Flow Coaching Academy summative evaluation

Final Summative report
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List of abbreviations

AHSN - Academic Health Science Network
FCA - Flow Coaching Academy
ICS - Integrated Care System
LOS - Length of Stay
MoU - Memorandum of Understanding
PPE - Personal Protective Equipment
PDSA - Plan, Do, Study, Act
QI - Quality Improvement
RTT - Referral to Treatment
STHFT - Sheffield Teaching Hospitals NHS Foundation Trust
SPC - Statistical Process Control
ToC - Theory of Change

Executive Summary

Introduction

In January 2020, Ipsos, in partnership with the Strategy Unit, were commissioned by the Health Foundation to undertake a summative evaluation of the Flow Coaching Academy (FCA) programme. Building on an earlier formative evaluation of the programme, this evaluation aims to provide evidence of the overall impact of the FCA programme during its five years of operation and develop a shared learning about the FCA improvement approach for those participating in the programme. To do this, the evaluation aims to address the following key questions, set in the original specification:

1. What has been the impact of the programme during its first five years of operation?
2. What is the ratio of costs to benefits of the programme?
3. What contextual factors have influenced outcomes at the pathway and Local FCA level?
4. What features of the programme have influenced programme outcomes?
5. What has been the role of FCA programme stakeholders and what has been their impact on the programme?
6. To what the extent has the FCA programme been sustained at the Local FCA level?
7. What are the unintended consequences of the programme at various levels?

This is the final report for this evaluation, produced for the Health Foundation. It sets out summative findings from the full scope of the evaluation, drawing on evaluation activities undertaken between March 2020 and May 2022.

Overview of the FCA programme

In September 2015, the Health Foundation established the FCA programme. Building on its earlier funding of Quality Improvement (QI) programmes, the FCA programme brings together QI principles with coaching techniques to improve patient flow across a pathway. The FCA programme was developed and launched by a team of core faculty members at the Central FCA (based at Sheffield Teaching Hospital) and builds on their previous experience with QI methodologies. The programme aims to **empower frontline health and care staff to improve patient flow and patient and staff experience** through a coaching programme, as well as spread the QI methodology. It also aims to develop a learning network through the establishment of Local FCAs (the FCA network) across the UK.

Programme features

The programme consists of a 12-month curriculum where participants are trained on a suite of common and well-established **QI tools**, such as the use of Plan, Do, Study Act (PDSA) Cycles and Run Charts, alongside training on **coaching skills**, such as giving and receiving feedback. During the programme, coaches receive training on FCA methodology and set-up Big Rooms within their organisation, which is then developed more widely upon completion of the programme.

This is primarily achieved through holding '**Big Room' meetings**; these are weekly sessions with staff from across a 'pathway' and are led to be two co-coaches; a **clinical coach** who works within the

pathway, and a **flow-coach** who works external to the pathway. Big Rooms are designed to create a culture of continuous improvement by flattening hierarchies along a pathway, encouraging frontline staff to take ownership of improvement work.

Organisations seeking to establish themselves as Local FCAs send staff to be trained centrally at Sheffield Teaching Hospital. Each round of training delivered by Sheffield Teaching Hospital is known as a 'Cycle';[1] since the outset of the programme, Sheffield Teaching Hospital have trained five rounds, or 'Cycles' of Local FCAs. The planned scale and spread of the FCA programme have been informed by the principles of a **social franchising model.** The aim of this model is to identify essential features as defined by the Central FCA which must be adhered to by Local FCAs, while also allowing for flexibility with non-essential features, which may be specific to the local context.

As outlined below, and throughout the report, the COVID-19 pandemic has initiated a redesign in programme delivery, alongside the establishment and maintenance of the FCA network.

Changes to delivery brought about by the COVID-19 pandemic

The programme has been severely impacted by the **COVID-19 pandemic**. Staff from the Central FCA were **redeployed**, Cycle 5 of the training programme was **put on pause**, and a number of Big Rooms became **inactive** (although the evaluation is unable to provide an exact proportion, due to limitations with the programme data).

However, the COVID-19 pandemic gave the central team the time to **reflect** on the programme and **identify new opportunities**. The FCA programme was redesigned around initiatives to improve the **accessibility**, **flexibility**, **scale**, and **collaboration** within the programme. This includes:

- **Restructuring of the core training** offer towards 'hybrid' learning, including the development of eLearning modules and shortening the number of days required from 18 to 12;
- **Development and implementation of Workplace**, an online platform which consolidates many aspects of the programme, including the access to the training, the FCA Network, and a platform to host Big Rooms;
- **Changes at the Local FCA level**, including moving towards virtual delivery of meetings, adapting the tool to address new changes brought about the pandemic, and coaches using their skills in other areas of the response to the pandemic.

It was also agreed that the **Health Foundation**, who for the first five years of the programme helped to resource the programme through funding and staff time, would step back from their role, in keeping with the maturity of the programme.

Delivery and outcomes at the programme and Local FCA-level

Since the beginning of 2015, and prior to the onset of the pandemic, the FCA programme has been able to scale from one localised site to 11 Local FCAs geographically spread across the UK. Since the

[1] Please note that the FCA programme refers to these rounds as "cohorts".

pandemic began however, three Local FCAs had been put on hold, and a further four have dropped out of the programme, generally due to reasons linked to the strategic direction of the trusts in question.

The programme team **refined their recruitment criteria as the programme progressed**, building on formative learning. This was described as a learning process, with interviewees identifying the following as being valuable: i) working with key individuals who are keen to engage and drive improvement locally, often with a pre-existing link to either the Health Foundation or the Central FCA; ii) ensuring senior-level engagement within the host organisation from the outset, with a clear understanding of expectations; iii) infrastructure to support the programme, including an absence of significant challenges within the host organisation (e.g. major restructure or leadership challenges).

There has been some challenge about the degree to which onboarding to the programme is driven by local individuals with intrinsic motivation and experience, or whether there is sufficient support to engage organisations without a strong track record in QI.

Once recruited to the programme, Local FCAs were positive regarding the three to four-year training and onboarding process:

- The **first year** consists of a 12-month training offer whereby faculty are trained-up on FCA methodology. Despite some reservations about the length of this training, it was generally felt that this was the amount of time required to develop the skills necessary to run the programme. The required level of commitment reinforces the need to ensure host organisation buy-in.

- The **second year** includes the Central FCA being on-hand to offer support to Local FCAs as they deliver the programme. This support offer was well-received by Local FCAs, however there were some concerns as to the long-term sustainability of this option due to the time commitment required from the Central FCA.

- During the **third and fourth years**, Local FCAs are expected to deliver the programme independently with minimal support from the Central FCA, although the central team facilitates the FCA network which – pre-pandemic – was maintained primarily through networking events which appear to have generally been positively received.

Communication across the network has been driven by both **internal and external communications strategies**. Based on monitoring information supplied to the evaluation team, the external communication strategy appears to have been successful in driving engagement across the FCA Twitter account and website. Meanwhile, the internal communications strategy has recently led to the introduction of Workplace, an online communication platform which allows Local FCAs to interact with one another. Roll-out of this platform has been mixed; despite seeing the inherent potential in this platform, the programme has encountered issues with information governance requirements and engagement from Local FCAs and coaches.

Implementation of Cycle 5

Roll-out of Cycle 5, which moved from in-person training to a ‘hybrid’ learning model, mainly received positive feedback from participants. The core elements of the previous programme were maintained, and the hybrid model allowed provided a greater degree of flexibility. However, some participants felt that due to the shift to a hybrid learning model brought about by COVID-19, the human element was missing and that the training could benefit from more face-to-face interactions and opportunities for wider

networking. However, the Central FCA was limited in providing these opportunities due to the wider context.

Programme and Local FCA-level outcomes

The programme has had varying success in reaching programme and local-FCA level outcomes. Both the Health Foundation and Central FCA had worked closely to help **develop strong relationships across the network**, particularly between the Central FCA and Local FCAs; however, the extent to which a Local FCA Network had been developed is limited, largely due to the impact of COVID-19 and issues linked to accessibility of the online platform Workplace. There was also some evidence to suggest that the programme had helped to **drive a change in healthcare culture** and was **being promoted beyond the FCA programme** through conferences and via QI networks (such as the Q community); however, it was difficult to assess the degree to which this was achieved given the sample of individuals who were interviewed for this evaluation.

The degree of executive-level support, involvement of senior leaders within the FCA faculty, and stability of the provider organisation were all felt to be **important contextual factors** for achieving successful outcomes at the Local FCA level. Some Local FCAs had started to explore ways to ensure sustainability beyond programme funding; however, these initiatives were novel and not widely tested at the time of the evaluation.

Delivery and outcomes at the pathway level

In the programme theory, Big Rooms and associated improvement activities at the pathway level, are the key forum for the generation of value – for staff, patients, and healthcare systems. Consequently, they were a focus for the evaluation.

Delivery of pathways, and drivers of success

The programme encompasses a **diverse range of pathways** which are operating across different departments and enacting changes which are substantially different from one another, some of the pathways identified through this evaluation include a sepsis pathway, End of Life pathway, and a sustainable care pathway, aimed at reducing environmental impact.

Despite this variety, **Big Rooms tend to operate in a similar manner.** The set-up of the Big Room was felt to be an important step, particularly in terms of ensuring the right people are in the room. The evaluation found Big Rooms tend to foster a sense a **shared ownership** and **break down traditional hierarchies** to instil **confidence in participants.** They then go about identifying issues within the pathway and testing out changes iteratively using QI methods.

The **composition of Big Rooms** was reported to be a key enabler to delivery, particularly the involvement of **patients** and **senior members of staff**. Certain features of the programme also seem to play a role, including the availability of QI tools and the bottom-up approach. Conversely, a **lack of patient voice**, **low levels of data maturity**, and a **lack of senior leadership** were all felt to be key factors that needed to be addressed to improve delivery of the Big Room. Pathway-level stakeholders also felt that **not having the right culture** in the pathway (for example, not having a QI ‘mindset’ and or not being proactive) worked against implementing changes.

Pathway-level outcomes

Different strands of the evaluation found **different evidence** as to whether Big Rooms are achieving their intended outcomes. This may be due diversity of pathways and therefore achievement of outcomes,

or limitations in the different evaluation methodologies. While nearly all pathway-level stakeholders could detail instances where they felt their Big Room had led to successful outcomes, the impact evaluations **failed to produce statistically significant results** to evidence outcomes across a wide range of pathways. Evidence presented is therefore indicative rather than a comprehensive assessment. Specific outcomes Big Rooms were working towards:

- The majority of Big Rooms were working towards **patient experience outcomes;** pathway-level interviews and survey results suggest they have been successful, however it should be noted that the data used to evidence these outcomes is largely anecdotal, qualitative, or based on results from one point in time.

- Big Rooms are also working towards improving **patient health outcomes;** here the evaluation found divergent results from different strands of the evaluation (albeit each with a small sample size). Pathway-level stakeholders and results from the survey suggest that there may be evidence of pathways working towards this outcome, however results from the impact evaluation failed to produce measurable evidence of impact drawing on robust comparison against a counterfactual.

- Closely linked to the above, Big Rooms are also working towards **efficiency outcomes** including reducing patients' length of stay in hospital and wait times. Similarly, the evaluation found divergent results from different strands of the evaluation.

- A smaller number of Big Rooms are working towards **staff experience outcomes**; the success of Big Rooms in achieving this outcome may have been hindered by the effects of the pandemic, in that the pressures of the pandemic caused a decline in staff experience generally which was difficult to address through the Big Room.

There were certain contextual features which were felt to impact successful programme outcomes. At the Local-FCA level, this included support from senior leaders and executives within the organisation, the data maturity of the Local FCA, and whether the organisation was considered stable. The selection of pathways seemed to play a role, and the evidence suggests that clinically-focused pathways could more easily generate data to evidence outcomes.

Sustainability and cost-effectiveness

Given the impact of the pandemic and lack of routinely collected data, it was challenging to assess the sustainability of Big Room pathways. Specifically, many of the Big Rooms which were selected for interviews had been recently put on pause due to the pandemic or had recently become active again. Therefore, the timelines for assessing sustainability at the pathway level were limited. Overall, **the cost of the Big Room intervention was relatively low**, with the key component being opportunity costs for staff time in involvement. However, given findings from the impact evaluation - of no effect for a small set of outcomes – the evaluation cannot conclude that there were cost-savings.

Methodology

This was a mixed-methods, theory-based evaluation based on findings from the following strands of data collection and analysis conducted from January 2020 – June 2022:

- **Qualitative interviews with programme stakeholders**; this included nine qualitative interviews with programme-level stakeholders (individuals from the Health Foundation and Central FCA), nine interviews at the Local FCA-level (senior faculty within Local FCAs), 11 interviews at the pathway-

level (Big Room coaches and participants), five interviews with participants from the most recent training programme (known internally as 'Cycle 5'), and four interviews with external QI stakeholders.

- **A survey with coaches and Big Room participants,** which was shared internally by the Central FCA and snowballed to a sample of 42 participants.
- **Two impact evaluations** using a synthetic control method to evaluate the impact of a specific pathway intervention; alongside **two accompanying descriptive economic cost assessments**.
- **Analysis of programme documentation,** including background documents, programme materials, and monitoring information collected by the programme (see Appendix 2 for more details).

Data was triangulated by mapping evaluation methods to evaluation objectives and assessing the weight of evidence towards each objective. Where data diverged, this is presented and discussed openly throughout the report.

The findings presented throughout this evaluation are deep dives into particular areas, with learnings gathered for wider interest, and indicative of the wider programme.

Report limitations

Due to the contextual challenges posed by the COVID-19 pandemic and aspects of the design of the programme, including the highly devolved nature of Local FCAs and independence of Big Room pathways from the central programme team (by design), there were a few notable limitations which have implications for this report and future evaluation activities:

- **Continued external pressures** linked to the pandemic and its impact on the health sector; this resulted in delays to fieldwork, and lower response rates than anticipated.
- **Pausing and closure of pathways and Big Rooms** limited the evaluation team's ability to engage with the planned eight qualitative case studies and five impact and economic case studies at the pathway level. Staff were under increased pressure due to the COVID-19 pandemic, and therefore did not have capacity to participate in the evaluation. Additionally, a number of pathways which the evaluation team attempted to contact had closed as a result of the pandemic or did not respond to requests (presumably due to pressure).
- **The devolved nature of the programme** limited the central FCA's influence in supporting recruitment of participants; there is also no central database of pathways which made it difficult to recruit participants for interviews.
- Big Rooms were identified via interviews with Local FCA stakeholders, and there is therefore an **inherent bias in the pathways included in the sample**.
- **The timing of the fieldwork was staggered;** consequently, findings at the programme and Local FCA-level mainly pertain to where the programme was at the end June 2021; where possible however, we have aimed to update findings based on MI data and views from pathway-level stakeholders.

Assessment against evaluation objectives

The following table provides a summary of the evidence gathered towards each evaluation objective:

Evaluation objective	Evidence
What impact has the FCA programme had during its first five years of operation?	The programme managed to recruit a total of 11 Local FCAs prior to the pandemic. However, it has recently grappled with attrition of local-FCAs; three have been put on pause due to COVID-19, and a further four have dropped out of the programme. The **devolved nature of the programme**, **spread of pathways**, and **lack of centralised data repository** has made it difficult to make an overall assessment of the programme's progress towards pathway-level outcomes. Overall, the programme has been successful at setting up Big Rooms across Local FCAs and within other organisations – an important step towards realising impacts at the pathway level, While the evaluation was unable to identify an exact number of active Big Rooms, it was noted that there is a wide variety of pathways encompassed by the programme which are substantially different in terms of their area of focus, aims, and methods of measurements. While this speaks to the flexibility of the Big Room approach, it also makes it difficult for some pathways to collect data and evidence impact; this is partially due to some pathways working towards more nuanced, diffuse goals (for example End of Life pathways) and the associated challenges with setting minimum data sets across the programme. Despite the variety, **Big Rooms tend to operate in a similar manner and when applied correctly, the intervention essentially acts as a way to identify problems quickly and escalate this to senior staff within the pathway.**
What has been the ratio of costs to benefits of the FCA programme?	The cost of the Big Room intervention was felt by external QI stakeholders to be low compared to other, similar interventions; additionally, the cost of implementing one of the Big Rooms selected for cost analysis was not significantly more than the costs pre-Big Room. However, given the impact evaluation did not find a significant effect, the evaluation cannot conclude that there were cost savings.
What contextual factors have influenced the outcomes of the FCA programme at the pathway and Local FCA level, and what have been the critical enablers and disablers?	At the **pathway-level**, the mix of people in the Big Room, including the involvement of patients and senior members, is a clear enabler to identifying and enacting change. The type of pathway and thus the type of data collected influenced the ability to evidence outcomes. At the **Local FCA-level**, support from executive leaders and seniority within the FCA faculty were frequently mentioned as key factors to successful outcomes within Local FCAs. Closely linked to this, the stability of the provider organisation was felt to be an important contributing factor as well. The **COVID-19 pandemic** severely impeded further development of the FCA network, which is an area where further work is needed, if this is still deemed important. Evidence suggests that coaches engage minimally with coaches from other Local FCAs. Pressures caused by the pandemic, including lack of time and social distancing measures, appear to be a key barrier towards engagement with the network.

What features of the programme or other factors have influenced the outcomes of the FCA programme during its five years of operation?	The **training programme** has been singled-out as a key strength of the programme, striking an appropriate balance between coaching skills and the analytical skills, as well as leaving trainees feeling ready to drive service improvement in their organisations. The move to a hybrid teaching model for Cycle 5, was also well-reviewed, offering a viable new model for future Cycles. The hybrid model has allowed for greater flexibility for participants to fit the programme into their schedules, while still maintaining the strengths of the core training offer. The **Big Room**, as a forum for putting into practice the skills learned, is generally highly valued, with a varied mix of benefits attributed to taking part. It is seen as an effective way of making things happen at the pathway level, as well as a means to escalate issues in the pathway more rapidly than normal procedures and channels of communication. The **pace of the programme** was criticised by some as being too slow and time consuming compared with other QI programmes, particularly the 12-month training programme, and the time that it takes for Big Rooms to show successful outcomes. This sometimes caused tensions between senior leaders and pathway participants linked to the expectations of the programme.
What has been the role of FCA programme stakeholders (including the Central FCA and the Health Foundation) and what impact have these stakeholders had on the programme during its five years of operation?	The **Health Foundation**, alongside the Central FCA, has worked to spread knowledge and best practice from the programme to the wider QI and healthcare communities. Additionally, the Health Foundation have been critical in supporting the Central FCA with the development of the programme, including **business development, income generation, and strategic decision-making**. Throughout the first five years of the programme, the **Central FCA has adopted a flexible and open approach to engaging with Local FCAs**. In keeping with the devolved nature of the programme, this largely focused on providing tailored support and opportunities for linking up activities across the programme. At the same time, the programme team minimised reporting requirements and more prescriptive programme features. The evidence suggest that this approach contributed to strong feelings of trust between Local FCAs and the Central FCA. Maintaining strong relationships and trust between the Central FCA team and the Health Foundation has been important to the success of the programme. Honesty and transparency which were the cornerstone of the relationship.
To what extent has the FCA programme been sustained at the Local FCA (and pathway) level during its first five years of operation, and what factors have influenced this?	As mentioned previously, three Local FCAs have been put on hold due to COVID-19, and a further four have dropped out of the programme due to the FCA programme not aligning with the strategic direction of the organisation. Therefore, the sustainability of the programme at the Local FCA-level is questionable. Given the impact of the pandemic and lack of routinely collected data, it was challenging to assess the sustainability of Big Room pathways.

What are the unintended consequences (positive and negative) of the FCA programme (at various levels such as Big Rooms, Local FCAs and host organisations)?	The evaluation identified a number of unintended consequences linked to the programme; this includes: - The objectives of the programme had expanded as a result of the COVID-19 pandemic to also include staff outcomes, team morale, and job satisfaction. - There has been **improved patient and public involvement** resulting from virtual Big Rooms. - Some stakeholders noted that a **Big Room is not always the solution to every issue**, and that other aspects of the programme's methodology and training content might be sufficient. - Multiple stakeholders referred to the non-hierarchical ethos of the FCA programme which **sometimes created challenges for managers** in that it can be difficult to return to traditional, hierarchical structures and ways of delivering 'business as usual' work after running a Big Room. - One Local FCA stakeholder mentioned that there can be local tensions between different improvement initiatives, and that the FCA programme can therefore operate as somewhat of **a 'closed world'.** - Pathway-level stakeholders frequently mentioned that they were able to **apply their skills gained through the FCA programme to other areas of their work.**

Conclusions and recommendations

This summative evaluation builds on previous findings and addresses key lines of enquiry from the formative evaluation completed in 2019. Specifically, this evaluation generated evidence towards the following:

- Factors which contribute to successful outcomes in Local FCAs, including involvement of executive members within the core faculty, the stability of the host organisation, and data maturity within the organisation.
- The impact of the FCA training programme on coaches, including improving feelings of confidence and their ability to drive change at the pathway level; as well as the roll-out of the Cycle 5 hybrid training model, including strengths and weaknesses.
- Assessing the extent to which an FCA Network had been developed, including the contribution of programme stakeholders, impact of COVID-19 and challenges with the development and implementation of Workplace.

- How Big Rooms work in practice, including mechanisms through which the tool enables Big Room participants to identify and enact change, the methods used to identify and test out changes, and enablers and barriers to delivery.

- An overview of the outcomes which Big Rooms are working towards, the type of data which is collected to evidence impact and key contextual features which influence the achievement of Big Room outcomes.

As a result of methodological limitations, pressures caused by the COVID-19 pandemic, and the highly devolved nature of the programme, the evaluation was unable to generate sufficient evidence towards a range of potential programme outcomes and the following areas should be explored further:

- Although the evaluation identified areas where Big Rooms had achieved successful outcomes, this evidence was limited to a small sample of case studies; the evaluation was therefore unable to assess the aggregated impact of the programme at the pathway-level.

- There is limited evidence as to whether the FCA programme constitutes a cohesive programme; aspects of the programme which contribute towards this outcome were hindered due to the impact COVID-19 (i.e. the FCA Network), not present (rigorous internal programme reporting structures), or difficult to assess given limitations of the evaluation (influence within the wider QI community). Therefore, this evaluation only provides a partial picture towards this outcome.

- The evaluation was also unable to generate sufficient evidence to comment on the sustainability of Big Rooms and pathway changes.

Recommendations

Based on the findings in this report, the following set of recommendations for the Health Foundation have been developed.

1. QI initiatives aim to create environments of continuous and embedded improvement, seeking to achieve multiple outcomes; this is different from traditional interventions which are often delivered at one point in time and address only one or a few linked outcomes. **QI programmes should therefore adopt a more flexible set of evaluative requirements.** Generally, these evaluations should have the ability to change course, and draw on multiple frameworks depending on how the programme has been applied. In addition, the focus should be much more on outputs, progress and learnings, instead of traditional cost benefit assessments, or aiming to achieve a comprehensive or aggregate description of the programme.

2. **Notwithstanding the more flexible model of evaluation set out in 1), a set of basic but high-quality data collection requirements should be more embedded within QI programmes from the outset, with funding attached to its collection**. These will be output focused, with outcome data collected for primary indicators only (or focused on particularly funded localities / pathways – see later recommendation).

3. The relationship between the Health Foundation and Central FCA, whereby the Health Foundation provides resources, insights, and acts as a programme stakeholder, appears to be effective at building trust and providing oversight. This **model should be considered for future programmes** where the Health Foundation provides funding and expertise, and the programme closely aligns with their strategic direction.

