements is below and they can be accessed from the following web link. Annual Report Supplements

Inclusion
Staffing
Participation by Inequality
Completion by Inequality
Early

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