

## The effect of COVID-19 on training in cardiology: a survey of UK cardiology trainees

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**Background:** The COVID-19 pandemic has had an unprecedented impact on delivering cardiology services. In the UK and many other countries, cardiologists in training were redeployed to other services. To date, the impact of COVID-19 and the requisite NHS response on cardiology training has been unclear.

**Purpose:** To assess the impact of the COVID-19 pandemic on cardiology training in the UK.

**Methods:** An annual survey of UK cardiology trainees was conducted through the national trainee organisation. In 2021, trainees were asked questions regarding their training experience, procedural exposure, and how they had been impacted by COVID-19. Reported procedural numbers were compared with those reported in 2017–2019. Chi squared analyses were used to compare categorical variables with Mann-Whitney U tests used for continuous variables.

**Results:** A total of 576 trainees completed the survey (70% male, mean age 33±3 years). Of 545 respondents who detailed the impact of COVID-19 on training opportunities, 70.5% (n=384) reported a negative or very negative impact. A similar picture was seen when asked about procedure, diagnostic, and outpatient training opportunities (Figure 1). Those completing core cardiology training in 2021 reported performing significantly fewer coronary angiograms (median 170, IQR 85–315) compared with

those completing core cardiology training 2017–2019 (median 285, IQR 165–460, p<0.001).

Fifty percent of trainees (n=285) reported being redeployed for a median duration of 4 months (IQR 3–5 months). There was substantial regional variation in both the proportion of trainees redeployed (Figure 2, p<0.001) and the median length of redeployment (p=0.008). Those redeployed were more likely to report negative training experiences as a result of COVID-19 (p<0.001). Redeployed trainees completing core cardiology training in 2021 reported undertaking significantly fewer echocardiograms (median 205, IQR 100–300) compared with those not redeployed (median 280, IQR 200–300, p=0.01). Thirty-five percent of all trainees reported being close to burnout, with redeployed trainees being more likely to feel this way (p<0.001). When asked about methods to redress lost training opportunities, 37% of trainees wanted to prolong their training time with a median of 6 months felt to be required (IQR 6–8 months).

**Discussion:** This large survey of the UK experience illustrates the substantial negative impact of COVID-19 on the quality of cardiology training. Redeployment alone resulted in an estimated 95 person-years of lost training time. Coordinated national and regional strategies are required to avoid the creation of a generation of under-trained consultant cardiologists.

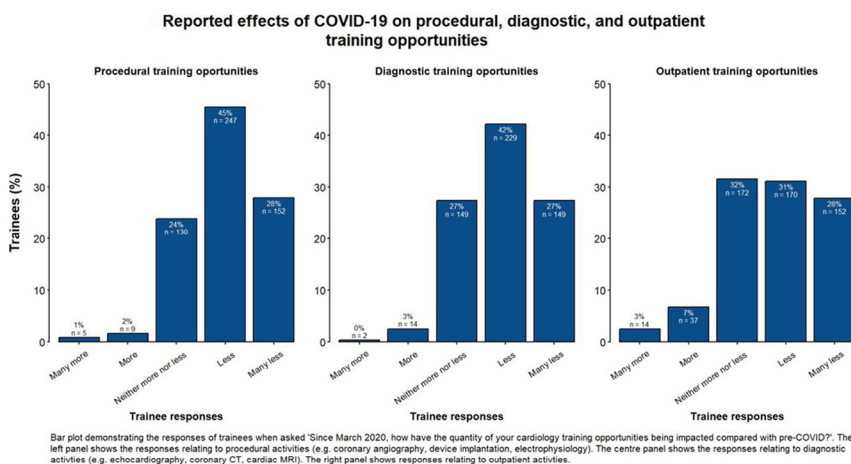


Figure 1. COVID-19 and training opportunities

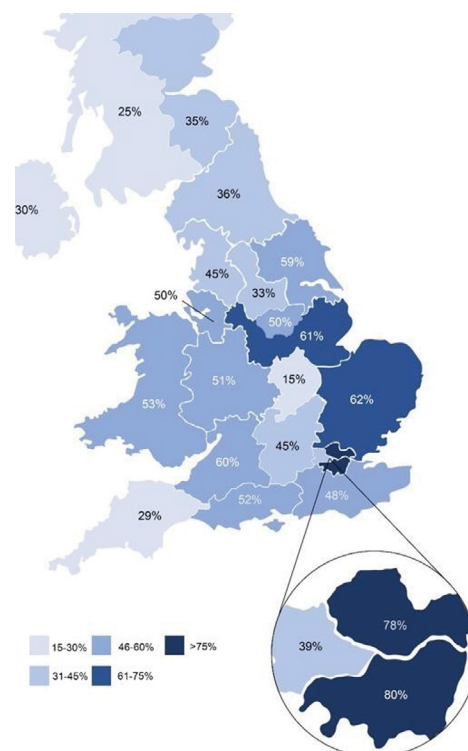


Figure 2. UK map of rates of redeployment