4. As the Health Foundation refreshes its strategy, it should ensure **there are expectations about structure, evidence generation and learning** built into the programme.

Based on the findings in this report, the following set of recommendations for the Central FCA have been developed:

1. The programme team should re-focus on building **data infrastructure** which, at minimum, has up to date information on the number and types of Big Rooms across the programme. This does not have to be at odds with local ownership; light-touch monitoring of this information will help the programme to generate learnings, evidence impact, and attract funding. This will enable the Central FCA to understand the programme's impact and generate learnings more quickly.

2. Linked to the above, the programme should develop a **handful of basic tools** for collecting core data at the pathway level: costs estimates, a menu of patient experience tools, tips on collecting this data, basic process learning, and suggestions on how to access analytical resource should they wish to carry out more robust analysis. Local FCAs should identify ways to **align data analytics teams** with the programme.

3. **Further evaluation, especially linked to the sustainability of Big Rooms, at the pathway-level will add value to the programme.** In line with recommendation 2), the evaluation should be analytically robust and focus on measurable outcomes; ideally, this evaluation would be built into the programme, with a small sample (n=2 or 3) of pathways recruited and funded to take part in a robust impact evaluation from outset. Alternatively, Cycle 6+ sites could be asked to include a robust evaluation during the training programme, with support from an analyst or academic from outset.

4. The programme should **tap into existing networks to help establish a strong QI community within the programme**; this could be through programme alumni, other networks which the programme is aligned with (i.e. the Q network), or secondment of FCA coaches to other programmes or areas of the NHS outside of their regular pathway. More in-person events which take place across the country would also be beneficial.

5. Closely linked to point 4) the programme should also aim to **develop their external communication campaign to help spread knowledge** and best practice identified through the programme; this would be particularly helpful at the Local FCA level, where spread was minimal. This could be achieved through targeted communication support to Local FCAs.

6. The **future strategy of the programme, and its plans for future funding, should focus on the key strengths identified**, including the adaptability of the programme, modest cost, local ownership, and investment in staff at a time of retention challenges.

7. The programme should consider developing a **senior / executive training strand**, similar to the training course but decidedly shorter and geared towards a higher-level, to help align organisation strategies with the FCA programme.

8. The programme should **further develop the FCA Network**; whilst Workplace was felt to be effective among those who used it, there were challenges linked to uptake and access among staff. Therefore, the Central FCA should consider either a) promoting the platform more widely and

identifying ways to improve access or b) switching to a different platform which is more easily accessible and embedded within the NHS system.

Based on the findings in this report, the following set of recommendations for Local FCAs and pathways have been developed:

1. Local FCAs should seek to establish a **dedicated data team**, which can help support pathways with data-collection and impact, as well as align pathway outcomes with wider strategic initiatives within their organisation.

2. Local FCA faculty should carefully consider the application of Big Rooms and focus on pathways which have **clear objectives, easily measurable outcomes, and a tight focus of work**. There is potential for the Central FCA to further develop their guidelines on selecting pathways to reflect these requirements. Pathways should kick-off with a **distinct and focused scoping phase** in which clear objectives are agreed with clinical and managerial stakeholders, and a **handful of relevant measurable outcomes** are focused on.

3. Similar to recommendation 2), Local FCAs should assess the alignment of proposed pathways with the **strategic direction of the trust**; this may help to sure ensure the success and sustainability of the Big Room.

4. The contribution of the FCA programme to participants' career development, including receiving promotions and increased responsibility, is well understood. Local FCAs should **emphasise the value of the programme in contributing to professional development** to staff within their organisation.

5. The flexibility of the Big Room methodology to other organisational challenges has been shown, including adaptation of Big Rooms to pandemic-related service challenges. Pathways should search for forums within their trust in which **the FCA methodology is shared and celebrated** so that it can be **adopted by others** inside the organisation; this could be further linked by the Central FCA to wider forums within the FCA Network.

6. Pathways should include a patient voice / voices at **every step of the Big Room** process, including the set-up, delivery, and intervention testing. The hybrid approach provides a useful tool for easily including this; the Central FCA can help to support this by focusing on including the patient voice within the training programme.

1 Introduction and background

In January 2020, Ipsos UK, in partnership with the Strategy Unit, was commissioned by the Health Foundation to undertake a summative evaluation of the Flow Coaching Academy (FCA) programme. Building on an earlier formative evaluation of the programme, this study aims to provide evidence of the overall impact of the FCA programme during its five years of operation and develop and share learning about the FCA improvement approach across those participating in the programme.

1.1 Purpose of the report

This is the final report for this evaluation, produced for the Health Foundation. It sets out summative findings from the full scope of the evaluation, drawing on evaluation activities undertaken between March 2020 and May 2022. It is designed to be read by the Health Foundation, all those involved in the FCA programme, and interested parties from the health and care sector (particularly those with an interest in Quality Improvement [QI]).

This report is structured as follows:

- **Chapter 1: Introduction and background:** This covers the aims and objectives of the evaluation, as well as a brief background to the FCA programme.
- **Chapter 2: Evaluation methodology:** This covers the evaluation methods, including the timeline of the evaluation, detailed methods, approach to analysis, and limitations.
- **Chapter 3: Evolution of the FCA Programme:** This section details the set-up of the programme, changes that have been made to the programme as a result of the COVID-19 pandemic, and the current features of the programme.
- **Chapter 4: Delivery and outcomes at the programme and Local FCA level:** This section gives an overview of how the programme has been delivered over the past five years, including what has worked well and less well.
- **Chapter 5: Delivery and outcomes at the pathway level:** This section focuses on how Big Rooms have been delivered over the past five years, including how changes are enacted, an assessment of outcomes Big Rooms are working towards, the influence of context, and the sustainability of Big Rooms.
- **Chapter 6: Conclusions and recommendations:** This chapter provides some conclusions and recommendations based on findings from the evaluation.

The main report is supported by four detailed appendices:

- Appendix 1: Programme-level Theory of Change
- Appendix 2: Programme Monitoring Information
- Appendix 3: Impact evaluation
- Appendix 4: Economic assessment.

1.2 Evaluation aims and objectives

The Health Foundation has funded several service improvement programmes aimed at improving patient flow through health and social care systems over the last decade. In that time, a range of evaluative projects has been carried out, including, most recently, the formative evaluation of the FCA programme, completed in 2019 (also known as the RAND report). These evaluations have generally been formative, drawing principally on qualitative methods, with less of a focus on generating summative evidence of impact.

Building on this evidence base, this evaluation was commissioned to:

- Provide evidence of the overall impact of the FCA programme during its five years of operation (Cycles one to five); and,
- Develop and share learning about the FCA improvement approach with those participating in the programme at each of the Local FCAs and their host organisations. In addition, the evaluation will provide valuable learning to the Health Foundation and wider system stakeholders about how to scale and embed QI across multiple sites, clinical pathways and settings.

The evaluation addresses the following questions:

1. What impact has the FCA programme had during its five years of operation? Specifically:
    a. Measured patient outcomes from individual Big Room pathways (such as length of stay).
    b. Other outcomes from Big Room pathways (such as staff morale and patient experience) for FCA programme stakeholders, including patient and service users, coaches, Big Room participants, Local FCA faculty, and other health and care staff, commissioners and managers, and wider systems stakeholders.
    c. To what extent can the impacts described in a) and b) be attributed to the FCA programme?
2. What has been the ratio of costs to benefits of the FCA programme?
3. What contextual factors have influenced the outcomes of the FCA programme at the pathway and Local FCA level, and what have been the critical enablers and disablers?
4. What features of the programme or other factors have influenced the outcomes of the FCA programme during its five years of operation?
5. What has been the role of FCA programme stakeholders (including the Central FCA and the Health Foundation) and what impact have these stakeholders had on the programme during its five years of operation?
6. To what extent has the FCA programme been sustained at the Local FCA (and pathway) level during its first five years of operation, and what factors have influenced this?
    a. To what extent do the Big Rooms continue after the one-year action learning course has ended?

b. What are the facilitators and barriers that have affected the sustainability of Big Rooms and the wider programme?

7. What are the unintended consequences (positive and negative) of the FCA programme (at various levels such as Big Rooms, Local FCAs and host organisations)?

Evaluation questions were mapped to the programme-level Theory of Change (ToC) developed for the formative evaluation. The full programme ToC, taken from the Invitation to Tender for the summative evaluation, and including anticipated inputs, outputs, outcomes, and long-term impacts, is included in **Appendix One**.

1.3 Background to the FCA programme

The FCA programme aims to empower frontline health and care staff to improve patient flow and patient and staff experience through the healthcare system by spreading a QI methodology and team coaching, and developing a learning network of Local FCAs (the FCA network) across the UK. The FCA network is made up of the Central FCA hosted at the Sheffield Teaching Hospitals NHS Foundation Trust (STHFT), and Local FCAs based in organisations delivering flow coaching training locally across the UK.

Programme set-up

The FCA programme was launched in September 2015 by a team of core faculty members in the Central FCA in STHFT. The programme was based on their previous involvement with improvement science. It was designed to combine successful elements from prior programmes, including a focus on patient flow from the Flow Cost Quality programme, inclusion of the 'Big Room' meetings, and a coaching element from the Sheffield Microsystem Coaching Academy. The distinction in design of the FCA programme from these previous initiatives is the way in which these different elements are combined; specifically, the focus on improving patient flow via 'Big Room' meetings with a team coaching element.

Central FCA led core training offer

Participants in the FCA programme take part in a training programme designed to deliver both **technical** and **coaching skills**. Throughout this curriculum, participants are trained on basic QI tools, including Plan-Do-Study-Act (PDSA) Cycles, Run and Statistical Process Control (SPC) Charts, and driver diagrams. This is paired with training on coaching skills, including giving and receiving feedback, non-verbal communication, and dealing with resistance. Participants are also given the opportunity for experiential learning and are paired with another coach to work on a care-pathway within their organisation throughout the duration of the course.

Organisations seeking to establish themselves as Local FCAs send staff to be trained centrally at STHFT. Since the outset of the programme, STHFT have trained five rounds of Local FCAs; these training rounds are known internally to the programme as "Cycles".[2] Prior to the COVID-19 pandemic, Cycles were conducted face-to-face; however, the most recent Cycle 5 moved to a hybrid approach to address social distancing measures. The hybrid approach is explored more thoroughly in **Chapter 4: Delivery and outcomes at the programme and Local FCA-level**.

[2] Please note that the FCA programme refers to these rounds as "cohorts" whilst the Health Foundation refers to them as "Cycles".

Establishment of Local FCAs

After completing the programme, trained coaches return to their organisation to implement the FCA methodology to patient pathways within their organisation. Pathways are selected based on the presence of a **clear and defined clinical condition** or patient pathway, as well as the **willingness and ability for relevant stakeholders to meet regularly** to discuss changes and improvements.

Discussions take place during '**Big Room' meetings**, a weekly session (although some Big Rooms held these sessions fortnightly or monthly) in a physical space (this was prior to the COVID-19 pandemic). These meetings are comprised of a wide range of staff and patients who work within, or are connected to, the pathway. They are guided by two co-coaches; **a clinical coach** who works within the defined pathway, and **a flow-coach** who works external to the pathway. 'Big Room' meetings are designed to create a culture of continuous improvement by flattening hierarchies along a pathway and encouraging frontline staff to take ownership of improvement work.

Spread of FCA methodology

The scale and spread of the FCA programme have been informed by the principles of a **social franchising model.** This is to ensure that there is sufficient spread while also ensuring that fidelity to the core principles of the programme are maintained by Local FCAs. This model was developed between 2016 and 2018 through the Central FCA's work with an independent social franchising consultancy. The aim of this model is to identify essential features as defined by the Central FCA which must be adhered to by Local FCAs, while also allowing for flexibility with non-essential features.

At the outset of the evaluation in 2020, the Central FCA team provided a list of approximately 124 pathways which were active; they were unable to provide the number of coaches who had been trained through the programme. Also during this time, the Central FCA had recruited 11 Local FCAs; although it should be noted that since then, a number of Local FCAs had been put on hold, or dropped out (this is discussed in more detail in **Chapter 3: Evolution of the FCA programme**).

Impact of the COVID-19 pandemic

The COVID-19 pandemic had a direct bearing on the FCA programme and led to a redesign of aspects of the delivery of the programme. This includes digitisation of the core training offer, and the introduction of an online communication platform, known as Workplace, to develop the FCA Network and host Big Rooms digitally. Additionally, a number of Local FCAs were either put on hold, or dropped out of the programme during the pandemic; prior to COVID-19, there were 11 Local FCAs in total, whilst currently, there are five still delivering, three on hold, and four which have dropped out. The changes brought about the pandemic, including the roles of different programme stakeholders in responding to these changes, are detailed in **Chapter 3: Evolution of the FCA programme.**

Programme structure

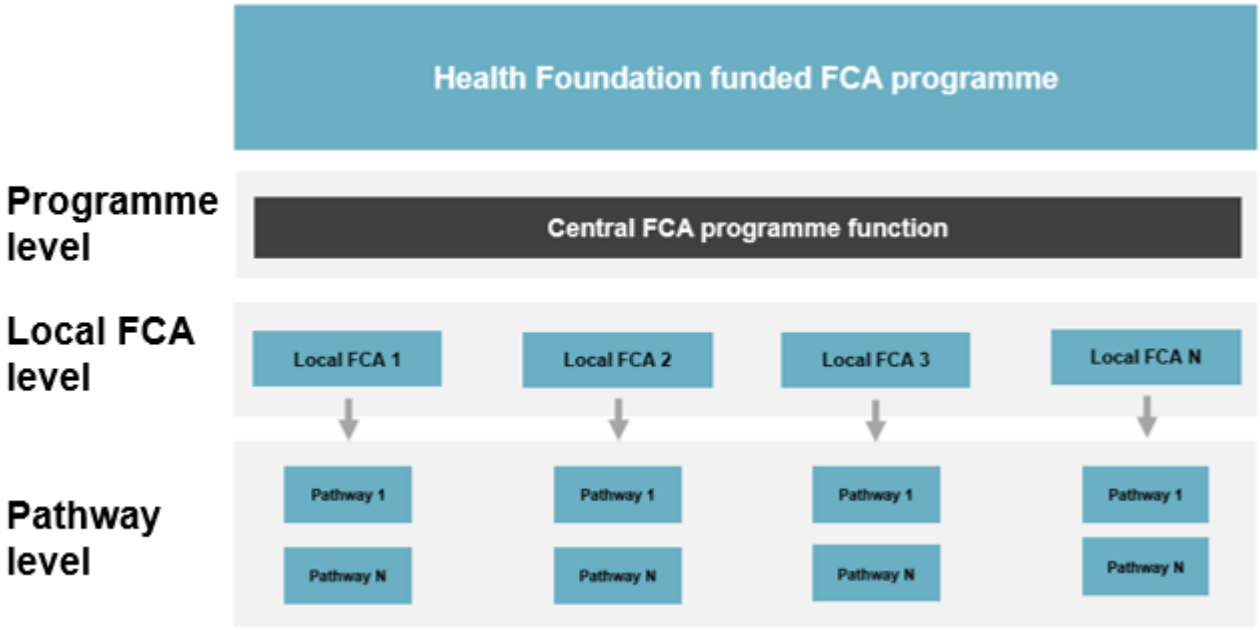
To structure the fieldwork, analysis and overall evaluation, the programme was subdivided into three 'levels':

- The **programme-level** includes activities pertaining to the national programme of work undertaken by the Health Foundation and the Central FCA;
- The **Local FCA-level** includes organisational activities undertaken at the local level by the Local FCA faculty, within host organisations; and

- The **pathway-level** consists of activities undertaken at the Big Room and pathway level by Big Room coaches, co-coaches and participants.

Figure 1.1 below diagrammatically presents the tiered structure of the programme (in a simplified fashion).

Figure 1.1: Diagrammatic representation of the structure of the programme



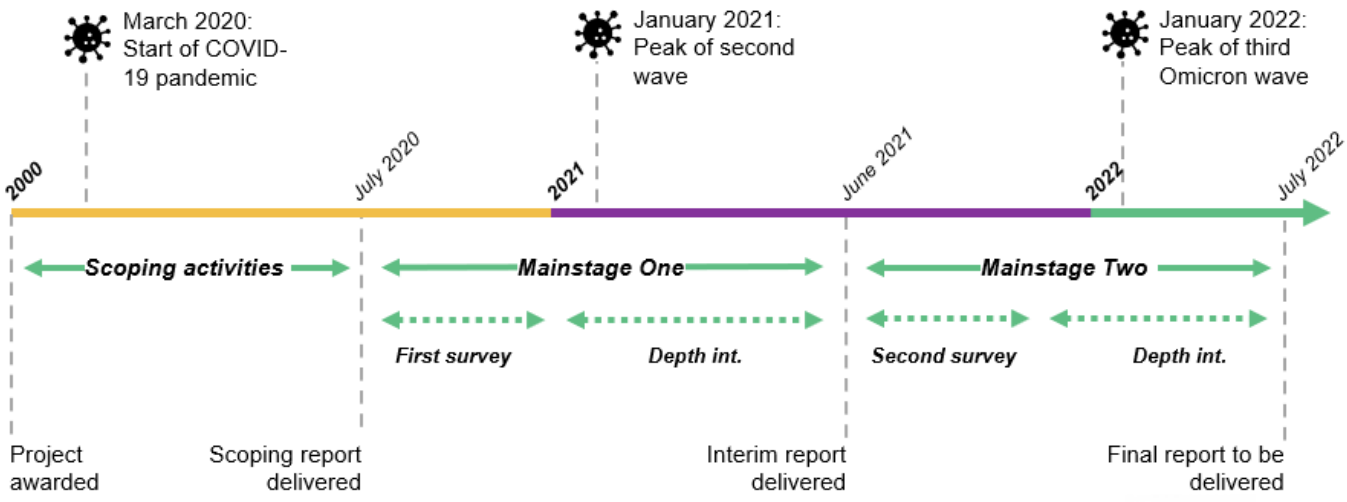
2 Evaluation methodology

This section provides a detailed overview of the evaluation methodology, including the timelines of the evaluation, the methods for each strand of the evaluation, and limitations.

2.1 Evaluation timelines

The evaluation took place over a period of two and half years, beginning in March 2020 and finishing in July 2022. The extended timelines were the result of pressures on the health system arising from the COVID-19 pandemic and had a direct impact on the design and implementation of the evaluation. An overview of evaluation activities is provided in figure 2.1.

Figure 2.1: Timeline of evaluation activities[3]



The impact of the COVID-19 pandemic on the evaluation is as follows:

- The initial **scoping activities,** including interviews with senior stakeholders and the development of programme metrics, coincided with the first wave of the COVID-19 pandemic. This led to an extended scoping period, as well as a reconsideration of the evaluation methodology. Crucially, Ipsos, together with the Health Foundation and Central FCA, decided to delay pathway-level interviews until the pandemic had subsided and pressures had reduced on NHS staff.

- **Mainstage one** (which took place from July 2020 to June 2021) therefore focused mainly on interviews at the programme- and Local FCA-level. A proforma survey was distributed to pathways via Local FCAs with the aim of mapping Big Rooms and the outcomes they were working towards; however, it received a low response rate, making it difficult to map the number of pathways covered by the programme. The low response rate was thought to be due to COVID-19 pressures, and the survey was put on hold for a later date. An interim report, which mainly focused on programme- and Local FCA-level findings, was delivered to the Health Foundation in June 2021.

[3] COVID-19 timelines refer to the peak number of cases during each wave; source: https://coronavirus.data.gov.uk/details/cases

- **Mainstage two** (which took place from June 2021 to July 2022) focused on interviews and activities at the pathway level. A survey was redistributed with staff at the pathway-level and yielded a more robust sample than the previous survey distributed in November 2020. Other pathway-level activities undertaken during this time include the economic assessment and impact evaluation. However, ongoing pressures from the COVID-19 pandemic continued to make recruitment of participants at the pathway level challenging, and the desired sample was not achieved despite significant efforts from all groups involved in delivering and overseeing the evaluation, and varying approaches to recruitment used.

2.2 Evaluation methodology

This report is based on findings from across the whole evaluation, including the following strands of data collection and analysis.

2.2.1 Qualitative interviews with programme stakeholders

In-depth interviews were conducted with Central FCA and Health Foundation stakeholders (programme-level), Local FCA leads (Local FCA-level), Big Room coaches (pathway-level), Cycle 5 participants and QI stakeholders. Semi-structured interview topic guides, reflecting the programme ToC and overall evaluation objectives, were developed for each stakeholder group. The development of topic guides was informed by inputs from the Health Foundation.

At the **programme-level**, between March and April 2021, nine qualitative interviews (out of a planned total of 16 interviews) with stakeholders across the Central FCA team (responsible for the central delivery of the FCA programme) and the Health Foundation (as programme funders) were conducted. The purpose of these interviews was to understand:

- Programme design and decision-making in relation to the three main areas of the programme: training coaches, coaching pathways, and the spread paradigm;
- Programme outcomes, and any unintended consequences; and
- The current context of the programme and plans for future sustainability, including the role of the Health Foundation and Central FCA.

At the Local FCA-level, between March and April 2021, nine interviews across eight Local FCAs (out of a planned total of 11 interviews across all 11 Local FCAs) were conducted with stakeholders who held senior strategic roles across each Local FCA in Cycles 1 – 4[4]. These individuals were typically senior members of faculty within a Local FCA. The purpose of these interviews was to understand:

- The pathways for which Big Rooms have been established;
- Programme wide relationships and networks, and the role of these in influencing programme outcomes;
- Footprint-wide contextual factors that have shaped the programme to date;

[4] The Local FCA leads which were interviewed were Bath, Devon, Imperial, Lancashire and South Cumbria, Northern Ireland, Northumbria, St George's, and Yorkshire.

- The sustainability and spread of the FCA programme across the Local FCA footprint and key factors informing this.

At the pathway-level, between November 2021 and March 2022, ten interviews with clinical and non-clinical coaches and one strategic lead were conducted (out of a planned total of 24 interviews). This was done across five Local FCAs[5] and eight distinct pathways.[6] The purpose of these interviews was to understand:

- How pathways are selected and rationale for selection;
- Changes introduced as a result of the Big Room as well as any outcomes linked to these changes (including enablers and disablers to delivery) and the sustainability of these outcomes;
- The influence of context as well as wider programme outcomes.

In addition, five interviews with **Cycle 5 participants** (i.e. those who participated in Cycle 5 cohort of the FCA training programme). were conducted between January and February 2022 (out of a planned total of eight interviews), and four interviews with **QI stakeholders** were conducted between November and December 2021. QI stakeholders were senior experts in their field. They were sampled based on programme and Health Foundation recommendations.

Interviews were recorded, and detailed notes were inputted into an analysis grid for each interview. Analysis grids were developed to reflect the evaluation questions, ToC outputs and outcomes, and different 'levels' of the programme. Thematic analysis was then undertaken within each of the evaluation questions in order to identify, analyse and interpret patterns within the ToC and evaluation objectives framework. The project team met regularly during the analytical phase to discuss the findings from these interviews. Evidence was also triangulated with other data sources and data collection methods.

2.2.2 Survey with programme recipients

A **survey** was developed and administered to coaches and Big Room participants. The survey was shared internally by the Central FCA and was open from 8 October to 2 November 2021. As the survey was shared via a 'snowballing' approach, and because there is no routinely collected information as to the number of coaches and Big Room participants within the FCA programme, it is difficult to determine an exact sample size and therefore response rate. However, based on estimates from the Central FCA team, at the scoping stage, the evaluation team anticipated a low response rate (c. 5 – 10% response rate), with a survey sample of at least 60 participants.

The survey aimed to understand how Big Rooms were operating in practice, including details on how they were identified, the changes they enacted, and the outcomes they were working towards; the impact of the FCA programme participants; and their awareness and involvement with the wider FCA Network.

There were 42 respondents which represented a good spread of Local FCAs and roles. Of the 42 respondents, around two thirds (26 respondents) were FCA coaches, a little over a third (15

[5] These Local FCAs included Birmingham, Portsmouth, Lancashire and South Cumbria, Sheffield, and St George's.
[6] This included End of Life, digestive health, sepsis, colorectal, nutrition, acute frailty, UNSURE, and orthopaedics pathways.

respondents) were Big Room participants and one was a Sponsor/Senior Leader. Responses were gathered from individuals from seven Local FCAs.[7]

2.2.3 Impact evaluation

A case study approach has been taken for the impact evaluation due to the different types of pathways and outcomes across Local FCAs. The case study pathways were chosen in consultation with the Health Foundation evaluation team, the central FCA team and Local FCA pathway leads.

Two pathways (out of a total of five planned impact studies) agreed to take part in the analysis and have been included as case studies. These are:

- Northern Ireland's Elective Orthopaedic pathway at Western Health & Social Care Trust; and
- Northumbria's Rheumatology pathway.

A synthetic control method was used to evaluate the impact of pathway intervention(s). This involves building a counterfactual using multiple control units, and testing whether the intervention had any statistically-significant effect and therefore whether causality can be inferred.

As part of the impact evaluations, workshops and interviews were undertaken with pathway-level stakeholders to help inform the design of the analysis. Additional qualitative research with pathway-level stakeholders, including a senior strategic lead, clinical or non-clinical coach, and Big Room participant was also planned; however, due to the challenges posed by the COVID-19 pandemic and limited engagement from pathways (including non-responsiveness and lack of engagement for follow-up interviews), the qualitative component of this strand was not possible.

The full impact evaluation, including a more detailed methodology and limitations, can be found in **Appendix Three**.

2.2.4 Economic assessment

As per the impact evaluation, the cost analysis intended to focus on two case study sites, the Western Trust in Northern Ireland and Northumbria. For the Western Trust in Northern Ireland, the evaluation has taken a **descriptive approach to the cost analysis**, presenting the input costs for the delivery of the Big Rooms and the costs related to the subsequently implemented interventions. The descriptive analyses provide an estimate of the potential costs associated with two different flow-coaching interventions. For Northumbria the evaluation has taken a **before-and-after contextual impact and cost analysis**, which illustrates the possible costs associated with flow-coaching interventions and provides a more contextual analysis of the impact of flow-coaching on the staff mix. These approaches were taken due to the limited available cost data, and the limited external validity of the two case studies. Costs are presented from a health care provider's perspective.

The full economic assessment, including a more detailed methodology and limitations, can be found in **Appendix Four**.

[7] The breakdown of Local FCAs included in the survey are as follows: 14 Yorkshire, nine Northern Ireland, eight Imperial, four Northumbria, three Lancashire and South Cumbria, one Birmingham and one Bath; two other / don't know.

2.2.5 Analysis of programme documentation and monitoring information

This report also draws on light touch analysis of programme documentation and monitoring information (MI) which have been provided by the Central FCA to the evaluation team. To date, this has included:

- **Background documents** detailing the development of the FCA programme, Local FCA information, and policy documents;
- **Programme materials** including case study write-ups, programme processes, and marketing materials; and,
- **MI collected by the programme** (see Appendix Two) including feedback from virtual training and other networking events.

Background documents and programme materials were systematically mapped, and key information extracted to develop an understanding of the programme. In general, the MI made available to the evaluation had gaps, most notably in relation to contact details / a database of beneficiaries and pathways within different organisations. An overview of the monitoring information provided to the evaluation team is provided in **Appendix Two**.

2.2.6 Data triangulation

Data from across the different strands of the evaluation were triangulated using the programme ToC and evaluation objectives as the overarching frameworks. Questions from the interviews and survey, alongside data points from the MI, were mapped to the ToC outcomes and evaluation objectives using Excel. An assessment of the programme's progress towards ToC outcomes and evaluation objectives was given based on the weight of evidence from each evaluation strand. Where there was disagreement in the data, this was noted in the analysis and is discussed openly in this report.

The impact evaluations and economic assessments were designed to answer specific evaluation objectives. These are both presented separately in **Appendix Three** and **Four** respectively. A short overview of the findings from these strands, alongside their level of agreement with other strands of the evaluation, is included in the main body of this report. An overview of the different methods mapped against the evaluation objectives is detailed in Table 2.1 below.

Table 2.1: Methods mapped against evaluation objectives

Evaluation theme	Survey with coaches and Big Room participants	Qualitative research	Management information	Impact evaluations	Economic assessments
PROGRAMME-LEVEL					
What features of the programme or other factors have influenced the outcomes of the FCA	✓	✓✓			

programme during its five years of operation?					
What has been the role of FCA programme stakeholders (including the Central FCA and the Health Foundation) and what impact have these stakeholders had on the programme during its five years of operation?		✓✓			
What are the unintended consequences (positive and negative) of the FCA programme (at various levels such as Big Rooms, Local FCAs and host organisations)?	✓	✓✓	✓		
LOCAL FCA-LEVEL					
What contextual factors have influenced the outcomes of the FCA programme at the pathway and Local FCA level, and what have been the critical enablers and disablers?	✓	✓✓			
To what extent has the FCA programme been sustained at the Local FCA (and pathway) level during		✓✓	✓		

its first five years of operation, and what factors have influenced this?					
PATHWAY-LEVEL					
What has been the ratio of costs to benefits of the FCA programme?		✓			✓✓
What impact has the FCA programme had during its five years of operation?	✓✓	✓✓	✓	✓✓	

2.3 Limitations of the evaluation

Due to the contextual challenges posed by the COVID-19 pandemic, and aspects of the design of the programme, such as the highly devolved nature of Local FCAs and independence of Big Room pathways from the central programme team (by design), there are several notable limitations to the analysis. These should be considered when reviewing the report.

- **Continued external pressures**: Fieldwork took place during a challenging time for the health and social care sector, when services and staff were under pressure; this made it challenging to recruit the required sample for each strand. Specifically:
  - **The survey** was administered in October 2021 when potential respondents were facing service pressures from the pandemic; the resultant sample size is therefore smaller than anticipated.
  - **The qualitative fieldwork** took place from December 2021 to April 2022 when the NHS was dealing with the Omicron variant; this resulted in delays to fieldwork, and shorter interviews with participants who were available. Similar to the survey, the resultant sample sizes are smaller than anticipated.
- **Pausing and closure of pathways and Big Rooms**: The evaluation team was informed that very few pathways and Big Rooms were operational at the time of fieldwork due to the COVID-19 pandemic. Consequently, the evaluation was unable to engage a sufficient number of suitable pathways to deliver the planned eight qualitative case studies and five impact and economic case studies.
- **Programme design:** The FCA programme is designed to be devolved, which allows for Local FCAs and organisations to adjust the programme's core interventions to their local needs. This devolved structure, has also limited the central FCA's influence in supporting recruitment for this evaluation; there is also no central database of pathways which made it difficult to recruit participants for interviews. The evaluation team therefore employed a 'snowballing approach'

whereby participants were recruited through interviews, a more labour-intensive, and less effective, approach than initially planned.

- **Identification of Big Rooms.** As Big Rooms were identified via interviews with Local FCA stakeholders, there was an inherent bias in the pathways included in the sample. Generally, stakeholders identified those which they had worked on themselves, were still running, or are thought to have yielded successful outcomes. In addition to this, some pathways were unresponsive when contacted. Given the lack of a central or local database of pathways, there were limited options available to the evaluation to avoid this shortlisting bias. Therefore, the sampling of pathways is not representative and is instead based on a mix of a snowballing and convenience approaches. Additionally, the number of Big Rooms identified through this process was smaller than what was expected by the evaluation team. Twenty-four pathways have been identified from eight Local FCAs, versus the 118 pathways anticipated at scoping[8].

- **Timing of fieldwork.** Due to the aforementioned challenges (including service pressures related to the pandemic and the design of the programme), the fieldwork took place over a two-year period. Whilst initially all levels of the fieldwork were meant to take place simultaneously, due to the challenges outlined in section 2.1, programme-level and Local FCA-level interviews took place in the first stage of the evaluation (i.e., the first year), while pathway-level, Cycle 5, and QI stakeholder interviews took place in the second stage (i.e., the second year). Consequently, findings at the programme and Local FCA-level mainly relate to where the programme was at the end June 2021; where possible however, we have aimed to update findings based on MI data and views from pathway-level stakeholders.

- **Impact evaluation.** The impact analysis of the Northern Ireland case study is heavily caveated. . Firstly, the time period available was relatively short for the outpatient waiters outcome, thereby making it difficult to show impact. Secondly, the synthesized control did not match the trends for this pathway pre-intervention. Combined, this means we cannot draw conclusions for this impact evaluation, and may be excluded from the final draft.

In response to all of these challenges, significant resource and creativity was invested into flexing the approach to maximise response.

Given these limitations, a comprehensive assessment of the whole programme based on the sample of pathways chosen is not possible. The findings presented here are deep dives into particular areas, with learnings gathered for wider interest, and *indicative* of the wider programme. As the evaluation has progressed, it has become evident that this case study approach suits the programme's structure and design.

[8] The Central FCA provided a list of pathway Big Rooms believed to be in operation in June 2020; this was incorporated as Appendix One in the FCA Summative Evaluation Scoping Report. The list does not reflect the impact of the pandemic.

3 Evolution of the FCA programme

This chapter updates the programme's narrative, since the close of the formative study. Bringing together findings from nine interviews with Health Foundation and Central FCA, and nine interviews with Local FCA stakeholders, it describes contextual factors of importance to the programme since early 2020, the programme's evolution in response to the COVID-19 pandemic – including the anticipated benefits, risks and implications for the programme's underpinning assumptions – and the future direction and sustainability of the programme.

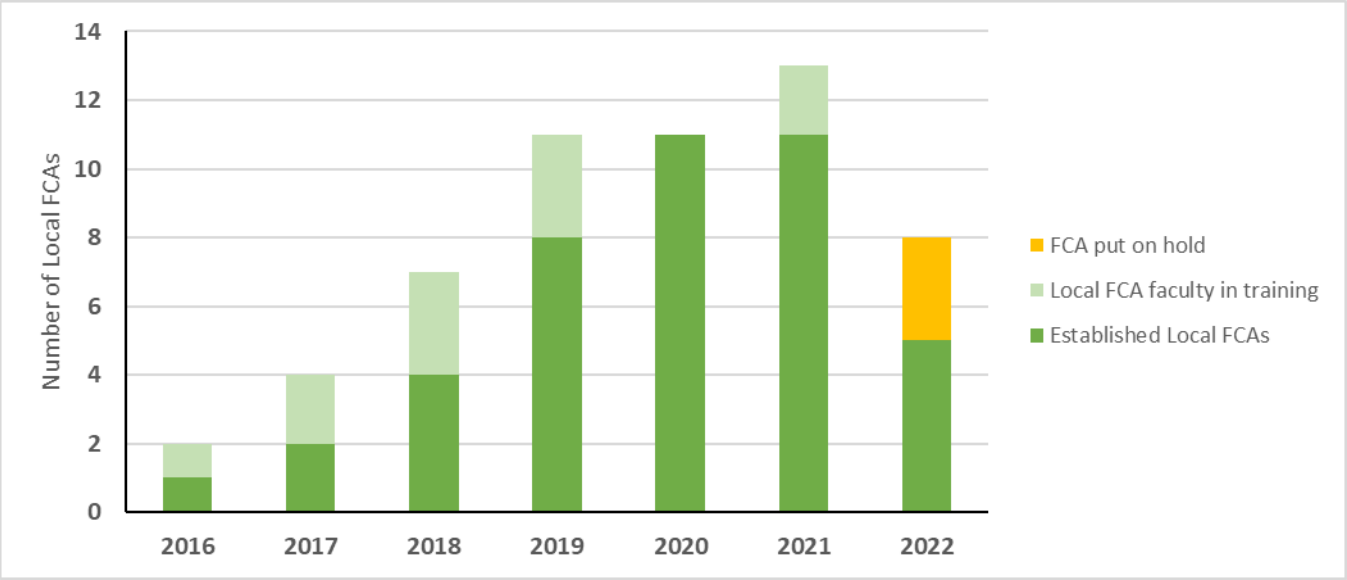
Table 3.1: Principal evaluation questions addressed in this chapter

Evaluation question	Extent to which it is addressed in this report
What has been the role of FCA programme stakeholders (including the Central FCA and the Health Foundation) and what impact have these stakeholders had on the programme during its five years of operation?	Partially addressed, from the perspectives of programme redesign. Addressed further in **Chapter 4**.
To what extent has the FCA programme been sustained at the Local FCA (and pathway) level during its first five years of operation, and what factors have influenced this?	Partially addressed at the Local FCA level. Addressed further in **Chapter 4 and 5.**

3.1 Background to the formative evaluation

The formative evaluation (also known as the RAND evaluation) was concluded in 2019. It described a programme in a relatively early state, including the initial formation of the programme, development of the training programme, and how the programme was able to expand from one Local FCA in 2016, to eight established and three in training Local FCAs by the end of 2019 (see below figure 3.2). As the formative evaluation was mainly focused on the processes deployed in setting-up the FCA programme, the findings largely pertained to the programme and Local FCA level; this included detailed recommendations for improving the core training offer to coaches, the selection and implementation of Big Rooms at the pathway level, and relationships across the programme, particularly between the Central FCA and Health Foundation.

Figure 3.2: Development of the FCA programme[9]



The formative evaluation further outlined the importance of ensuring that Local FCAs (and coaches) see the value of sharing pathway data with the Central FCA and/or across the FCA network. It was recommended that a data lead be identified in each pathway, tasked with broadening data collection from run / control charts to also incorporate comparisons and trend data, process measures and balancing measures. This data lead would then communicate findings to the wider team, and ideally benefit from more specialist support from the Central FCA.

The **Insight and Analysis** function could play an important role in re-mapping the monitoring information requirements of the programme, given recent developments, and the expectations of Local FCAs and Big Rooms in providing this data. It would also be a useful juncture to ensure that these expectations are being met in practice i.e. that data items specified in the Memorandum of Understanding (MoU) between Central and Local FCAs are being reported at a suitable frequency.

3.2 Impact of COVID-19

The **COVID-19 pandemic** has had a direct bearing on the FCA programme at the programme, Local FCA, and pathway-level. Most relevant to the programme are the effects of the pandemic on **patient flow** (the core challenge addressed by the programme), **staff capacity in the system** (fundamental to delivering the programme), and **social distancing requirements** (impacting the programme's design and delivery model).

3.2.1 Central FCA redeployment

Many members of the Central FCA team were redeployed to support STHFT's pandemic response during the first wave in spring 2020. Central FCA staff members with relevant professional backgrounds were redeployed to clinical duties, whilst those with dual roles based in both the Central FCA and STHFT were redeployed widely to COVID-related roles including in communications and the transportation of

[9] 'Established Local FCA includes the Central FCA at Sheffield; five Local FCAs dropped out of the programme between 2021 and 2022 (see table 3.2 below), while FCA Yorkshire effectively merged with the Central FCA at Sheffield.

personal protective equipment (PPE). Only a small Central FCA team remained, with a focus on supporting the existing network of Local FCAs where possible, for example in answering queries.

3.2.2 Pausing of Cycle 5

A **fifth cycle of the FCA programme** was put on hold, given the inability to hold face-to-face training sessions and the substantial pressures that trusts were under. The Central FCA team maintained a connection with these sites throughout the pandemic, to sustain engagement for when it was possible to launch the fifth training cycle. Cycle 5 was launched in April 2021, albeit only in Barnet, Enfield & Haringey and King's for the time being. Further information about the new programme training offer is outlined below, with findings linked to this evaluation detailed in **Chapter 4: Programme delivery and outcomes at the programme and Local FCA-level**.

Given that the training of Cycle 4 participants (consisting of Lancashire, St George's and Scotland) concluded just as lockdown measures were being introduced, the Central FCA team trialled their first virtual approach by hosting a virtual celebration event to conclude the year. This approach was also taken by FCA Yorkshire, as the end of their local cohort training had been similarly impacted.

3.2.3 Programme reflection and identification of opportunities

By early summer 2020, as the first wave of the pandemic subsided, redeployed Central FCA staff began to return to their roles on the programme. Interviewees described a **clear sense of purpose** during this window of time, with the re-established team keen to capitalise on what was seen as an **opportunity for reflection.** The time and space to think, afforded during this period, was further enabled by not having a live training cohort, and further amplified because *"everyone was also obviously very mindful that we would likely be heading maybe into a second wave, or a difficult winter"* (pathway-level stakeholder).

The team used this opportunity to begin thinking about the **future of the FCA programme**, not only in terms of reworking the training model to suit lockdown restrictions, but to revisit their objectives and explore how the model could evolve to better meet these. Opportunity areas included:

- **Accessibility:** Programme-level stakeholders noted that wave one of the pandemic highlighted the need to adapt the programme's training for virtual delivery. Whilst restrictions on movement and in-person interaction varied over the course of 2020, social distancing measures remained in place and it was acknowledged that future waves of tightened restrictions were highly likely. Yet this focus on improving the accessibility of the programme was driven not only by the immediate requirements imposed by the pandemic, but also from earlier programme learning. A pre-existing challenge of the face-to-face training methodology had been in enabling access from more rural and disparate geographies, particularly noted through FCA Scotland's experiences.

- **Flexibility:** Building on feedback from Local FCAs which had experienced the training in previous Cycles, and particularly noting the challenges in securing 18 full days of study leave over the year, the Central FCA team identified a chance to modify the mode of course delivery to offer a greater degree of flexibility to participating coaches. This included building up the self-directed component of course delivery, to allow coaches to incorporate learning time into their routine and to fit this around their day job. eLearning offered an effective solution here, both to the requirement of virtual delivery and in improving the flexibility of the course.

- **Scale:** Face-to-face training delivery methods have natural limiting factors, including venue size and travel costs. Programme-level stakeholders spoke of the opportunity to realise their ambitions

about programme scalability through the development of a virtual or hybrid offer. By removing some of the infrastructural and cost barriers associated with in-person delivery, future Cycles of the programme could feasibly be scaled up to include larger cohorts with relative ease.

- **Collaboration:** Another ambition for programme development, which pre-dated the pandemic, was an interest in diversifying the cohorts by supplementing 'place-based' (usually Trust-based) coaching pairs and pathways with cohorts that could instead be more clinically based. For example, by offering a mostly - or fully - virtual offer, the programme could create new collaborations which focus on a particular condition or system challenge, such as frailty or sepsis. This could build on the programme's knowledge of the recurrent pathways that tend to be selected by new Cycles, regardless of location.

By clarifying the programme's strategic direction, built around a set of opportunities, the team implemented a series of changes to programme's delivery, whilst maintaining a high degree of fidelity to the existing course content. Further detail about the changes made to the course are covered below in **Current Programme features.**

3.3 Current programme features

3.3.1 Central FCA redesign

As outlined above, the Central FCA programme team began redesigning the FCA programme offer from early summer 2020. Building on the objectives of accessibility, flexibility, scalability and collaboration, and recognising some of the practical limitations caused by the pandemic, the team planned a **'revolution' of the course's delivery mode** whilst keeping the core course content and ethos the same. The following quotation captures some of the ongoing debate amongst programme-level stakeholders in terms of the extent to which the programme has fundamentally changed.

> **'It's a revolution in delivery method, but it's an evolution… in fact it's not really an evolution, it's fairly consistent with the old course that delivered pretty good results… so it's about trying to open up the method of delivery for new possibilities'.**
> Programme-level stakeholder

3.3.2 Digitalisation of the training offer

Where the course was previously delivered during 18 full days of in-person, face-to-face training, it was reworked to be suitable for both fully online or hybrid (online and face-to-face) delivery modes. The franchise model remained, whereby the Central FCA team trained pairs of coaches from new Local FCA providers, who then go on to deliver the same training package locally.

Working closely with a member of the FCA programme team who has professional experience in eLearning course development, the team restructured the training into:

- Around **40 self-directed, eLearning modules** which are hosted on a learning management system (accessed via Workplace). These modules have adapted existing course material to allow coaches to complete the training online and to do so in their own time. Programme-level stakeholders noted that the course is high quality, avoiding a 'voice over slides' approach and instead delivering the content in an engaging way;

- **Sub-group 'mini action learning sets'** delivered face-to-face (over video calls), which recreate the smaller group work that was previously delivered in-person. The purpose of these sessions is

to enable coaches to reflect on their journey and progress, providing one another with mutual support in a more intimate environment;

- A small number of **face-to-face teaching sessions** (around four sessions). When reviewing the course content and identifying suitable virtual delivering modes, a handful of sessions were identified as being unsuitable for self-directed eLearning, mostly because they are reliant on group activity. These sessions will therefore be taught, either virtually (via video call) or potentially face-to-face (in a hybrid scenario);

- **Development of the FCA network**, enabled through the Workplace platform. The purpose of this platform is to both promote collaboration and reflection during the training programme itself, and also to establish an ongoing network across the whole programme to enable cross-organisational learning and facilitate programme communications.

3.3.3 Workplace

Workplace from Facebook is a communication tool designed for business use. Similar to a social networking platform, it has functionalities including Groups, News Feed and live broadcasting. The platform allows FCA programme stakeholders to **engage and network at multiple levels**, with the possibility of developing communication channels at the programme, Local FCA and pathway levels. Workplace also allows for networking at less of a place-based and more of a condition-specific level, for example by bringing together stakeholders across the programme with a particular interest and expertise in a specific clinical area.

Workplace is currently used to deliver several of the programme strands. Principally, it is the gateway to the learning management system that hosts the eLearning modules and where Cycle 5 is delivered. It has also been used to develop the FCA Network, and allows Local FCAs to communicate with one another. Finally, some pathways have used Workplace to facilitate Big Rooms, with all colleagues able to communicate and share documents and experiences between weekly meetings. Further details about Workplace are found in **Chapter 4: Delivery and outcomes at the programme and FCA level**.

3.3.4 Current status of Local FCAs

Prior to the COVID-19 pandemic, the retention of Local FCAs was considered to work well and it was noted that Local FCAs had remained consistently onboard and engaged with the programme during the first five years of operation. Programme-level stakeholders attributed this engagement to the positive outcomes achieved at the pathway level, which in generated confidence and positive feedback about the programme. However, they also highlighted how the pandemic decreased engagement from Local FCAs with the FCA programme, with many of them pausing their programme of FCA work and limiting their communication with the Central FCA.

> **"COVID has stripped us of our capacity, and our headspace which put a lot on the backburner including QI. Some [organisations] have been more able than others to keep QI moving forward and alive, despite COVID. But others haven't."**
> Programme-level stakeholder

The below table 3.2 summarises the retention of Local FCAs as of the end of the evaluation. Three Local FCAs were ultimately put on hold due to the impacts of the pandemic. Additionally, another four Local FCAs dropped out of the programme in 2021/22, mainly due to the programme not aligning with the strategic priorities of the trust. The evaluation team was only made aware of these developments through updated programme information provided at the end of the evaluation in June 2022, and it is

therefore difficult to provide more detail on why these organisations dropped out. However, a discussion of the sustainability of Local FCAs is provided in **Chapter 4: Delivery and outcomes at the programme and Local FCA level**.

Table 3.2: Status of Local FCAs[10]

Local FCA Provider	Year of joining the programme	Current status
Sheffield	2015	Still delivering
Northumbria	2017	Still delivering: cohort 2 graduated, advertising cohort 3
Lancashire and South Cumbria	2019	Still delivering: cohort 4 graduated, planning for cohort 5
Barnet, Enfield & Haringey	2020	Still delivering: first cohort set to deliver 2023
King's	2020	Still delivering: first cohort set to deliver 2023
Imperial	2017	On hold: impact of COVID-19
Northern Ireland	2018	On hold: impact of COVID-19
Devon	2018	On hold: impact of COVID-19
Bath	2016	No longer delivering; still some active Big Rooms
Birmingham	2018	Dropped out: strategic change of direction and senior leadership
Scotland	2019	Dropped out: did not fit with national QI approach and programmes
St George's	2020	Dropped out: trained coaches, but did not get to delivery

3.3.5 Redesigns at the pathway-level

Up-to-date quantitative data on live pathways and Big Rooms is not available at a programme level as this is not regularly reported from Local FCAs to the Central FCA programme team. This has limited the

[10] Table is accurate as of June 27, 2022.

evaluation team's ability to confirm or disprove the trends that reported in interviews with programme-level stakeholders. Indicatively, analysis of interviews suggests that, following the immediate aftermath of the pandemic, Big Rooms and pathways responded in several ways:

- Some pathways paused and have **not yet restarted** activity. Some coaches are planning to restart their Big Rooms in the near future, whereas others do not currently have an agreed plan or way forwards;

- Other pathways paused immediately following the start of the pandemic but **have since restarted**, either permanently, or in a stop-start manner (for example, with further pauses during peaks of local COVID incidence). Some of these pathways have restarted with their original focus, and some have altered their plans given COVID-related changes to their objectives or to the pathway itself;

- Some **new pathways have been created**, directly in response to the pandemic, such as Big Rooms focussed on long COVID, or on the COVID patient pathway. In these examples, FCA methodologies have been used to handle 'real-time' and emerging clinical challenges;

- An unknown number of pathways appear to have **permanently closed**, either because the Big Room's purpose was deemed to have naturally concluded (for example, where the main objectives had been achieved), or for varied other reasons (such as the Local FCA ending the programme locally, or because of staff departures).

Given the lower levels of ongoing activity since March 2020, either in terms of running Big Rooms or delivering local training, there has been a significantly lower level of redesign within Local FCAs and pathways than there has been at the Central FCA level.

Where redesign has occurred, enabling activity to continue during the pandemic, this typically related to:

- **Virtual delivery of Big Rooms**, typically using video conferencing, where feasible. FCA Yorkshire tested this approach in five or six Big Rooms, and their experiences were positive. They found that, for some pathways, particularly those which bring together a wide group of stakeholders based in different organisations and specialisms, and involving patients and service users, virtual delivery of Big Rooms was more effective than in-person. Other examples of Big Rooms that have successfully converted to a virtual format include the Digestive Health Big Room (FCA St George's) and the Antenatal Big Room (FCA Imperial).

- Coaches **making use of their FCA-derived skillsets beyond the defined scope of the Local FCA programme**, to contribute to, and redesign, other aspects of their organisation's work. One example of this - highlighted in the Health Foundation's 2020 Learning Report – was one of FCA Devon's flow coaches, who was deployed to work with his Trust's stores, procurement and facilities team to help manage the organisation's COVID-19 supplies[11]. The coach made use of the skills that he had developed through the FCA programme, and this allowed him to develop a collaborative working environment with a wide group of stakeholders at a crucial period. He

[11] Crisp H, Watt A, Jones B, Amevenu D, Warburton W. Improving flow along care pathways. 2020. (https://doi.org/10.37829/HF-2020-I04)

facilitated daily meetings and led the team through a series of PDSA (Plan, Do, Study Act) cycles to ensure there were sufficient supplies during the second wave of the pandemic.

- **Testing the deployment of the redesigned central training offer** e.g. FCA Yorkshire tested the new eLearning modules with their second local training cycle, in between COVID waves.

Interviewees suggested that the Local FCAs that had maintained their Big Rooms and/or the training offer during the pandemic may have been those most likely to have deeply embedded the FCA approach as an organisation and which deploy the FCA methodology as a routine approach to change management. For example, Northumbria has embedded the FCA programme as part of their core training offer, and routinely administers the 'Big Room' tool as part of a wider trust strategy; consequently, Local-FCA stakeholders mentioned this built-in infrastructure may be a reason as to why Big Rooms in this trust persisted. However, without routinely collected monitoring information on pathways (see section 2.3: limitations), it is difficult to verify this claim.

Chapter Summary

The formative evaluation (also known as the RAND evaluation), focused on the processes deployed in setting-up the FCA programme. Learning and recommendations largely pertained to the set-up of the programme, including development of the core training offer, recruitment of Local FCAs, and the programme infrastructure. Data collection and impact at the pathway-level was a key area of enquiry for future evaluations.

The programme was severely impacted by the COVID-19 pandemic; staff from the Central FCA were redeployed, Cycle 5 of the training programme was put on pause, and a number of Big Rooms became inactive (although the evaluation is unable to provide an exact proportion). In the longer-term, three Local FCAs were put on hold.

However, the COVID-19 pandemic gave the central team the time to reflect and the programme and identify new opportunities. The FCA programme was redesigned around initiatives to improve the accessibility, flexibility, scale, and collaboration within the programme. This includes:

- Restructuring of the core training offer towards 'hybrid' learning, including the development of eLearning modules and shortening the number of days required from 18 to 12.

- Development and implementation of Workplace, an online platform which consolidates many aspects of the programme, including access to the training, the FCA Network, and a platform to host Big Rooms.

- Changes at the Local FCA level, including moving towards virtual delivery of meetings, adapting the tool to address new changes brought about the COVID-19 pandemic, and coaches using their skills in other areas of the response to the pandemic.

- It was also agreed that the Health Foundation, who for the first five years of the programme helped to resource the programme through funding and staff time, would step back from their role, in keeping with the maturity of the programme.

- Finally, while the programme reached a peak of 11 Local FCAs prior to the pandemic, the programme has faced issues linked to attrition; currently there are five Local FCAs still delivering, three which have been put on hold due to COVID-19, and four which have dropped out due to non-alignment with the wider strategy of their organisation.

4 Delivery and outcomes at the programme and Local FCA level

This chapter and the next (**Chapter 5: Delivery and outcomes at the pathway level**) set out findings on programme delivery and outcomes from the outset of the programme in 2015 to the end of the evaluation in June 2022. This chapter sets out how the FCA programme has been delivered since then at the programme and Local FCA-levels, based on nine interviews with the Health Foundation and Central FCA team, nine interviews with Local FCA leads, five interviews with Cycle 5 participants, and four interviews with QI stakeholders; as well as data from the survey (n = 42), and programme monitoring information.

Table 4.1: Principal evaluation questions addressed in this chapter

Evaluation question	Degree to which it is addressed
What has been the impact of the programme during its first five years of operation?	Addressed at the programme and Local-FCA level
What contextual factors have influenced outcomes at the pathway and Local FCA level?	Addressed at the Local-FCA level. Additional details at the Big Room-level provided in **Chapter 5**.
What features of the programme have influenced programme outcomes?	Addressed at the programme and Local-FCA level. Additional details at the Big Room-level provided in **Chapter 5**.
What has been the role of FCA programme stakeholders (including the Central FCA and the Health Foundation) and what impact have these stakeholders had on the programme during its five years of operation?	Addressed at the programme- and Local-FCA level. Additional details at the Big Room-level provided in **Chapter 5**.
To what extent has the FCA programme been sustained at the Local FCA level?	Addressed at the Local-FCA level.

4.1 Role of programme stakeholders

There are three key stakeholder groups within the model of the FCA programme. This includes the **Health Foundation**, which acts as the primary donor, the **Central FCA** which supports the delivery and development of the programme, and **Local FCAs** who oversee the delivery of the FCA programme locally within their organisation.

4.1.1 Health Foundation support

In addition to providing funding, the Health Foundation has also played a key role in the development and expansion of the programme throughout the past five years. Stakeholders from the Health Foundation and Central FCA explained that they initially had a hands-on approach and were involved in the co-design of the programme. This relationship has more recently focused on supporting the Central

FCA team with **business development, income generation, and strategic decision-making** (with a view to longer-term sustainability). To support this last point, the Health Foundation has sought to increase the visibility of the programme nationally, creating links with outside organisations.

This support function is built into the programme through different channels. The Health Foundation previously led the Central FCA steering group, which also includes members from across the FCA network and other external voices. There are also bi-monthly co-design meetings, which include the Central FCA and Health Foundation teams, as well as monthly informal calls between Health Foundation and Central FCA leads. These support channels were felt to have enabled the Health Foundation to act as a **'critical friend'** to the Central FCA by providing open communication and honest feedback regarding the development of the programme.

The role of the Health Foundation was viewed positively by programme-level stakeholders from both the Health Foundation and the Central FCA. The close relationship was felt to have generated detailed insights of the programme for the Health Foundation, which enabled a better assessment of progress and therefore more effective feedback compared to other funding models. The advice and guidance provided by the Health Foundation to the Central FCA was considered useful in this respect and helped to address critical challenges faced throughout the programme.

It was collectively acknowledged by programme-level stakeholders, that the future direction of the FCA programme will necessarily see the Health Foundation stepping back from both providing full funding to a tapered funding model and in terms of the programme's design, delivery, strategy development and income generation. This is both in keeping with the charitable status of the Health Foundation, recognising that its charitable objectives prevent the organisation from sustaining any individual programme indefinitely, and it is in keeping with the status (i.e. longevity) of the FCA programme.

4.1.2 Central FCA support

The Central FCA provides varying levels of support to Local FCAs throughout the different cycles of the programme (see section 4.2), as well as ongoing support to Local FCAs once they are fully developed. Overall, Local FCAs were positive about their relationship with the Central FCA and the level of support provided to them throughout the programme. Local FCA-level stakeholders highlighted some of the strengths of the Central FCA team, which included:

- **A strong handle on the programme and positive engagement with Local FCAs.** Local FCAs highlighted how the Central FCA provided useful and timely support; key aspects that were felt to be helpful were: i) providing materials in advance of delivering sessions; ii) reviewing and supporting the delivery of the curriculum; iii) their responsiveness to queries and concerns from Local FCAs.

- **The ability to build strong interpersonal relationships and provide connections where needed.** Local FCAs leads highlighted how the Central FCA could create effective connections and join-up more mature Local FCAs with newer ones to collaborate on specific areas and address specific challenges.

- **Receptiveness to new ideas and adaptations suggested by Local FCAs.** This was felt to have instilled feelings of co-ownership by Local FCAs and a sense that the programme is a shared network.

The centrality of the Central FCA within the programme, specifically their position in being the key point of contact for Local FCAs and responsibility in maintaining the network, was felt to be a facilitator for achieving these strengths.

Local FCA-level stakeholders provided some views on areas where this relationship could be improved. They acknowledged that there did not appear to be a formal communication strategy in place between themselves and the Central FCA; they highlighted that meetings were often **ad-hoc and intermittent**. This led some Local FCAs to describe the support offered through the Central FCA as reactive, in that the central team often addressed problems once they had been recognised by Local FCA leads and partially embedded within their organisation. Overall, Local FCAs felt that a more structured communication strategy, such as monthly meetings, would offer a more proactive way to supporting Local FCAs.

Pathway-level stakeholders that had received support from the Central FCA were very positive about the level and quality of support given. They mentioned examples such as receiving help with course materials, advice for addressing problems and queries, help with setting up Workplace and support in writing case studies and award applications. One non-clinical coach mentioned that they had even come to speak to their Board about delivering their own Faculty. Those who had not received support noted that it was because they had not asked for any, but that they knew they could contact the Central FCA for help.

Results from the survey reflected a similar picture. **Participants had mixed levels of contact with the Central FCA but felt supported**. Although only a third of participants were in contact with members from the Central FCA at Sheffield once a month or more, more than two-fifths (43%) said they were never in contact. However, half of participants agreed that they felt supported by the Central FCA team at Sheffield, and only five percent disagreed.

4.2 Delivery at the programme-level

This section sets out findings at the programme-level, including the selection of Local FCAs, the adoption and spread of the programme, the communication strategy across the network, and branding.

4.2.1 Selection of Local FCAs

- During the initial years of the FCA programme, the selection of Local FCAs was described as ‘opportunistic’ and was largely a function of the existing networks and connections of members of the Central FCA faculty or the Health Foundation. As the programme progressed however, the Central FCA began to develop a set of informal criteria for local organisations to join as a Local FCA. This included whether there was:

- **An individual link** with a member from the Central FCA or Health Foundation. This was often a key component and was felt to be one of the main drivers for organisations joining the programme among the Local FCA leads interviewed as part of the evaluation.

- The **necessary infrastructure to support the programme within the organisation;** for example, a transformation or improvement team to manage and deliver the programme.

- **Engagement by executive members or boards within the organisation**; this was generally demonstrated through commitment from individuals from the executive level, a clear understanding

of how the FCA programme fit into the wider programme of work, and a wider programme of quality improvement initiatives

- Successful Local FCAs also tended to be considered **stable** organisations by interviewees; these were typically an NHS provider organisation such as a teaching hospital.

Development of these informal guidelines, and optimising the selection of Local FCAs, was considered to be a significant learning point by programme-level stakeholders during the first five years of the programme.

4.2.2 Adoption, adaptation and spread of the FCA Programme

Driving adoption: social franchise model

A **social franchise model** was introduced to enable spread nationally through the development of Local FCAs, as well as locally through the establishment of Big Rooms within Local FCAs. QI stakeholders viewed the franchise approach as one of the biggest strengths of the programme, as it enabled spread and local bespoke franchising.

During the first five years of operation, the FCA programme scaled to reach 11 other organisations at the programme's peak; although there has been significant drop-off since then as mentioned previously in **Chapter 3: Evolution of the FCA programme**. The initial peak has largely been informed by the principles of a social franchising model. The aim of this model is to identify essential features as defined by the Central FCA which must be adhered to by Local FCAs, while also allowing for flexibility with non-essential features. Programme-level stakeholders noted that this has been an area of ongoing development and learning for the programme, over the course of the last five years.

While the evaluation team has seen programme information describing the growth of the programme in terms of the overall number of Local FCAs, there is limited information on the growth of pathways that has occurred within Local FCAs. In addition, the Central FCA did not set objectives on the number of Local FCAs or pathways it aimed to develop during its first five years.

Programme adaptation

The programme covers a complex landscape of different organisations, with differing aims and objectives which do not always align. The **adaptability of the programme** was considered a key strength by programme-level stakeholders and has enabled this central team to identify which areas of the model need to be maintained and upheld (for example, the 18-day, 12-month training model, despite some pushback from Local FCAs), versus where it can be adapted. For example, whilst the overall length and time commitment for training was fixed, the central team has permitted some flexibility, such as in reducing some 3-day sessions to 2-day sessions. This aligns with data from the **FCA Session Feedback Survey** in which some Local FCAs mention they have adapted the training course to include local examples or removed certain workshops.

Programme-level stakeholders reflected on the importance of the programme members (particularly those based in the Central FCA team at STHT) being able to develop relationships and connections with colleagues, to work together to solve problems, as opposed to proposing a set or fixed solution. Furthermore, it was reported by Local FCA-level stakeholders that there is a sense of **partnership** across the programme, so that Local FCAs feel like 'co-owners' of the programme which is helpful in ensuring local colleagues feel that they can test, adapt and modify the model at the local level.

Programme spread

There was a mixed to positive picture regarding the extent to which the FCA methodology had been adopted more widely within the Local FCA organisations interviewed as part of the evaluation. Some Local FCAs reported that the programme had fostered a **culture of quality improvement**, especially with regard to improving data analysis methods, such as SPC charts, across the organisation. Other Local FCAs pointed towards 'soft skills' which coaches applied to other areas of their work, such as effective meeting skills and improved communication with colleagues. Pathway-level stakeholders echoed these conclusions, with many highlighting that though some changes were slow to happen, the programme had enabled a culture of improvement and made it easier to get people together to drive change.

> **"FCA gives you a skillset to influence culture in the day-to-day, gives you the tools to know when something goes wrong then what you need to do to make it right. It changes the way you interact on a fundamental basis at work, and that is something that is not lost."**
> Non-clinical coach

However, other organisations explained that the methodology had not been adopted more widely or beyond Big Rooms themselves. This was often due to the shorter length of time which the Local FCA had been established for, or the **competing quality improvement methodologies** in place within the organisation. A small number of QI stakeholders questioned the effectiveness of the programme at spreading QI behaviours at a larger level, as it focused on training a small number of people who developed their knowledge in a limited space. Some pathway-level stakeholders confirmed this difficulty of getting staff within their trusts who were not involved in the programme to understand and adopt the QI mindset.

There was limited evidence among interviewees from the programme and Local FCA-level stakeholders about the extent to which FCA methodologies had been adopted within the wider footprint of the Local FCAs. Some Local FCA leads highlighted how they had spread the methodology through the local training of coaches from other organisations. In addition to this, one Local FCA had partnered with nearby organisations to help deliver the programme and send staff to participate in the first-year training programme. However, few Local FCAs reported spread within their local footprint, meaning this has been difficult to rigorously evidence during this phase of the evaluation.

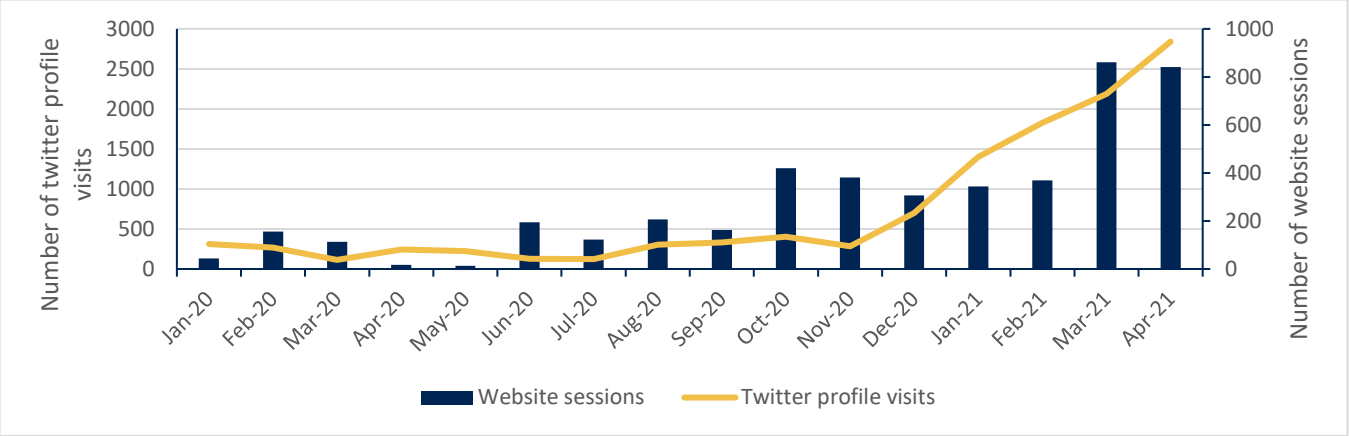
4.2.3 Communication strategy

Programme-level stakeholders provided an overview of the development of their communication strategy over the past 18 months. Recognising a need for a cohesive strategy, the programme hired an external consultancy, Randall Fox, to draft a communication strategy for the programme. This was then operationalised through the creation of a communications position within the Central FCA team. There are currently two elements to this strategy: an **external facing communication strategy** and an **internal facing communication strategy.**

The external facing communication strategy includes the programme website and marketing materials and is primarily used to promote and demonstrate the value of the FCA programme to external stakeholders and other organisations. A Communications Manager, with a focus on external communications, was brought into the team in December 2019. Based on monitoring information supplied to the evaluation team, the external communication strategy appears to have contributed to increased engagement across the FCA Twitter account and website. In terms of the number of profile visits on the FCA Twitter account and website sessions, figure 4.2 shows little change across 2020,

followed by a steady increase from late 2020[12]. The trends are similar across other Twitter and website measures provided in the monitoring information.[13]

Figure 4.2: Number of twitter profile visits and website sessions



The internal facing communication strategy includes the internal communication platform Workplace (developed by Facebook). Despite some positive feedback among those who did use it regularly, Workplace was generally reported to be not well used by Local FCAs and coaches. Coaches expressed that, while the platform is well-developed and holds lots of potential, it was not currently performing as they had expected. Local FCA-level stakeholders highlighted that the platform's link to Facebook created concerns around GDPR compliance, and many Trusts either prohibited its use by staff on their networks or required significant documentation and **Information Governance** checks for it to be implemented.

Where Workplace had been successfully rolled-out within an organisation, there were difficulties around **engaging coaches** to use the platform regularly. This was attributed to being 'another system with another password' for staff to log in to, as well as a lack of time on the part of staff generally reported to have been exacerbated by the demands of the pandemic. This sentiment was shared among Cycle 5 stakeholders, who found it difficult to keep up with the platform and review the high number of notifications.

> **"[Workplace] would have been fantastic if we hadn't all had to learn Zoom, and then we hadn't all had to lead Teams… and some of the other coaches have said 'oh god, not another application to look at'. I have not got to grips with Workplace"**
> Local FCA Lead

This finding is supported by results from the survey. A little over half (57%) of those surveyed were aware of Workplace, but over a third (36%) were not aware of it. Over half (55%) said they never accessed Workplace.

Despite these findings, there were some regular users, with around a third (34%) saying they accessed Workplace once every two weeks or more. Those who did use the platform were positive regarding the platform's ability to **connect Local FCAs with one another** quickly and easily, and for storing

[12] A website session is a group of user interactions with a website that take place within a given time frame. For example, a single session can contain multiple page views and social interactions.
[13] Up to date monitoring information was not provided to the evaluation team, and data is only for the period between January 2020 and April 2021.

documents and information for the programme. The survey indicated that out of those that said they did access Workplace, more than four in five (84%) thought it was a very or fairly helpful tool to connect with other members of the FCA programme, and nearly three-quarters (74%) thought it was helpful for reflecting on learnings from the FCA programme and for seeking general advice and guidance related to their pathway. Cycle 5 stakeholders also mentioned that Workplace was good for accessing e-learning modules, having resources libraries and being able to ask questions to others in the network.

4.2.4 Branding

There was recognition among programme-level stakeholders that the programme had created brand guidelines, standardised logos, and plans for ensuring consistency across the programme.

The FCA brand was respected and recognised within the QI community, but not particularly well-known outside it. All QI stakeholders interviewed were aware of the programme and thought it was respected and well-known within the QI community. However, they thought that the programme was not very well-known amongst Board-level members or staff not working in improvement. One QI stakeholder felt that the focus on flow made the programme appear as a niche QI programme not relevant to many sectors, and another thought that the programme's focus on middle management limited its recognition among more senior members.

> **"In the QI community, it is known by senior leadership, and I would say it is very well respected… outside the QI community, nobody has a clue what it is"**
> QI Stakeholder

One QI stakeholder noted that there were major opportunities for the FCA in promoting the brand, because several 'competitor' initiatives had faced recent challenges. They reported that the FCA could amplify its brand by highlighting success stories, having more presence at Board level, and including areas like governance and performance measurement. Another QI stakeholder thought it would benefit from being branded as a training programme rather than an improvement programme.

4.3 Delivery at the Local FCA-level

This section explores activities undertaken at the Local FCA-level of the programme, including the recruitment of Local FCAs, into the training programme, and their retention. Findings are primarily drawn from programme and Local FCA-level stakeholder interviews with representatives from the Health Foundation, Central FCA and Local FCAs.

4.3.1 Recruitment of Local FCAs

Organisations seeking to join the FCA programme as a Local FCA are recruited through the Central FCA. Prior to the COVID-19 pandemic, this was facilitated through **recruitment drives**, which would happen roughly once per year. This process included an initial conversation with relevant stakeholders at the organisation and a discussion around what would be involved with joining the programme. The Central FCA would then ask the organisation to fill out a **proforma** asking a set of questions. This would be followed by another round of discussions with key organisation stakeholders and then a decision would be made by the Central FCA.

Programme-level stakeholders described strengths and weaknesses in this process. It was highlighted that the programme has been **easy to promote**, and it has not been difficult to demonstrate the value to organisations who expressed interest. This has helped to generate a wide pool of applicants, particularly

in latter cycles, and allowed the Central FCA to be selective in the organisations seeking to join the programme using the criteria noted earlier.

However, engagement of Local FCAs was often felt to be **driven by individuals** within organisations who had an intrinsic motivation for quality improvement; for example, they were often involved in other improvement programmes, such as Generation Q, prior to joining the FCA programme. This was reported to be a hindrance to a core programme aim to attract organisations without a strong track record in quality improvement projects. In addition to this, there were also views from some programme-level stakeholders that the recruitment process may have been too selective and restrictive to potential organisations that may have benefited from the programme, despite their limited experience with QI.

Local FCAs generally felt that the expectations of the programme were clear from the outset; however, a few noted that the initial training cycle was a **significant resource commitment**. The MoU was cited by one interviewee as a clear means to establish this expectation and remove any ambiguity. Where Local FCAs felt that the process was not clear, they explained that they did not receive the proper documentation detailing this expectation upon joining the programme which led to difficulties with delivering the programme in terms of staff time and organisational funding.

4.3.2 Training of Local FCAs

Following recruitment into the programme, Local FCAs undergo a 2-year training and development cycle. During the first year, participants from Cycles 1-4 were sent to STHT for an initial 12-month programme where they were trained by members from the Central FCA team. During the second year, Local FCAs are expected to implement the FCA programme independently in their organisation. For Cycles 1-4 this was coupled with intermittent onsite support from the Central FCA, although interviewees did not mention if this would be modified for future Cycles. Finally, in the third and fourth years, Local FCAs are expected to run the course with minimal input and support from the Central FCA.

Year One. Similar to the findings in the formative evaluation, the initial 12-month training programme was generally thought to be an effective and necessary way to build the skillset that is required for coaches to deliver their Big Rooms within their local organisations. With regard to the length of the training programme, programme and Local FCA-level stakeholders felt that the year-long curriculum was necessary for developing these coaching and interpersonal skills. One interviewee described the process as going from "consciously incompetent to consciously competent" [Programme-level stakeholder], noting that coaches – through the course training – go through a cycle of first learning what they do not know, before being trained and filling those knowledge gaps.

Interviewees also highlighted that the 12-month coaching programme creates a "shared learning environment" [Programme-level stakeholder], which was facilitated by bringing a group of trainees from across the country together in Sheffield; this was felt to foster conversations, allow coaches to learn from one another, and build long-term relationships. Findings from the monitoring information, which included the **FCA Session Feedback Survey** and **Post It Note Evaluations**, support these observations. Feedback was generally positive, and coaches highlighted the interactive group work and action learning activities as a key strength. This was felt to be underpinned by strong engagement from attendees and course facilitators. The content of the courses was also praised, especially those covering statistical methods such as SPC Charts and Pivot Tables. Coaches also liked the icebreakers, splitting into smaller sub-groups and collective learning reflections, as these enables interaction with other coaches and helped them identify similar issues across pathways.

Most pathway-level stakeholders reported positive changes to both their, and colleagues' roles because of taking part in the FCA programme. Coaches reported seeing an improvement in their trust's culture of collaboration, a more flattened hierarchy, more access to networking, better working between departments, and a greater understanding of each other's roles. They felt that the Big Room facilitated conversations of how things could be done differently and gave participants a greater understanding of the complexity of pathways and the level of investment needed to deliver changes successfully. Results from the survey correspond with this finding with the majority of respondents feeling that the programme had improved cohesion between them and their colleagues (85%) and helped to create a sense of trust with colleagues in their Big Room (85%). They also reported feeling more confident about talking to others and suggesting new ways of working; this is again supported by results from the survey, where over three quarters of respondents felt they were able to drive change within their pathway (77%) and drive change within their organisation (77%).

QI stakeholders thought the FCA methodology was well constructed and that a particular strength was its ability to bring people together to focus on their organisation's culture of improvement. Pathway-level stakeholders echoed these strengths, and noted that they valued the sense of collective ownership of changes and flattened hierarchy created by the programme. They also felt it was impactful for staff within pathways to be driving changes as opposed to outsiders coming in to make changes.

> **"I did the generation Q programme […] and never thought I would do a programme as good as that again. FCA was even better because what you can achieve when you work as part of a team of coaches being trained is much greater than what you can achieve as an individual"**
> Non-clinical Coach

Despite the reported effectiveness of the 12-month training programme, interviewees noted that the length of the training and **day-long sessions acted as a barrier to some** organisations considering sending their staff to the programme. Feedback collected from the monitoring information surveys mentioned that attendees would often need to leave sessions early in order to return back to their organisation. The long training programme was felt by some programme-level stakeholders to be compounded by the additional length of time generally taken for Big Rooms to create noticeable change (another 12 months typically). However, it was unclear whether this concern had a significant impact on recruitment and uptake to the programme. Additionally, one of the key criticisms of the training from the monitoring information surveys was that it was often felt there was not enough time to cover all the materials during the session. This was especially true for subjects which were deemed to be more 'complex' such as SPC Charts and the Theory of Constraints. Some coaches were unable to keep up with the e-learning and exercises due to time constraints, and hoped for easier ways to access and review course contents, such as being able to view e-learning contents on their phones.

Pathway-level stakeholders reiterated that the length of the training was an issue because they **did not have protected time**, especially during the COVID-19 pandemic, which made it difficult for them to keep up with the learning programme. Some noted the lack of senior support meant that it was harder to obtain this protected time.

QI stakeholders suggested some improvements to the programme curriculum. This included that it could be more flexible for adapting to different contexts (such as community settings and social care) and levels of prior QI knowledge. They also suggested it should focus on a fuller range of aspects such as staff experience, inequalities and population health.

Year two. During the second year, the Central FCA was on-hand to assist Local FCAs with the delivery of the programme. This involved being physically present at Local FCAs to help facilitate delivery of sessions, frequent ad-hoc phone calls, and regular meetings with Local FCA faculty. This level of involvement was considered necessary to enable Local FCAs to fully deliver the programme independently during the third and fourth years.

The Local FCA leads we spoke to were **positive about the support received from the Central FCA**, particularly in relation to having an experienced member of the central faculty on hand to address specific delivery issues or guide them through coaching sessions. However, there were concerns regarding the sustainability of this model due to the resource intensive nature of the support offer on the part of the Central FCA. A significant amount of time was required to travel for the face-to-face support, especially given the geographic spread of the Local FCAs. For example, one programme-level stakeholder described needing to take a day-long trip to a Local FCA to provide support for one session.

Years three and four. The intensive support provided to Local FCAs was felt to be necessary to ensure a light-touch approach to support during the following years. Generally Local FCAs provided few comments on the level of support received from the Central FCA in the third and fourth years. However, one noted that the drop-off in support felt significant and that a tapered approach might work better. There were also some comments that communication from the Central FCA could be more consistent or structured past year two (see section 3.4.2). We were unable to obtain enough management information from the programme to conclude whether this has succeeded or not.

4.3.3 Local FCA support

Survey results suggest that Local FCAs are communicating regularly with pathways and coaches in their area. Over half of those surveyed (55%) said they were in contact with coaches from their Local FCA (excluding those in their pathway) once a month or more, and 56% said they were in contact with faculty within their Local FCA once every six months or more. **Participants at the pathway level also felt supported by their peers.** Over three quarters (76%) agreed that they felt supported by other Big Room participants and coaches in their pathway, and over two thirds (67%) agreed they felt supported by FCA faculty within their Local FCA. Over half (55%) also agreed they felt supported by other Big Room participants and coaches outside their pathway.

4.4 Delivery and outcomes: Cycle 5

Given the changes brought about by the COVID-19 pandemic to the FCA training programme, the following sub-section focuses on how Cycle 5 has been delivered, particularly under the 'hybrid training model', as well as early outcomes. The insights below are drawn from interviews with Cycle 5 strategic leads, clinical and non-clinical coaches from three Cycle 5 organisations which delivered the programme using the new model. The interviews focused on processes and learning rather than outcomes, as the Cycle only kicked off at the beginning of 2022.

4.4.1 Rationale for joining the programme

Cycle 5 participants were made aware of the FCA programme through different services, including their own network, conferences and a presentation given by the Central FCA team in Sheffield. Participants were interested in the FCA programme for a range of reasons. Some reported that the methods were valuable and wanted to introduce collaborative improvement working methods and networking, and others wanted to complement their own in-trust QI programmes. One said they were particularly interested in the FCA programme as it was clinician-led and not hierarchical; they contrasted this to

consultancy transformation programmes which decide changes for the trust often without consulting clinicians.

> **"The FCA offer is different […] the sharing of knowledge, it's about the Big Room, there's no hierarchy, anyone can say whatever they want. It's also the emphasis on coaching and facilitating […] I think from the courses I've done over the years, I don't think I've come across anything in a course like this, that over months, allows you to develop those sets of skills."**
> Cycle 5 Non-clinical Coach

4.4.2 Onboarding and training

Cycle 5 participants were overall happy with the preparation and onboarding process. They recalled having to do preparatory work such as questionnaires and interviews. They felt the onboarding worked very well, despite the virtual drawbacks of not being able to meet in person. Cycle 5 participants felt the FCA was supportive in the set-up, but many found getting Workplace set-up on their systems difficult as they had to get approval from IT. One participant found using Workplace particularly challenging, as most of their trust communications had moved online and Workplace became another platform that they had to learn how to use and regularly check.

Training was mostly delivered as a mix of live online classes, e-learning modules, and face to face training. **Cycle 5 participants were generally positive towards the delivery of online classes,** as it helped make the training more interactive and accessible. One clinical coach noted that virtual sessions were easier to attend. Participants appreciated the flexibility of pace offered by the e-learning modules. These could be completed before training, but there was an understanding that this was not always possible so there was less pressure, and they could also be revisited afterwards if needed.

> **"The trainers were very good at catching people up and then using the session for discussion."**
> Cycle 5 Clinical Coach

Cycle 5 participants thought that within the circumstances, **the balance of delivery methods worked well**. However, they did suggest some potential improvements; this included providing more elements of face-to-face training, especially at the beginning of the programme. In terms of materials, some coaches suggested having a physical booklet of FCA trainings, recording online sessions and better signposting of training dates (such as sharing the Calendar and putting in diary invites). A minority of participants **did find the blended approach challenging**. Two participants felt there was too much e-learning, and that for difficult topics this self-directed learning style was not helpful. One participant mentioned that there was a difference in the quality of trainers, and that therefore some modules were more difficult to understand.

Overall, Cycle 5 participants felt the **training helped improve their knowledge and use on a wide variety of QI tools and methods**. They felt prepared to use these in their pathways and other projects and found the e-learning helpful in consolidating what they learnt. Two participants mentioned they found the roadmap unique and helpful for guiding them through the process of making changes. Cycle 5 participants also thought the mix of clinical and non-clinical staff allowed for helpful networking and for bringing people with different skillsets together to solve a shared problem. One participant mentioned one of the programme's biggest strengths was that it prevented organisational memory from being lost by building up knowledge across teams as opposed to individuals.

In terms of coaching, the mix of **theoretical and practical learning** was highlighted as **working particularly well.** Coaches thought that the training helped them be better at coaching and learn new methods and have a better approach to communicating with others. One coach mentioned they felt much more confident in their ability to lead change. Some coaches felt that there were a lot of models and would have welcomed more time to practice and understand them, or summary files (like crib sheets) to remember them.

The data collection training was well received, especially by those who did not feel comfortable analysing data. Coaches thought it covered core methods well and allowed them to practice running analysis and visualising data. One coach thought it would be useful to have more in-depth tutoring around data collection methods as staff had different levels of prior knowledge.

Despite the differences between other cohorts and the new model, **the Cycle 5 training was delivered to positive reviews from participants**. The core elements of the training were sustained and the hybrid learning element worked well. While online learning relieved previous time pressure concerns and allowed for more flexibility, the human element remained important, with participants wanting more face-to-face interactions and opportunities for wider networking.

4.4.3 The wider FCA network

Although the virtual delivery made developing relationships with the wider network slower, **Cycle 5 participants felt they were part of a group and were able to make connections with others working in the same pathways**. Some participants had been in contact with, or attended other trusts' Big Rooms, and reported feeling more confident after hearing others' learnings. Those who had not interacted said this was due to lack of time but welcomed more opportunities to engage with the wider network.

4.5 Programme and Local FCA outcomes

4.5.1 Developing strong relationships and trust across the network

In the same way that Central FCA stakeholders emphasised the importance of the relational aspects of the programme, so too Local FCA stakeholders valued the **collaborative aspects** of the programme. The role of the Central FCA in bringing together Local FCAs to learn from one another was highlighted as highly valuable. One Local FCA lead commented on how, when confronted with a problem from a Local FCA, the central team would make connections with another local team who had tackled a similar issue. The Sheffield team were recognised for their role in expanding the networks of local teams, a role that Local FCA-level stakeholders felt would not happen as effectively without this central function. Despite the rapid growth of the programme over the last five years, Local FCAs fed back positively on the ongoing strength of their relationship with the central team and the key role of the Programme Manager in maintaining this connection. One Central FCA stakeholder referred to **relationship development as the 'soul of the programme'.**

However, there have been some challenges in developing and maintaining relationships over the course of the programme. One programme-level stakeholder reflected on previous issues with the Central FCA holding only one relationship within a Local FCA; this can become a 'single point of failure', for example if that individual leaves the organisation. Consequently, the central team has consciously worked to avoid this issue, by **building relationships at multiple different levels** across the programme, and with three or four contacts in each Local FCA.

4.5.2 Promoting QI leadership and a culture which focusses on relational aspects of QI

Programme-level stakeholders felt positive that the FCA programme was helping to drive a change in healthcare culture, in select locations, but that this was very challenging to evidence. At a high level, programme-level interviewees felt that the programme was helping to drive understanding across the healthcare sector about the integral importance of relational aspects to delivering effective QI work.

Moreover, involvement in the programme is reported to have directly contributed to multiple **promotions for coaches** trained through the programme. Some of these promotions have been to senior roles, including leadership roles, and therefore programme-level stakeholders felt that the programme was helping to develop a new era of leadership, underpinned by an in-depth understanding and frontline experience of what it takes to deliver QI work effectively, alongside a framework for tackling change and challenges. This is strengthened by the longevity and reach of the programme, which one programme-level stakeholder felt had allowed the programme to reach a 'critical mass' of people which is enough to stimulate and sustain a movement. However, this is challenging to evidence with the available data.

4.5.3 Spreading knowledge and best practice examples of QI beyond the FCA Network

At a **national level**, the Health Foundation has worked to spread knowledge and best practice from the programme and into the wider QI and healthcare communities. The Health Foundation has a clear national presence in the development of QI theory and its implementation, and has a substantial network with which to engage and share learning from the FCA programme. Examples include promoting the work of the FCA programme through the Health Foundation's **Q Community** (an engaged community with around 4,000 members, run by the Health Foundation, with the aim of using QI techniques to improve health and care across the UK and Ireland). Many of the FCA coaches are also Q members, and this therefore presents a valuable opportunity for coaches to be able to share case studies and learning from their work on the programme with a large group of like-minded professionals. The Health Foundation also has the relevant **in-house expertise and capacity** (for example, research and communications expertise) to develop learning materials – including the 2020 Learning Report – and then distribute these to large audiences across the healthcare sector.

> **"We put the full strength of the Health Foundation's communications infrastructure behind [the learning report] and promoted that very hard through all our social media and web channels, but also through key senior staff at HF sharing the report with important senior contacts across the system'."**
> Programme-level stakeholder

Together, the Health Foundation, Central FCA and some Local FCAs have co-presented on programme learning at several **conferences** as a way of drawing together learning across the different levels of the programme. For example, senior colleagues from the Health Foundation, Central FCA and FCA Lancashire presented at the NHS Providers conference in October 2020 to help enable knowledge mobilisation and generate further contacts who may be interested in joining the programme. Likewise, the programme team will present at the HSR UK conference in July 2021, to discuss the implications of the pandemic on delivering QI work.

At a **local level**, some Local FCAs have also been able to spread knowledge beyond the direct FCA network. For example, one Local FCA invited colleagues from other health and social care organisations in their region to be trained as coaches within their local academy. Pairs of coaches, with a background in QI work, joined the Local FCA for training and the team found that consistently similar pathway challenges were raised (challenges in perioperative and frailty pathways in particular). This collaborative

and cross-organisational approach to the training therefore enabled the sharing of pathway-level learning beyond a single Trust and across the wider region.

4.5.4 Key local, regional and national stakeholders recognise FCA as effective methodology

All QI stakeholders interviewed had first or second-hand experience of the FCA programme and had a good understanding of its methodology. They were first made aware it of through their networks or QI forums which they attended. QI stakeholders agreed that the FCA programme design was supported by the evidence base, especially as it was led by knowledgeable, credible people. They understood the aims of the programme to include increasing the improvement capability of staff by using coaching and QI methods, and supporting a network of organisations dedicated to improvement capabilities. Those who were directly involved with the programme had a good understanding of the methodology and thought it was well-designed to help transform services and deliver change.

QI stakeholders were less aware of programme outcomes, and some were concerned that they had not seen evidence of these. Those who were directly involved with the programme had seen first-hand outcomes such as Big Rooms developing and virtual training, but could not comment on the programme's overall impact.

4.5.5 Flow coaching community / network is cultivated

The larger FCA network was seen as having great potential but was hindered by stakeholders' lack of time to engage with others outside their organisations. Pathway-level stakeholders were very positive about the larger FCA network. They reported that through this network they were able to access invaluable learnings from others and seek advice from those who had already gone through similar challenges.

> **"[The FCA] enables us to learn from others to deliver improvement in a way we couldn't if we weren't connected across the network"**
> Non-clinical Coach

Pathway-level stakeholders also mentioned examples of in-person networking such as events in Sheffield they had been able to attend prior to the pandemic. There was interest in resuming such events and in organising more alumni events where they could meet other coaches and learn about what impact they have had in other trusts. One pathway-level stakeholder was particularly interested in events related to sustainability where they could learn from others what were the enablers to sustained pathway changes.

Despite realising the benefits of the larger network and wanting to engage, most pathway-level stakeholders had not made full use of it. Over half (52%) said they never contacted other coaches outside their Local FCA, and only 16% said they contacted them once every six months or more. Only around a third of participants (29%) said they felt supported by other members of the FCA programme outside of their Local FCA. The main reason pathway-level stakeholders gave for not engaging more with the network was a lack of time. This was partly due to the lack of in-person events, which meant coaches had to proactively seek others in the programme.

4.6 Influence of contextual factors on outcomes at the programme and Local FCA levels

4.6.1 Leadership and executive support

Effective leadership and executive support within the provider organisation were frequently mentioned as a key factor to successful engagement and outcomes within a Local FCA. This is critical

from the outset of the programme; programme-level stakeholders noted that - over the course of the last five years - they have increasingly acknowledged the value of upfront engagement with senior leaders prior to the onboarding of a new Local FCA. This is because it is now well understood that the programme is unlikely to thrive at the local level without their support. On the rare occasion that Local FCAs noted insufficient early engagement between Central FCA and senior Local FCA leaders, this has caused a lack of clarity at the local level, and challenges in securing sufficient time and resources for the programme.

Local FCA-level stakeholders spoke of the challenges involved where senior leaders were not sufficiently engaged in the programme. When senior leaders do not have a good understanding of the programme's resourcing requirements (notably staff time), it can be challenging to protect time on job plans which can ultimately stall the programme's progress, particularly due to a lack of coaching capacity. Interviewees reported that it is not sufficient simply to have an executive sponsor; this sponsor needs to be able to communicate effectively with the coaches, wield sufficient influence and thereby help to enable the work. This has not always been the case for all Local FCAs. Moreover, not all senior leaders think in the same way. In one example, a Local FCA-level stakeholder referred to tensions between executives and senior clinicians, relating to differing opinions on strategic objectives.

> **"[I'm] not sure senior leadership are fully cited on the work. If we are trying to influence organisational cultures, that is a place that we are struggling at currently. There isn't a great culture and strategy/direction around QI. But that is something we are working on and I'm trying to use FCA work as a way of pulling our QI work together and aligning it."**
> Local FCA-level stakeholder

4.6.2 Faculty composition and retention

In the same way that senior leader engagement and support is a key enabler of developing and maintaining a Local FCA, **seniority was also valued in faculty composition** (referring to the group of staff that either deliver FCA training within their Local FCAs, and/or manage the Local FCA). Local FCA-level stakeholders reflected on the challenges that more junior colleagues faced in trying to pioneer change at the pathway level. Senior colleagues were valued for their authority, which could help to enact change, as well as the experience these colleagues bring to Big Rooms. This is shown through skills such as effectively chairing meetings and managing conflict. However, there was a recognition that the demanding capacity requirements of the FCA programme and training meant that it could be difficult to engage senior clinicians and managers as coaches.

Consistency in faculty composition and the retention of coaches was also cited as an enabler of outcomes. This has been challenging for many Local FCAs, given the fact that the programme is often perceived as a leadership programme and many coaches are subsequently promoted to more senior roles which preclude them from continuing as coaches. Moreover, one Local FCA stakeholder suggested that clinical roles are typically held for longer periods than their non-clinical counterparts, which often have a shorter tenure with a higher degree of turnover. This can add a specific challenge in terms of non-clinical coach retention. As a result of these factors, some pathways are now being maintained by just one coach, which can add constraints in terms of pathway progress.

> **"Our faculty is a key strength – they have all done FCA themselves. They are predominantly clinical and are very tapped into needs of organisation."**
> Local FCA-level stakeholder

4.6.3 Pace

Some interviewees commented that the FCA programme operates at a slower pace than other QI methodologies. Setting-up Big Rooms from scratch is a **time-consuming** endeavour and they can take several months to become operational. Achieving change in terms of designing, implementing and then evidencing pathway-level changes is then also a slow process, something that is widely recognised and accepted at the Central FCA level. However, this sometimes clashes with executive- and Board-level expectations about timeframes for achieving change and an organisational impetus for rapid delivery. This can cause tension between senior leaders and those delivering Big Rooms and changing pathways on the ground, who more closely understand the time requirements that are involved.

4.6.4 Stability of provider organisations

At a Central FCA level, stakeholders were able to reflect broadly on the criteria that could define success and achievement of outcomes for local providers. The **contextual performance and stability of the organisation** is central to this (which is unfortunate in some respects for the programme). Only in rare instances (for example FCA Lancashire) did it appear that the FCA programme and model could overcome contextual challenges such as external scrutiny for performance-related issues, poor or unstable leadership and management, or organisational restructures. This could be seen as potentially limiting the reach and potential impact of the programme, although it is clear that overriding all organisational problems is beyond the defined scope and ToC of the programme.

One programme-level stakeholder commented on FCA Lancashire being somewhat of an outlier in this regard. Despite facing several contextual challenges, the Local FCA had senior-level buy-in from a leader who had previously been involved with the Health Foundation's Q Programme. The result is a leader who is firmly bought into the FCA model, and has integrated the FCA methodology fully into the organisation. This means that the FCA methodology now provides the organisation's 'go-to' approach for handling change and challenging situations.

4.7 Sustainability of Local FCAs

This section looks at the sustainability of the programme at the Local FCA level. Given the continued funding provided to the programme by the Health Foundation, interviews with Local FCA stakeholders suggested that future sustainability and financing has not been given extensive thought at the Local FCA-level to date. However, several themes did emerge through interviews.

4.7.1 Existing work to generate local income

A handful of Local FCAs discussed work that they had already undertaken to help **establish local funding streams**, with the intention of covering the financial requirements of running a local academy such as faculty time to teach the course. Some Local FCAs appear to be covering their costs with a fee paid to the Local FCA by local organisations where the newly trained coaches are based. Other areas have sought funding from their local Academic Health Sciences Network (AHSN), or Integrated Care System (ICS). However, there does not seem to be a standardised approach to this, and one Local FCA recognised that local teams could do more to support the Central FCA in terms of income generation. This would require guidance from the central team but, as one Local FCA noted, it could help to spread a further degree of ownership of the future of the programme across the network to the Local FCAs.

A few programme-level stakeholders identified the strong alignment between the **FCA programme and regional objectives** within the NHS. One Local FCA-level stakeholder mentioned that the programme had been well-received by the local ICS / Sustainability and Transformation Partnership (STP), and that

the FCA methodology is highly suited to cross-partnership working and systems thinking. This was identified as an opportunity area for the programme, albeit not without challenges: one stakeholder mentioned the variability of existing QI knowledge between different organisations and structures, with some potentially less well-informed than others. Primary care networks were cited as an example of this.

4.7.2 Value of the Central FCA programme management function

Several Local FCA-level stakeholders noted the value of the Central FCA in performing a programme management function and that future sustainability would be threatened by its removal. The value of a consistent support function covered multiple different factors, including:

- The ever-evolving nature of the FCA programme, thereby requiring consistency in management
- The recognisable brand that is offered through a centralised function
- The valuable governance role performed by the central team
- The intrinsic role of the Central FCA in maintaining momentum and ensuring the programme continues to deliver.

4.7.3 Sustainability charge

Some Local FCA-level stakeholders noted that a natural next step for the central team might be to **commercialise the franchise model** in order to cover programme expenses in the longer-term. Early indications suggest that this model might be viewed more favourably by some Local FCAs than others. At this early stage, it is hard to be certain, but it may be the case that more established Local FCAs – where the methodology has been supported for a long time and has demonstrated value for local organisations – may be more willing and able than other Local FCAs to justify paying a 'sustainability charge' for the programme. However, for organisations that have been particularly affected by the pandemic, which may be in financial difficulty, or which may be newer to the programme, committing to an ongoing fee may be more challenging and potentially prohibitive. Further engagement with existing and potential future Local FCAs would be helpful in refining this model.

Chapter Summary

The programme team **refined their recruitment criteria (for Local FCAs) as the programme progressed**, building on formative learning. This was described as a learning process, with interviewees identifying the following as being valuable: i) working with key individuals who are keen to engage and drive improvement locally, often with a pre-existing link to either the Health Foundation or the Central FCA; ii) ensuring senior-level engagement within the host organisation from the outset, with a clear understanding of expectations; iii) infrastructure to support the programme, including an absence of significant challenges within the host organisation (e.g. major restructure or leadership challenges).

There has been some challenges about the degree to which onboarding to the programme is driven by local individuals with intrinsic motivation and experience, and whether or not there is sufficient support to engage organisations without a strong track record in QI.

Once recruited to the programme, Local FCAs were positive about the three to four-year training and onboarding process:

- The first year consists of a 12-month training offer whereby faculty are trained-up on FCA methodology. Despite some reservations about the length of this training, it was generally felt

that this was the amount of time that was necessary to develop the skills needed to run the programme. The required level of commitment reinforces the need to ensure host organisation buy-in;

- The second year includes the Central FCA being on-hand to offer support to Local FCAs as they deliver the programme. This support offer was well-received by Local FCAs, however there were some concerns as to the long-term sustainability of this option due to the time commitment required from the Central FCA;

- During the third and fourth years Local FCAs are expected to deliver the programme independently with minimal support from the Central FCA, although the central team facilitates the FCA network which – pre-pandemic – was maintained primarily through networking events which appear to have generally been positively received.

Over the past five years, and prior to the onset of the pandemic, the FCA programme has been able to scale from one localised site to 11 Local FCAs geographically spread across the UK. Since the pandemic however, three Local FCAs had been put on hold due to the pandemic, and a further four have dropped out of the programme, generally due to reasons linked to the strategic direction of the trust.

Communication across the network has been driven by both **internal and external communications strategies**. Based on monitoring information supplied to the evaluation team, the external communication strategy appears to have been successful in driving engagement across the FCA twitter account and website. Meanwhile, the internal communications strategy has recently led to the introduction of Workplace, an online communication platform which allows Local FCAs to interact with one another. Roll-out of this platform has been mixed; despite seeing the inherent potential in this platform, the programme has encountered issues with information governance requirements and engagement from Local FCAs and coaches.

Roll-out of Cycle 5, which moved from in-person training to a 'hybrid' learning model, mainly received positive feedback from participants. The core elements of the previous programme were maintained, and the hybrid model allowed provided a greater degree of flexibility. They were positive towards the mix of theoretical and practical learning, as well as the training on data collection. However, some participants felt the human element was missing and that the training could benefit from more face-to-face interactions and opportunities for wider networking.

The different programme stakeholders have helped to shape the FCA programme over the past five years. The **Health Foundation** has played a key role in developing the programme, including supporting the Central FCA team with business development, income generation, and strategic decision-making, while the **Central FCA** has provided strong support to Local FCAs and built connections across the network.

The programme has had varying success in reaching programme and local-FCA level outcomes. Both the Health Foundation and Central FCA had worked closely to help develop strong relationships across the network, particularly between the Central FCA and Local FCAs; however, the extent to which a Local FCA Network had been developed is limited, largely due to the impact of COVID-19. There was also some evidence to suggest that the programme had helped to drive a change in healthcare culture and was being promoted beyond the FCA programme through conferences and via QI networks (such as the Q community). The degree of executive-level support, involvement of senior leaders within the FCA faculty, and stability of the provider organisation were all felt to be important factors for achieving successful outcomes at the Local FCA level. Some Local FCAs had started to explore ways to ensure sustainability beyond programme funding; however, these initiatives were novel and not widely tested at the time of the evaluation.

5 Delivery and outcomes at the pathway level

The Big Room is the core of the FCA intervention and the main forum for potential impact on patient outcomes to be generated. This chapter sets out how the programme was planned and delivered at this 'pathway' level, analysis of outcomes, and contextual influences. It also covers the barriers and enablers to enacting changes, and the sustainability of Big Rooms, particularly considering the COVID-19 pandemic. The final section of the chapter covers the cost analysis for one of the case study pathways. These insights are based on 11 interviews with pathway-level stakeholders and results from the survey (n = 42); it also draws on findings from the **impact evaluation** and the **cost analysis**, the full findings which are found and **Appendix Three and Four**, respectively.

Table 5.1: Principal evaluation questions addressed in this chapter

Evaluation question	Degree to which it is addressed
What has been the impact of the programme during its first five years of operation?	Addressed at the pathway-level.
What contextual factors have influenced outcomes at the pathway and Local FCA level?	Addressed at the pathway-level.
What features of the programme have influenced programme outcomes?	Addressed at the pathway-level.
To what extent has the FCA programme been sustained at the Local FCA level?	Addressed at the pathway-level.
What has been the ratio of costs to benefits of the FCA programme?	Addressed partially at the pathway-level.

5.1 Delivery at the pathway (Big Room) level

This section gives an overview of the selection and types of pathways within Local FCAs, how they are delivered and data is collected, as well as barriers and enablers to delivery, and a brief overview of the pathways implemented under the Cycle 5 training programme.

5.1.1 Big Room pathways

The pathways identified through the interviews were most commonly selected as part of a larger organisational strategy or to address a specific area of concern within the Local FCA. For example, one Local FCA highlighted how they had selected a pathway following an audit which placed them at risk of being an outlier for mortality outcomes within a specific pathway.

The programme encompasses a **diverse range of pathways**. Through the interviews and survey, the evaluation team has been told that over 120 pathways have started work over the past five years, and evaluation identified approximately 25 distinct pathways which have been developed over the course of

the programme (although not all of these were still active). However, in **the absence of a core programme database**, the evaluation team cannot accurately report on the exact number of pathways. Of the pathways identified through the survey, Orthopaedic care was the most commonly mentioned pathway (14%), followed by dementia, end of life care, oncology, and acute and critical care (10% each). It should be noted that there was a wide spread of different pathways identified through the survey results.

5.1.2 Identifying and enacting change in pathways

Big Rooms tended to follow the similar process for **identifying issues and enacting change**, albeit with some adjustments. Prior to starting the Big Room, pathway-level stakeholders described a process of planning for the logistics of the Big Room, including sourcing rooms, choosing convenient times for participants and planning who needed to be invited to specific sessions. Some pathway-level stakeholders explained that they put significant time and resource into mapping the stakeholder and patient groups involved with the pathway at the outset. For example, a pathway-level stakeholder described scheduling engagement sessions with target groups to encourage participation. Not all pathways did this, and while those that did take this step recognised that it took up additional time and resources, they also felt that it was beneficial in ensuring the right groups were present in the Big Room.

The initial Big Room sessions generally focused on developing **shared ownership of the pathway.** These sessions did not necessarily have a clear aim or goal. One Big Room member described how their initial session focused on what participants liked and did not like about the department; they then proceeded to map these findings to identify which areas they should focus on through the Big Room. Another described a similar process, whereby they brought together all stakeholders involved in the pathway from the initial outset to have a ‘big’ Big Room to discuss aims and objectives. However, other Big Rooms were slightly more structured; one pathway-level stakeholder described how they set out an agenda and priorities from the outset of the Big Room, but also invited participants to add priorities during the initial sessions.

In line with the diverse range of pathways, Big Rooms worked towards a **varied number of pathway changes.** Some changes were highly specific and identified clear areas for improvement; for example, a Sepsis pathway identified through an internal study that nurses are as accurate in prescribing antibiotics as doctors, and therefore wrote a PGD for nurses to prescribe antibiotics to improve staff capacity. In contrast, others are much less specific and were working towards less clear areas of improvement; for example, one End of Life pathway was working towards building relations and engagement with other departments, as there was no clearly defined End of Life pathway within the trust.

Once an issue was identified, pathway-level stakeholders described an **iterative process of testing out solutions.** Interviewees described a process of trial and error, and often pursued, or had to finesse, solutions that did not always catch-on at first. PDSA cycles were frequently mentioned as the primary approach to testing out solutions. The extent to which changes were data-driven tended to be linked to how well embedded technology was within the trust. Some coaches commented on focusing on ‘easy wins’ first before tackling larger or more engrained issues. Not all of the solutions tested through the Big Room worked, and these initiatives eventually had to be abandoned.

Box 5.1 An example of a "*quick and easy*" win: Samples sent to microbiology

One pathway quickly identified that a department was transporting samples to microbiology incorrectly, including mislabelling samples and not sending them through in a timely manner. Where this occurred, it sometimes led to delayed analysis of the sample, and meant that the patient had to have strong IV antibiotics which are non-specific and need to be administered over a longer period of time. The Big Room identified this issue and took small measures to ensure the sample was correctly labelled and delivered in time where required. Overall, this process took three months from identification to embedding the solution.

Nearly all of those who were interviewed felt the Big Room was able to **instil a sense of confidence** in participants and **levelled out hierarchies within departments**. This was felt, by pathway-level stakeholders, to create an environment where participants were enabled to raise issues with the pathway and be heard. Pathway-level stakeholders explained that while these issues likely would have come up eventually, the Big Room sped up the process of problem identification. This was attributed to having more senior-level staff present in the Big Room, who were able to hear issues from all levels of the department more directly and quickly than through regular department channels. This is supported with results from the survey, where 'flattened hierarchy' ranked as the third most beneficial characteristic of the Big Room (38%).

> **"It's the resource and the escalation - having access to those senior people who would enable some of the more tricky changes that need senior level input. The Big Room in itself is fantastic, but there is a ceiling at to which actually decisions need to be taken away from that room."**
> Non-clinical coach

5.1.3 Data collection to evidence outcomes

Due to the diversity of changes introduced through Big Rooms, Local FCAs collected a varied range of data to evidence their outcomes and impact. Commonly collected measures include Length of Stay (LOS), wait times between referrals, and time taken to be seen by healthcare professionals. Patient outcomes were also recorded, some of which were applicable across pathways (such as mortality) and others which were specific to the pathway in question (such as a specific mental health score). Some Big Rooms were also gathering qualitative data, such as patient feedback.

Pathway-level stakeholders frequently felt that **data collection at the pathway level was challenging.** There were several reasons for this, including not having the necessary expertise, not having effective data collection processes in place, or encountering issues with accessibility of data. They explained that it was sometimes necessary to develop a specific data dashboard in order to collect and analyse data on a specific pathway, which was felt to be very resource-intensive and time-consuming. The quality of data collected at the pathway level to evidence outcomes is discussed in more detail below in section 4.3.

Local FCAs, which did not encounter as many issues with data collection, felt that they had a good internal data team which could support them in this process already in place. One Local FCA described how they had established a central data analytics unit within their FCA programme which worked with pathways to help them collect data and evidence outcomes. While the pathway was ultimately responsible for collecting data themselves, the data analytics team was available for advice and consultations, and provided in-depth analysis of pathway outcomes.

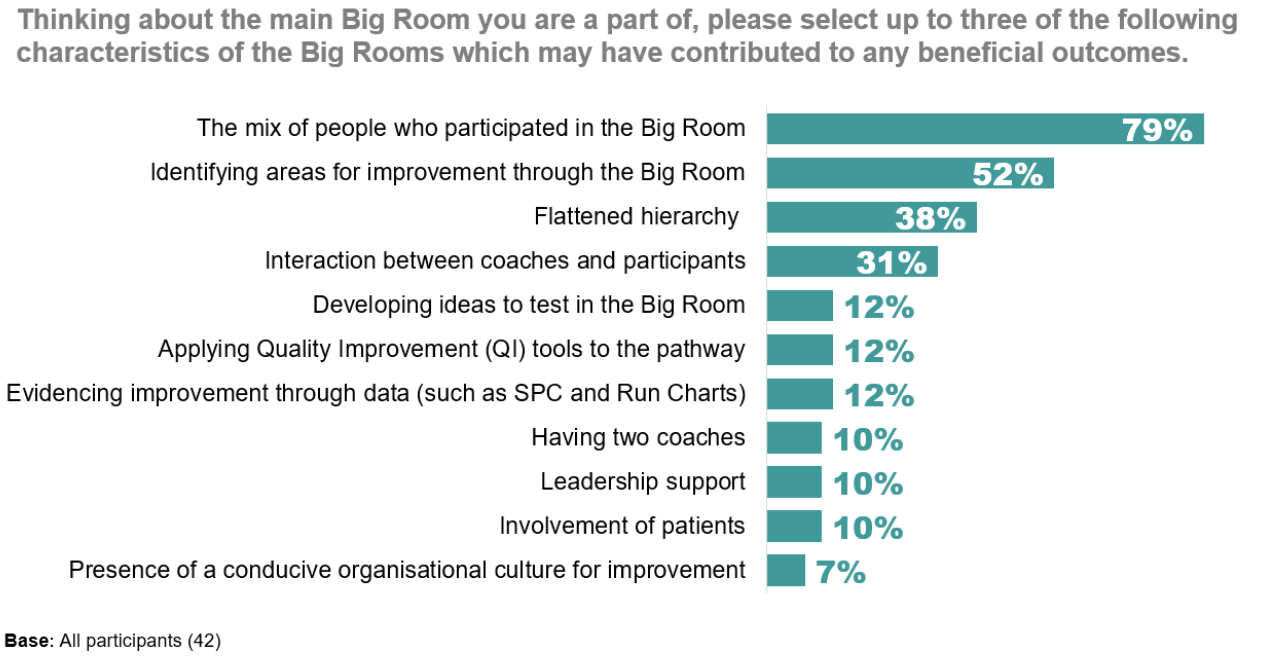
5.1.4 Enablers to delivery at the pathway level

The **mix of people participating in the Big Room** was felt to be the most important feature. Pathway-level stakeholders frequently mentioned “having the right people in the room” was key to driving change; additionally, nearly four-in- five (79%) of the respondents selected this as the most important feature of the Big Room from the survey (see figure 5.1). Overall, there were two key groups of people who they felt were key to the running of an effective Big Room:

- **Patients** were identified as vital for understanding how the pathway is navigated and identifying blockages or where experience could be improved. One interviewee described how they started every Big Room with a ‘patient story’ to set the context. This was not always an easy process; and one pathway-level stakeholder found it difficult to involve enough patients that were representative of the population the trust served.

- **Senior leaders** were viewed as highly important for achieving Big Room outcomes. Indeed, where change was implemented and sustained, interviewees often attributed this to the involvement of staff at the board or exec level. One QI stakeholder also had the view that engagement with senior leaders is a key component to a successful QI programme.

Figure 5.2: Characteristics of the Big Rooms which were felt to have contributed to beneficial outcomes



Base: All participants (42)

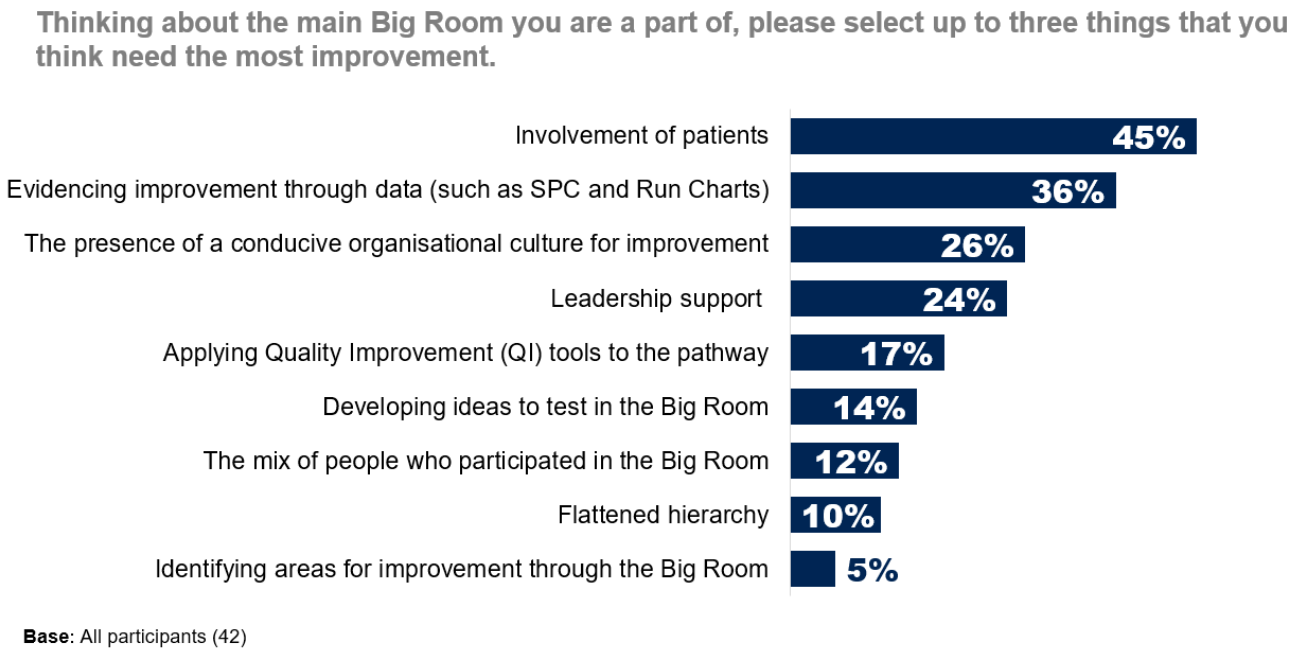
There were also specific features of the programme which pathway-level stakeholders felt enabled positive outcomes. This included using PDSA methods to show the short-term effects of changes, having a systematic approach to training people in the methodology and the bottom-up approach instead of changes being dictated by a senior person. Pathway-level stakeholders also felt the Big Room provided a good variety of tools that could be used to approach challenges in different ways, and created a safe space where staff felt comfortable bringing up new ideas.

> **"The real benefit of the FCA was using the methodology and really being focused on the human factors of improvement."**
> Non-clinical coach

5.1.5 Barriers to delivery at the pathway level

When asked what aspects of the Big Room required the most improvement, survey respondents selected involvement from patients (45%), improved data evidencing (36%), and support from senior leaders (24%) (see figure 5.2). Other features that were identified as needing improvement included protecting coaching time for coaches, wider system involvement, and better staff engagement and participation. Some interviewees mentioned that it was difficult to get staff to attend the Big Room as they sometimes felt it was taking away time from their operational roles. In these cases, the interviewee felt it was difficult to strike a balance between making the Big Room useful and asking participants to be pragmatic about their time.

Figure 5.3: Characteristics of Big Room which were felt to need the most improvement



Base: All participants (42)

The **culture of the institution** was also felt to be barrier by some pathway-level stakeholders. For example, one pathway-level stakeholder found it difficult to encourage others to lead the Big Room and ended up always leading it. Some pathway-level stakeholders felt there could be more tools around improving culture, as some coaches struggled to get wards to collaborate and implement changes because staff lacked the "*improvement mindset*".

5.1.6 Cycle 5 Big Rooms

Cycle 5 participants found their training – especially around stakeholder identification, planning and mapping – helpful for identifying pathways and setting up Big Rooms. These included:

- **End of life care**: for improving the uptake of advance care planning for end-of-life patients
- **Skull-based** (brain tumours, injuries, etc.): aimed at improving staff morale, reducing waiting times, length of stay and better patient experience

- **Sustainable care**: aimed at looking at all of a trust's processes to see how they can they reduce their environmental impact. For example, seeing how they can reduce the carbon footprint associated with inhalers.
- **Community services pathway**: bringing together different teams, improving culture and patient experience

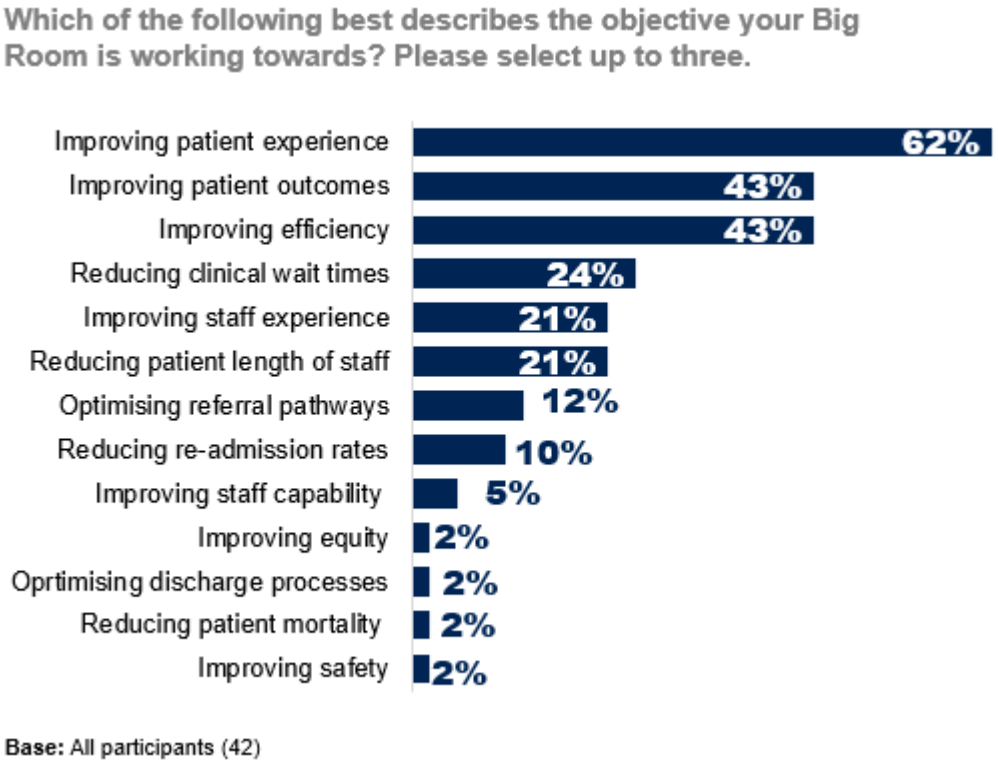
Once Big Rooms were running, Cycle 5 participants **found the time commitment challenging**, as they split their time between training, homework and running the Big Rooms. The time commitment varied from two to five hours per week. Around half of participants mentioned that they had to complete the e-learning modules on their own time, as they did not have time in their normal role. One participant mentioned they took annual leave as study days to focus on FCA, otherwise they would not have time to focus on the programme.

Cycle 5 participants experienced many of the same enablers and barriers as Local FCAs when establishing a Big Room Enablers involved **support from senior sponsors**, **patient involvement**, and **coaches being able to apply learnings** from attending other Big Rooms. Barriers to the set-up of Big Rooms included **lack of time** due to workloads and **low staff morale**. Some Big Rooms also encountered issues with virtual delivery, mainly technical issues and lack of engagement. Despite these barriers, Cycle 5 participants were optimistic about Big Rooms being sustainable beyond the learning course. This was due to the pathways being priority areas and to continued support from senior members. Cycle 5 stakeholders were less sure of what the wider impact was within their organisation. While some mentioned other staff members being involved and teams coming together, there were no examples of concrete measures of the Big Rooms' impact.

5.2 Outcomes at the pathway (Big Room) level

Despite the variety of pathways and changes, Big Rooms were generally working towards similar outcomes. Close to two thirds of pathways were working towards improving patient experience (62%) and improving patient outcomes (43%), followed by efficiency outcomes (also 43%), reducing clinical wait times (24%), improving staff experience (21%), and patient length of stay (21%) (see below figure 5.3).

Figure 5.4: Objectives Big Rooms are working towards



Overall, there was mixed evidence as to whether Big Rooms were achieving their intended outcomes, which may be due to the diversity of pathways. The following sections look at specific outcomes Big Rooms were working towards, namely patient experience, patient health outcomes, staff experience and process outcomes; and draw on evidence from the pathway-level interviews, survey, and impact evaluation.

5.2.1 Outcomes relating to patient experience

Nearly two thirds (62%) of the pathways surveyed were working towards this outcome. Some of the changes introduced included improving surgical operating procedures, reducing the amount of time taken for patients to receive information about their condition, and measures to improve continuity of care, for example, by continuing enhanced recovery on wards.

Results from the survey indicate that Big Rooms were successful in achieving this outcome. Nearly three-quarters of those surveyed (73%) said that since the creation of the Big Room, this outcome had improved slightly or significantly, and over three quarters (77%) said the Big Room had helped (moderately or very much) to achieve this. It should be noted that these results were self-reported and the evaluation team had not reviewed the local evaluations. Similarly, pathway-level stakeholders described instances where they felt changes from the Big Room helped improve patient experience, although some caveated that not all changes were successful. None of the outcomes in the impact assessment were linked to patient experience.

This outcome was often evidenced through qualitative feedback. This included administering questionnaires to patients or collating anecdotal and unstructured feedback from patients and care providers. Pathway-level stakeholders also described using indicators which would suggest that patient experience had improved. For example, one pathway-level stakeholder described improving their

department's pre-operative preparation process to help better explain to patients the risks of having or not having the surgery, leading to an increase in the number of patients who opted out of surgery.

Some pathway-level stakeholders described difficulties measuring this outcome. They felt that while the changes introduced to achieve this outcome should *intuitively* improve patient experience, some felt it was difficult to attribute causality given the quality of the data (i.e. largely unstructured feedback with no baseline measures). Additionally, there were sometimes challenges arising from the nature of the pathway itself. For example, one pathway-level stakeholder who worked with an End-of-Life pathway described how they mainly collected informal feedback from carers and patients; however, they found difficulties evidencing impact overall due to sensitivities and uniqueness associated with End-of-Life Care

5.2.2 Outcomes relating to patient health

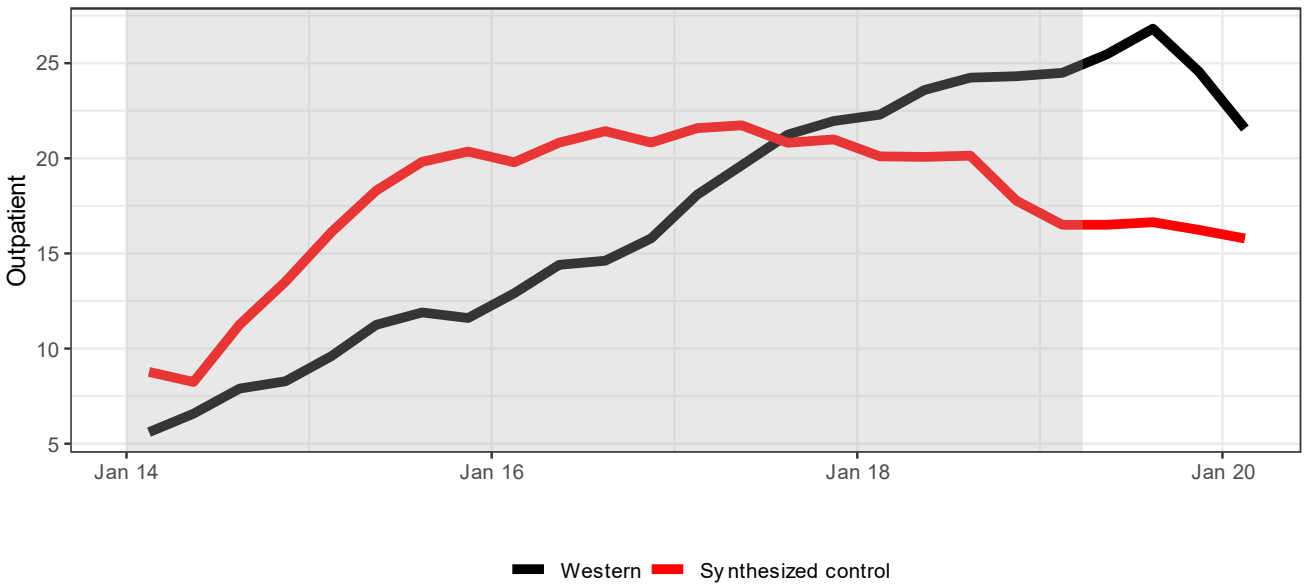
A number of pathways were working towards outcomes linked to patient health or system efficiency; results from the survey indicate a little under half were working towards this specifically (43%), while around a quarter were working towards reducing clinical wait times (24%), and a fifth were aiming to reduce patient length of stay (21%). Some of the changes introduced to achieve this outcome include setting-up a dedicated Emergency Department unit for frail patients, introducing virtual clinics, and improving referral processes.

There was mixed evidence as to whether Big Rooms were achieving this specific outcome. Results from the survey suggest there is evidence, or at least a perception, that Big Rooms are achieving this outcome; 61% of those surveyed felt that patient outcomes had improved since the creation of the Big Room, and 78% felt that the Big Room had helped achieve these outcomes. Numbers were similar for patient length of stay, with around two-thirds (66%) feeling this had improved since the introduction of the Big Room and 67% thinking the Big Room helped achieve these objectives; similarly, 70% felt clinical wait times had improved and 90% felt the Big Room helped to achieve these objectives.

However, the findings from the impact evaluation found little evidence to suggest that the pathways selected as case studies, Northern Ireland and Northumbria, were successful in achieving this outcome over the period in question. The main results from each case study are summarised below; the full evaluation can be found in Appendix Three.

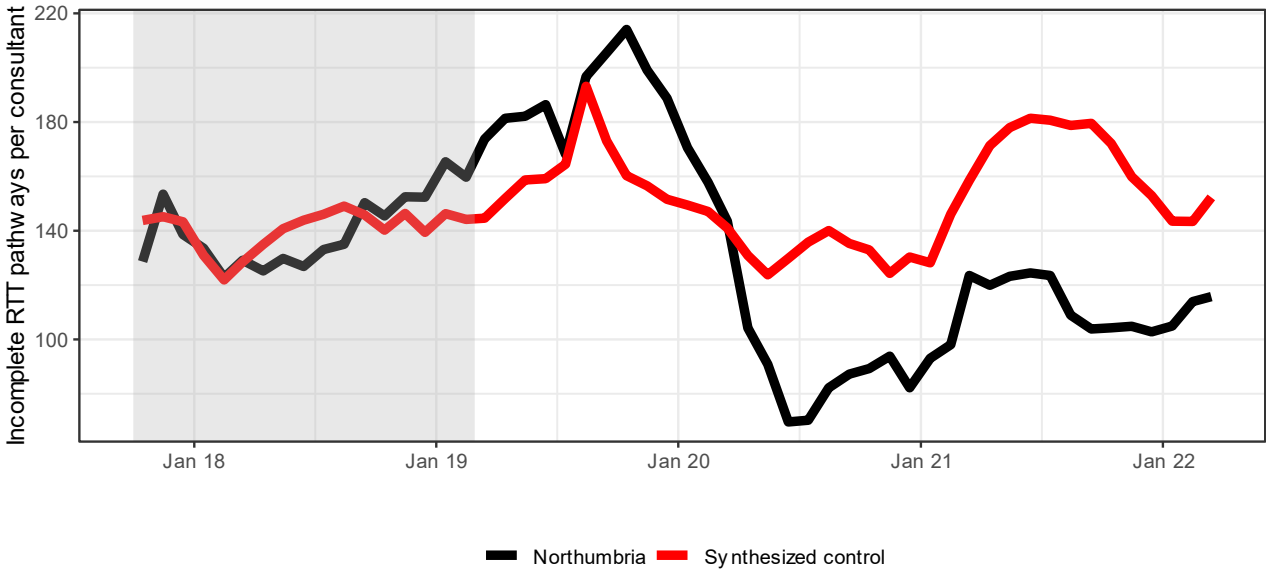
The **Northern Ireland Orthopaedic pathway** at Western Health & Social Care Trust implemented a suite of changes which aimed to reduce waiting times and improve patient health outcomes; this included streamlining referral processes, developing an e-triage system, and introducing a new Day Surgery unit. The impact evaluation looked at two outcomes of interest: the number of elective inpatient and day case waiters, and the number of outpatient waiters. As depicted in figure 5.4, where the grey shaded area shows the pre-intervention time and the white area the post-intervention time, **the intervention did not appear to have a significant effect on either outcome** compared with the synthesized control data. However, there are a couple notable caveats to this finding. Firstly, the time period available was relatively short for the outpatient waiters outcome, thereby making it difficult to show impact. Secondly, the synthesized control did not match the trends for this pathway pre-intervention. **Combined, this means we cannot draw conclusions for this impact evaluation, and may be excluded from the final draft.**

Figure 5.5: Comparison of actual data with synthesized control data for outpatient waiters



The **Northumbria Rheumatology pathway** implemented several small, incremental changes, including changes to their booking systems, scheduling, outcome forms, and advice messaging. The impact evaluation looked at two outcomes of interest: the number of incomplete Referral to Treatment (RTT) pathways (figure 5.5) and the percent of RTT pathways completed within 18 weeks. Again, compared with the synthesized control data, **the interventions did not appear to have a significant effect on either outcome**. However, the intervention did appear to have an effect on the number of incomplete RTT pathways, yet this was not statistically significant at the $p < .05$ level.

Figure 5.6: Comparison of actual data with synthesized control data for number of incomplete RTT pathways



Although it has not been possible to show any impact of the two case study pathways analysed, there has been a separate impact evaluation of an intervention developed using the FCA method. An

evaluation of a Sepsis pathway from the Imperial Pathway, published in February 2020[14], showed that the method can deliver improvements in outcomes. This study was conducted using a multiple regression analysis, and was conducted prior to the COVID-19 pandemic. The Sepsis Big Room led to the introduction of a digital sepsis alert for patients within the trust. The evaluation concluded there had been a significant impact on three outcome metrics (In-hospital 30-day mortality (all inpatients), prolonged hospital stay (≥7 days) and timely antibiotics (≤60 minutes of the alert) for patients who alerted in the emergency department). Box 5.2 below provides further details of this study.

There are a few possible explanations for these results. There are some limitations to the impact evaluation which may have influenced the results. Specifically, the trends for outpatient waiters in Northern Ireland are very different in the pre period which makes it difficult to infer causality on the impact of the FCA changes. Additionally, the length of time post-intervention was relatively short and potentially limited the ability to show impact. Therefore, we cannot draw conclusive evidence from the Northern Ireland pathway. Indeed, Northumbria did manage to show an effect in the number of incomplete RTT pathways, however this was not significant. Equally, results from the survey are based on the perceptions of respondents and were not validated with data or robust analysis. Therefore, the quality of evidence from the survey may be biased. The most likely scenario is that results from different strands are valid, and the different findings simply reflect the diverse number of pathways and therefore diverse outcomes within the FCA programme.

Box 5.2. Case study: Sepsis – FCA Imperial[11]

Problem: Early recognition and intervention of Sepsis can reverse the inflammatory response and improve clinical outcomes.

Aim:

- Improve the identification and treatment of Sepsis across the whole patient pathway
- Increase the number of patients with sepsis receiving antibiotics within 1 hour
- Provide personalised data feedback to individual wards

Key activities:

- Regular reviews of ‘time to antibiotics’ data
- Improved the use of electronic records to allow iterative improvement in response to data and patient/staff voice
- Introduced a Sepsis Power Plan
- Created a Cerner Sepsis alert

[14] Honeyford K, Cooke GS, Kinderlerer A, Williamson E, Gilchrist M, Holmes A; Sepsis Big Room, Glampson B, Mulla A, Costelloe C. Evaluating a digital sepsis alert in a London multisite hospital network: a natural experiment using electronic health record data. J Am Med Inform Assoc. 2020 Feb 1;27(2):274-283. doi: 10.1093/jamia/ocz186. Erratum in: J Am Med Inform Assoc. 2020 Mar 1;27(3):501. PMID: 31743934; PMCID: PMC7025344. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7025344/pdf/ocz186.pdf

- Developed promotional materials and educational sessions
- Improved communication between doctors and nurses and introduced Sepsis champions
- Recorded 100% of observations

Achievements:

- The number of patients coded with a Sepsis diagnosis reported to have increased from an average of 26 to 48 per week at the Trust
- The percentage of patients with a diagnosis of sepsis that die in hospital reported to have decreased from 18% to 12%
- Drove engagement of staff; particularly junior doctors and nurses.

Patient outcomes:

- Reduction of risk - complications, mortality
- Prompt treatment
- Reduction of worry time
- Reduction in length of stay.

5.2.3 Outcomes relating to staff experience

Around one fifth (21%) of pathways surveyed were working towards improving staff experience. Some of the changes introduced to achieve this outcome include better relationships and trust across departments, a new unit which reduced the time staff spent on liaising with other units, and improving confidence of staff in bringing up issues.

The extent to which Big Rooms were able to achieve this outcome may have been hampered by the **ongoing pressures caused by the pandemic.** Less than half of those surveyed (44%) felt that staff experience had improved since the creation of the Big Room, and only a little over half (55%) felt that the Big Room had helped to achieve these objectives. Open ended responses from the survey suggest that the lower levels of improvement to staff experience compared with other outcomes (such as patient experience and patient health) was negatively offset by COVID-19 and associated pressures.

5.2.4 Outcomes relating to processes and pathway efficiency

Just under half (43%) of pathways were working towards improving efficiency and processes. These were often tied to other outcomes previously discussed; this included changes such as sending automated documents to patients, creating a dashboard with patient vitals to make it easier to care for them, and ensuring bereavement leaflets are delivered to patients in the mail.

There was mixed evidence as to whether Big Rooms were achieving this outcome**.** Results from the survey found that two thirds (66%) of respondents thought that pathway efficiency had improved since the introduction of the Big Room, and nearly four fifths (78%) thought the Big Room had contributed towards this outcome. Pathway-level stakeholders felt similarly, with one interviewee detailing how changes in their pathway had reduced antibiotic prescription time from 57 to 29 minutes. Conversely, the results from the **impact evaluation,** where both case study sites implemented changes that aimed to

improve pathway efficiency alongside patient health outcomes, did not show any significant differences compared to their synthesized controls.

Box 5.3. Case study: Frailty- FCA Sheffield[15]

Problem: Acute hospital stays can have a detrimental effect on older people.

Aim: Reduce hospitalisation of frail patients by creating a specialised frailty assessment unit to enhance flow for ED and community admissions.

- Reducing unnecessary time in hospital for frail older patients
- Improve the discharge process for frail older patients
- Deliver evidence based comprehensive geriatric assessments reliably and consistently 7 days per week by a specialist team

Key activities:

- Measured admissions, discharges, and length of stay on the unit
- Introduced a one-stop service delivering a better and shorter experience
- Improved interactions with support functions to geriatric assessment
- Listened to the patients
- Refined transfer from the ED to the Frailty Assessment Unit

Achievements:

- The number of patients being discharged directly from the Frailty Unit reported to have increased
- The length of stay on the Frailty Unit for patients being directly discharged and transferred to base wards reported to have decreased by 5 hrs and 4 hrs respectively
- All patients reported to receive a comprehensive geriatric assessment and multidisciplinary review supported by twice daily huddles which are now standardised

Patient outcomes:

- Could return home sooner, and in daylight hours
- Reduction in waiting times and a quicker return to base wards
- Reduction of worry time
- Quicker results

[15] Analysis design / method not stated in case study source material

- Fewer hospital visits for outpatients

5.3 Influence of contextual factors at the pathway level

This section covers some of the contextual factors which modulate outcomes at the pathway level. It should be noted that some of these factors overlap with those identified at the programme and Local FCA levels, identified in **Chapter 4: Delivery and outcomes and the programme and Local FCA level**.

5.3.1 Pathway selection

Programme-level and pathway-level stakeholders felt that **the selection of pathways** was an important contributor to Big Room success. Firstly, it can be helpful to select pathways that are known to have senior leader interest and support. Secondly, as highlighted by the Central FCA team during the training cycle, it is important to avoid selecting pathways that are overly broad or ill-defined. Being overly ambitious in terms of scope can quickly become overwhelming, particularly for new coaches. Another interviewee cautioned about selecting pathways that were overly politicised within the organisation, as they could be too difficult to change or influence. Meanwhile, some Local FCA-level stakeholders queried aspects of the advice given by the central team. Some said that the 'bottom-up' approach to the identification of pathways is flawed, and that the recommendation that coaches should seek to coach a pathway outside of their normal, day-to-day workload and sphere of influence was unhelpful. In one particular example, coaches were unable to influence behaviours on a ward because they were not a part of the team.

There is also some evidence to suggest that **clinically-focused pathways** could more easily generate data and evidence outcomes. Clinically focused pathways which focused on patient health outcomes were more easily able to identify metrics and evidence impact. Common metrics collected include, Length of Stay (LOS), escalation of care, operation cancellations, and number of referrals, to name a few. Pathways which were less clinically focused and instead focused on patient experience or staff outcomes had a more difficult time identifying metrics and therefore evidencing impact. These pathways tended to focus on informal feedback and / or qualitative data from patients, often without baseline measures. Overall, this made it difficult to attribute outcomes to the changes initiated through the Big Room.

5.3.2 Data maturity

The level of **data maturity** within the organisation and among participants was felt to be a key component to evidencing outcomes and ensuring continuous improvement. Pathway-level stakeholders frequently felt that having organisational support for data collection in place helped to ensure that analytical capability is harnessed to help support the evidencing of pathway outcomes. For example, one Local FCA had a dedicated data team in place to help advise and consult on data-linked queries with pathways. Local FCA-level stakeholders also noted that involving coaches who already had some skills/ knowledge in this area was desirable and enabled better outcomes.

5.3.3 Service user involvement

Service user involvement was only noted by a couple of pathway-level stakeholders (across both macro- and meso-levels), perhaps indicating that this has not been a significant aspect of Big Room design and delivery. Where it was mentioned, pathway-level stakeholders noted the value of **involving people with lived experiences in Big Rooms**, to listen to the challenges in pathways and to unpick poor service user experience. Developing mutually collaborative local relationships, and flattening traditional

hierarchies, were identified as strengths of the FCA methodology and unique selling points of the FCA model. As mentioned by several pathways, the delivery of virtual Big Rooms has enabled a higher level of service user involvement and this could therefore become a strengthened aspect of the programme as more Big Rooms restart across 2021.

5.4 Sustainability of Big Rooms

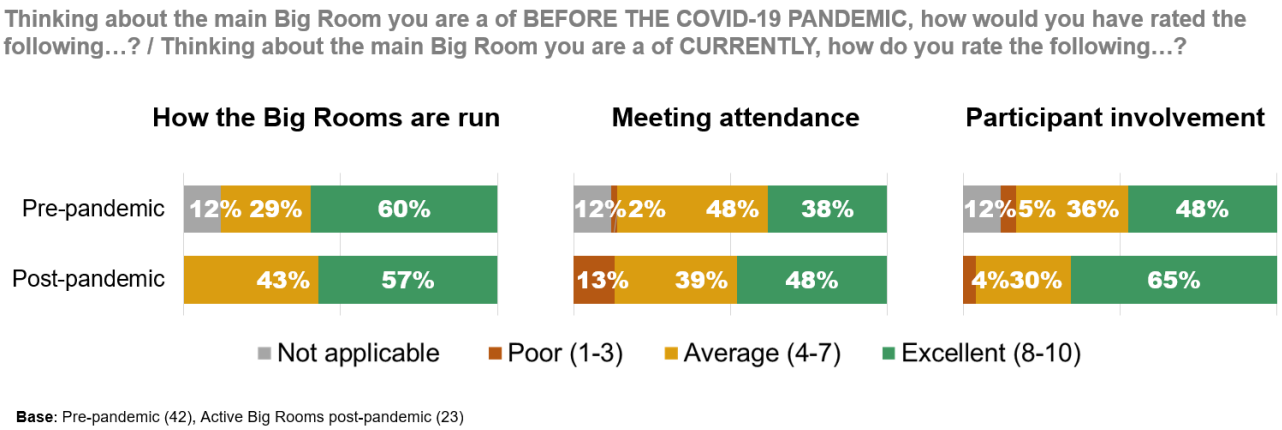
5.4.1 Impact of COVID-19 on Big Rooms

The COVID-19 pandemic had a significant impact on pathway changes, as **most Big Rooms stopped or paused in 2020 and 2021** and pathway improvements were delayed. Results from the survey suggested that while some Big Rooms continued to operate, others were suspended temporarily or permanently. Findings also showed that the Big Rooms that were still running were mostly being run virtually, with a few being run in person or in a hybrid way.

The biggest impact of the COVID-19 pandemic on the FCA programme was that it drastically reduced the time that coaches and participants had for planning and delivering pathway improvements. All pathway-level stakeholders interviewed as part of the evaluation mentioned disruptions or delays to changes that were being implemented, due to trust priorities changing, resources being diverted, and training being paused. Clinical coaches had much less time due to treatment backlogs and most of them paused improvement activities. While some pathway-level stakeholders were able to restart Big Rooms and continue improvement activities in the year after the pandemic started, many were not able to. Those who were not able to restart them attributed this to a lack of staff, a loss of momentum and support for the programme, or a change in either the way the pathway operated or the patients' journeys (for instance, the decrease of patients in elective pathways).

Those that were able to restart pathway improvements after the pandemic did find benefits in the virtual delivery of Big Rooms. The survey measured differences in the Big Room delivery before and after the COVID-19 pandemic. As figure 5.6 below shows, participants of active post-pandemic Big Rooms reported similar or higher levels of satisfaction than pre-pandemic Big Rooms.

Figure 5.7: Views on Big Room features pre- and post-pandemic



Base: Pre-pandemic (42), Active Big Rooms post-pandemic (23)

For those whose Big Room moved online, either partially or completely, some features improved – half said attendance had improved and over a third (36%) said communication between meetings improved.

Participants mentioned that the advantages of online meetings were that they **enabled more attendance** since there was no travel or parking fees and they **made people feel comfortable**. When

asked about their preference of Big Room format, almost two thirds (64%) of participants in Big Rooms that were currently active said they preferred **a blend of in person and online**, as it provided more flexibility, allowed people to join more easily and allowed for tailoring meetings by importance or subject. One drawback of virtual meetings, however, was that it made it more difficult to involve patients.

5.4.2 Views on Big Room sustainability

Given the pauses brought about by the COVID-19 pandemic, pathway-level stakeholders found it difficult to comment on the sustainability of Big Rooms. As detailed previously, many Big Rooms had paused during the pandemic, and had only just started-up again at the time of the evaluation. Therefore, interviewees found it difficult to comment on the sustainability of their Big Rooms, as many had become inactive due to external forces, and had not had enough time demonstrate sustainability.

Overall, there generally appeared to be two distinct attitudes to the sustainability of Big Rooms. A portion of pathway-level stakeholders saw Big Rooms as a **permanent feature** as there is always something in the pathway that can be improved. Another subset saw the Big Room as a **starting point for improvement** which would then evolve into a pilot programme; for example, one pathway-level stakeholder mentioned that some pathways in their trust were never embedded and stopped running.

There was overall a mixed picture linked to the sustainability of Big Rooms. Pathway-level stakeholders described instances where Big Rooms were still active and driving changes; conversely, they also described instances where Big Rooms had become inactive and were no longer driving change. One pathway-level stakeholder explained that while the Big Room had been discontinued, the ‘ethos’ of the Big Room had persisted, with parts of the former team still meeting regularly to review pathway data and identify areas for improvement.

The sustainability of Big Rooms appears to be influenced by the culture of the pathway and to an extent the trust. The culture in some pathways was felt to enable change and sustainability; one pathway-level stakeholder described this as pathways which are proactive and have a desire to initiate change and improvements. Where a Big Room had been discontinued, one pathway-level stakeholder reflected that there would have been better sustainability if there had been more senior level buy-in and more protected time for participants.

Despite this mixed picture, pathway-level stakeholders felt that the skills imparted to them from the programme were long-lasting. Pathway-level stakeholders felt participation in the FCA programme had increased service improvement skills for the staff involved in the pathway and for themselves. They thought that the decision to be a part of the programme helped cement the culture of continuous improvement, and that the skills gained allowed staff to work together, work with patients and carers and drive change independently.

> **"Even though pathways are not running in the way they were, the ethos of service improvement and driving things forward and looking for areas to change and using those tools and coaching is still used."**
> Non-clinical coach

5.5 Cost-analysis

We used descriptive cost analysis for the Western Trust case study and a before-and-after contextual impact and cost analysis for the Northumbria case study. The former case study illustrates the possible costs associated with flow-coaching interventions The latter provides a more contextual analysis of the impact of flow-coaching on the staff mix. A more detailed version of the analytical approach, alongside

the limitations, is presented in the appendix. Costs are presented from a health care provider's perspective in 2020/2021 values. The descriptive cost analysis for the Western Trust covers the same timespan as its impact evaluation counterpart. The Northumbria before-and-after analysis has a pre-intervention or "before" period from September 2017 until February 2019 and a post-intervention or "after" period from March 2019 until March 2020. We limit the analysis to until March 2020 due to the subsequent COVID-19 impacts on the NHS.

For the Western Trust, opportunity cost of time for staff attending the big room events are the main cost driver. The total staff opportunity cost across both pre- and post-intervention period amount to £18,657for all big-room events. Other costs relate to additional patient information booklets for elective hip and knee patients, which are estimated to cost £8.55 per patient and amount to £3,027 in the post-intervention period. We note the high degree of uncertainty around these estimates, due to the limited information available.

The cost analysis for the Northumbria Trust shows that the estimated average total clinical staff costs at the rheumatology department amount to £47,686 per month before the intervention started, and to about £49,231 per month after the intervention; however, we observe no statistically significant difference between those figures, implying that the intervention did not come at different (additional) cost at the clinical staff level. Our contextual impact analysis shows that the clinical staff-mix at the department changes, as intended, following the flow coaching intervention; increases of the share of lower band 6 nurses among all clinical staff (9%) and decreases of the share of higher band 7 nurses (6%) and consultants (4%). Further, the average total count of full time equivalent (FTE) for all clinical staff and the FTE of band 6 nurses increased after the intervention, whilst the FTE of band 7 nurses decreased. We note that our analysis is based on very limited information and data. We are therefore only able to provide estimations of correlations with not causal effects of, the flow-coaching intervention.

Chapter Summary

The programme encompasses a **diverse range of pathways** which are operating across different departments and enacting changes which are substantially different from one another. Despite this variety, **Big Rooms do tend to operate in a similar manner.** The set-up of the Big Room was felt to be an important step, particularly in terms of ensuring the right people are in the room. Big Rooms then tend to foster a sense a **shared ownership** and **break down traditional hierarchies** to instil **confidence in participants.** They then go about identifying issues within the pathway and testing out changes iteratively using QI methods.

The **composition of Big Rooms** was felt to be a key enabler to delivery, particularly the involvement of **patients** and **senior members of staff**. Certain features of the programme also seem to play a role, including the availability of QI tools and the bottom-up approach. Conversely, a **lack of patient voice**, **low levels of data maturity**, and a **lack of senior leadership** were all felt to be barriers to delivery. Pathway-level stakeholders also felt that **not having the right culture** in the pathway worked against implementing changes.

The evaluation found **different evidence** as to whether Big Rooms are achieving their intended outcomes. This may be due diversity of pathways and therefore achievement of outcomes, or limitations in the different evaluation methodologies. The qualitative results found that nearly all pathway-level stakeholders could detail instances where they felt their Big Room had led to successful outcomes and was generally viewed positively. The impact evaluations **did not produce statistically significant results** to evidence outcomes; however, it is difficult to draw conclusions here given the limited number of case studies. Specific outcomes Big Rooms were working towards:

- The majority of Big Rooms were working towards patient experience outcomes; pathway-level interviews and survey results suggest they have been successful, however it should be noted that the data used to evidence these outcomes is largely informal, qualitative, or based on results from one point in time.

- A little less than half of Big Rooms are working towards improving patient health outcomes; here the evaluation found divergent results from different strands of the evaluation. Pathway-level stakeholders and results from the survey suggest that there may be evidence of pathways working towards this outcome, however results from the impact evaluation failed to produce measurable results.

- Closely linked to the above, around a quarter of Big Rooms are working towards efficiency outcomes including patient Length of Stay and wait times. Similarly, the evaluation found divergent results from different strands of the evaluation.

- A smaller number of Big Rooms are working towards staff experience outcomes; the success of Big Rooms in achieving this outcome may have been hindered by the effects of the pandemic.

There were certain contextual features which were felt to impact successful programme outcomes. At the Local-FCA level, this included support from senior leaders and executives within the organisation, the data maturity of the Local FCA, and whether the organisation was considered stable. The selection of pathways seemed to play a role, and the evidence suggests that clinically-focused pathways could more easily generate data to evidence outcomes.

Given the impact of the COVID-19 pandemic and lack of routinely collected data, it was challenging to assess the sustainability of Big Room pathways; although we do note that a number of Big Rooms became inactive during the pandemic. Overall, **the cost of the Big Room intervention was relatively low**, with the key component being opportunity costs for staff time in involvement. However, given findings from the impact evaluation - of no effect for a small set of outcomes – it is unlikely that there were cost-savings.

6 Conclusions and recommendations

This section sets out summative assessment of the evidence gathered in response to the evaluation objectives and reflections on the overall evaluation and programme. This is followed by recommendations for the Health Foundation, the Central FCA and the Local FCAs.

6.1 Overview of the findings

This section gives an overview of the evidence towards each evaluation objective.

6.1.1 What impact has the FCA programme had during its five years of operation?

There is a wide **variety of pathways** encompassed by the programme which are substantially different in terms of their area of focus, aims, and methods of measurements. While this speaks to the flexibility of the Big Room tool, it also makes it difficult for some pathways to collect data and evidence impact; this is partially due to some pathways working towards more nuanced, diffuse goals (for example End of Life pathways) and the associated challenges with setting minimum data sets across the programme. Despite the variety, Big Rooms tend to operate in a similar manner and when applied correctly, the intervention essentially acts as a way to identify problems quickly and escalate this to senior staff within the pathway.

This variation of pathways, alongside the **devolved nature of the programme** and **lack of centralised data repository** has made it difficult to make an overall *programme-wide* assessment of progress towards pathway-level outcomes. The two case studies selected for the impact evaluation have not shown significant changes which can be attributed to the Big Room intervention(s) in place in those locations. It should be noted however that a previous evaluation done in Imperial FCA Sepsis pathway showed positive results.[16] Similarly, Local FCA and pathway-level stakeholders detailed instances where they felt Big Rooms had improved outcomes, although the data used to evidence these outcomes varied considerably, and an assessment of the robustness of methods to inform these conclusions has not been possible. Furthermore, the survey results indicate perceived progress, or pathway-level evidence of progress, towards specific outcomes, although once again this was not substantiated with quantitative data. These findings may be indicative of the following:

- In all likelihood, there are pathways within the FCA programme which are, or have, contributed to improved outcomes at the pathway level, however these were not represented in the case studies, or the outcomes, selected for the impact evaluation;
- That pathways need time, and stability to begin to demonstrate their impacts. The COVID-19 pandemic has been a big disruptor of this;
- Pathways are collecting a range of data of varying robustness and quality, and it is difficult to know how pathways are evidencing outcomes. For example, the evaluation team has identified pathways where outcomes have been evidenced through SPC charts and pre- and post-

[16] Honeyford K, Cooke GS, Kinderlerer A, Williamson E, Gilchrist M, Holmes A; Sepsis Big Room, Glampson B, Mulla A, Costelloe C. Evaluating a digital sepsis alert in a London multisite hospital network: a natural experiment using electronic health record data. J Am Med Inform Assoc. 2020 Feb 1;27(2):274-283. doi: 10.1093/jamia/ocz186. Erratum in: J Am Med Inform Assoc. 2020 Mar 1;27(3):501. PMID: 31743934; PMCID: PMC7025344. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7025344/pdf/ocz186.pdf

intervention designs; as well as informal feedback, surveys delivered at one point in time, and data collected without baseline measures;

- Not all Big Room changes are effective, and pathway-level stakeholders have detailed an iterative process of pursuing ineffective changes in the spirit of a trial-and-error approach;
- The QI approaches being adopted at the pathway-level are sometimes unsuited for the requirements of a more robust impact evaluation method; for example, a longer time series, large sample size, and stability of intervention design across the time series.

6.1.2 What contextual factors have influenced the outcomes of the FCA programme at the pathway and Local FCA level?

At the pathway-level, the mix of people in the Big Room, including the involvement of patients and senior members, is a clear enabler to identifying and enacting change. Locations with a QI mindset would be naturally more inclined to include patients or senior members in their Big Rooms, and this was seen to contribute to successful outcomes. **The type of pathway and thus the type of data collected** influenced the ability to evidence outcomes. There was a recognition among some pathway-level stakeholders that a lack of quantifiable data made it difficult to identify where changes were effective, and evidence impact in the pathway.

At the Local FCA-level, support from executive leaders and seniority within the FCA faculty were frequently mentioned as key factors to successful outcomes within Local FCAs. This senior-level support enabled the FCA programme to thrive locally by aligning the programme with the organisation's strategic objectives, protecting time for coaches to attend the training and deliver Big Rooms, and provide authority for managing conflict and making decisions. Closely linked to this, the stability of the provider organisation was felt to be an important contributing factor as well.

The COVID-19 pandemic severely impeded further development of the **FCA network**, which is an area where further work is needed, if this is still deemed important. Evidence suggests that coaches engage minimally with coaches from other Local FCAs. Pressures caused by the pandemic, including lack of time and social distancing measures, appear to be a key barrier towards engagement with the network.

There is limited evidence to assess whether there is a cohesive programme at the national level. This has partially been influenced by the impacts of the **COVID-19 pandemic**, which has created considerable setbacks in achieving this goal (i.e. development of the FCA Network, which has been discussed previously); in addition, assessing the evidence towards this outcome has also been hampered by challenges linked to the evaluation, such as the availability of programme data.

6.1.3 What features of the programme or other factors have influenced the outcomes of the FCA programme?

This study, and the formative evaluation, compile a relatively positive picture in relation to the **training activities** delivered by the central programme team. The training programme and Big Room methodology have been well-received by those who participate in it, across the Cycles. The **training programme has been singled-out as a key strength of the programme**, striking an appropriate balance between coaching skills and the analytical skills, as well as leaving trainees feeling ready to drive service improvement in their organisations. The move to a hybrid teaching model for Cycle 5, was also well-reviewed, offering a viable new model for future Cycles. The hybrid model has allowed for greater flexibility for participants to fit the programme into their schedules, while still maintaining the strengths of the core training offer.

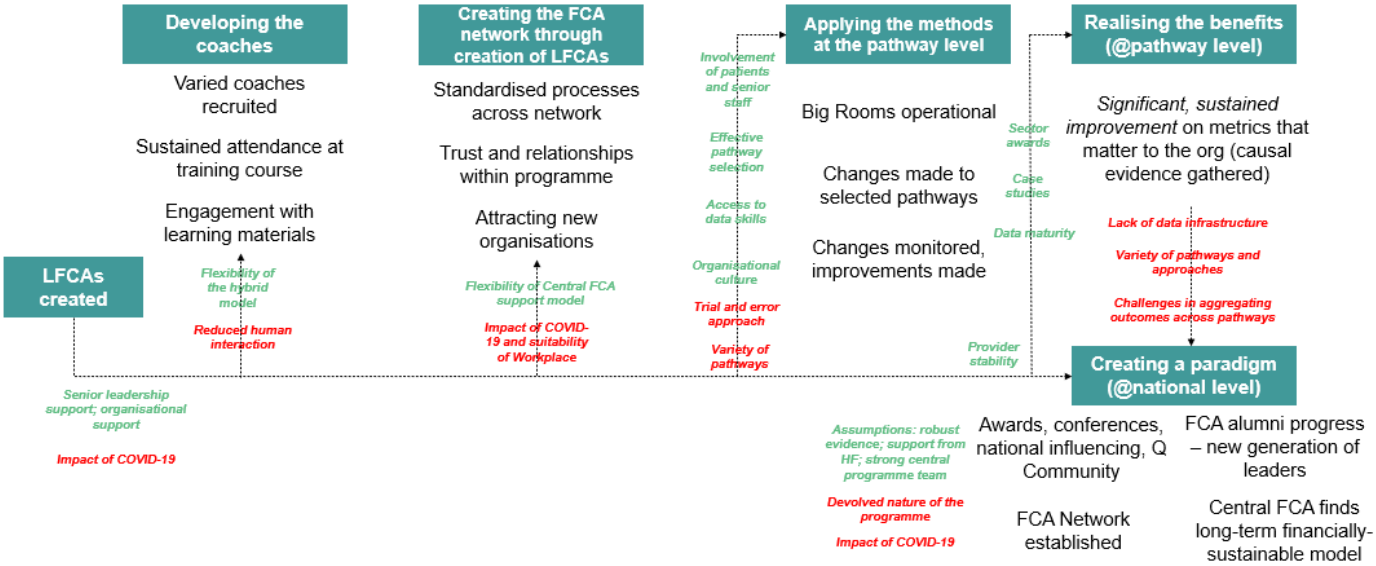
The Big Room, as a forum for putting into practice the skills learned, is generally highly valued, with a varied mix of benefits attributed to taking part. It is seen as an effective way of making things happen at the pathway level, as well as a means to escalate issues in the pathway more rapidly than normal procedures and channels of communication. The evaluation has identified several mechanisms inherent to the Big Room approach, which generates value:

- 'Levelling the playing field': Instilling a sense of **confidence and openness** in participants, enabling them to communicate issues to senior members of staff within the Big Room;
- 'A place for planning': Acting as a forum for **strategic development** where stakeholders from across the pathway could identify, discuss, and prioritise short and long-term interventions;
- 'Shared ownership': Fostering **shared ownership** of the new planned improvements.

The **pace of the programme** was also criticised by some as being too slow and time consuming compared with other QI programmes. This sometimes-caused tensions between senior leaders and pathway participants linked to the expectations of the programme.

The below figure 6.1, which structured this assessment in the interim report, provides a framework for understanding the logic flow underpinning the programme's main desired outcomes, including some of the enablers and barriers at each level of the programme.

Figure 6.1: Programme outcomes reported by stakeholders, key enablers and challenges[17]



6.1.4 What has been the role of FCA programme stakeholders?

The Health Foundation has played a key role in the development and expansion of the FCA programme throughout the past five years. Towards the end of the five-years, this relationship has focused on

[17] Key components of the programme's implementation model are shown in blue boxes. Reported outcomes to date, as described by macro- and meso-level stakeholders, appear in black font. Enablers feature in green font and challenges are included in red font.

supporting the Central FCA team with **business development, income generation, and strategic decision-making**. The Health Foundation and Central FCA have worked to spread **knowledge and best practice** from the programme to the wider QI and healthcare communities. However, it is difficult to comment on the level of penetration within these communities, and stakeholders external to the programme generally questioned the extent to which the programme had spread QI knowledge beyond the immediate stakeholders and beneficiaries.

Throughout the first five years of the programme, the Central FCA has adopted a flexible and open approach to engaging with Local FCAs. In keeping with the devolved nature of the programme, this largely focused on providing tailored support and opportunities for linking up activities across the programme. At the same time, the programme team minimised reporting requirements and more prescriptive programme features. The evidence suggest that this approach contributed to strong feelings of trust between Local FCAs and the Central FCA.

Maintaining strong relationships and trust between the Central FCA team and the Health Foundation has been important to the success of the programme. Programme-level stakeholders spoke of the **honesty and transparency** which were the cornerstone of the relationship. As a funder, there appears to be an intentional separation between the Health Foundation and the Local FCAs. Other than occasional co-working – for example presenting a case study at a conference – there are not close links across these levels. It is difficult to say how a closer relationship would have affected Local FCAs; however, as mentioned previously, the single point of contact model between Local FCAs and the Central FCA was well-received.

6.1.5 To what extent has the FCA programme been sustained at the Local FCA level?

The rapid scale-up of the programme, in terms of Local FCAs created (from one original in STHFT to eleven, pre-pandemic), is now being challenged by attrition. The evaluation has identified three Local FCAs actively delivering the programme. Given there are a further two recently recruited Local FCAs set to deliver the first cohort of coaches in 2023, the Local FCA model appears to remain the strategy for spread. Given there is a reasonable understanding of the predictors of success in recruitment and sustaining interest in Local FCAs, such as the involvement of executive level input, these should inform future recruitment and retention. But new challenges will emerge. For example, the four Local FCAs which have dropped out of the programme did so because the FCA programme did not align with the strategic direction of the trust.

The **impact of COVID-19** alongside a lack of **data held on pathways** at the programme level has made it challenging to assess the sustainability of Big Room changes. Programme MI demonstrates a widespread reduction in the number of operational Big Rooms during the pandemic; however, there is no reliable information to ascertain the number of Big Rooms which were impacted by the pandemic.

Pathway-level stakeholders also found it difficult to comment on the sustainability of Big Room changes, as they were being interviewed just as Big Rooms were starting-up again and any changes implemented prior to the pandemic had been discontinued. Given the inherent flexibility of the approach, and the widespread implementation of interventions with some similarities to the Big Room during the pandemic (e.g., virtual MDTs), it is a missed opportunity not to be able to describe the role of the FCA in the response; it may well be that a large proportion of the FCA work at pathway level was repurposed for, or influenced the shape of, the response at Trust level, but the information is not available.

6.1.6 What are the unintended consequences of the FCA programme?

Some of the unintended consequences captured through the delivery of the evaluation help to describe the programme narrative over recent years. The following themes are prominent across the strands of the evaluation.

- **Broadening of the programme aims and objectives**: As reflected in multiple iterations of the programme's ToC as developed for the formative evaluation delivered between 2016 and 2018, the ambition of the programme has evolved and expanded since it was first funded by the Health Foundation[18]. The initial focus was narrower, with the aim of improving patient outcomes and experience, as well as enabling cost-efficiency in the pathway. Over the years, as the potential value of the programme has been further defined, the programme's objectives have grown to incorporate staff outcomes (such as leadership development), team morale and job satisfaction, as well as externally influencing the QI sector more broadly by driving a recognition of the intrinsic importance of relational aspects in delivering effective QI.

- **Impact on STHT**: The FCA programme grew from previous improvement science work that was delivered at STHT, including work on patient flow from the Flow Cost Quality programme, and coaching elements from the Sheffield Microsystem Coaching Academy. However, winning the national funding award from the Health Foundation had made the local delivery of QI within STHT more challenging and that this had required managing. It was unclear exactly what drove the local challenges, once the national programme was established, but it appears that there was a perception within the organisation that FCA was only an externally facing programme. This was an unexpected reaction and has taken time and work to tackle.

At the Local FCA and pathway-levels, interviewees also commented on several unintended programme consequences.

- **Improved patient and public involvement resulting from virtual Big Rooms**: As aforementioned, some Big Rooms have found it easier to engage patients and the public in their Big Rooms as a result of moving to virtual delivery. Stakeholders noted that the virtual setting appears to be more appealing and accessible for the public. Potential reasons for this increased engagement include that it is logistically easier to join a virtual session remotely rather than travelling to a hospital setting, or it may be perceived as being less intimidating to join a remote meeting than to attend face-to-face with professionals and clinicians. This could be a valuable point of cross-programme learning, particularly for those pathways that have not restarted since COVID and may be considering their Big Room's delivery modes.

- **Big Rooms are not always the right solution:** Some stakeholders noted that a Big Room is not always the solution to every issue, and that other aspects of the programme's methodology and training content might be sufficient. For example, some Big Rooms were reported to have become 'talking shops' and focused mainly on grievances among staff within the pathway, as

[18] *Annex B: Theory of Change Model,* Broeks, Miriam, Eleftheria Iakovidou, Jack Pollard, Rachael Finn, Sarah Ball, Joanna Hofman, and Tom Ling, Independent Evaluation of the Flow Coaching Academy Programme: Final report. Santa Monica, CA: RAND Corporation, 2020. https://www.rand.org/pubs/research_reports/RR3098.html.

opposed to identifying and enacting change. Whilst it was unclear as to why some Big Rooms were run this way, stakeholders noted that this created tensions at the pathway level.

- **Challenges for managers:** Multiple stakeholders referred to the non-hierarchical ethos of the FCA programme which to build relationships, flatten hierarchies and bring together multiple perspectives in a mutually trusting environment. The challenge for some managers is that it can be difficult to return to traditional, hierarchical structures and ways of delivering 'business as usual' work after running a Big Room. Flattened hierarchies might not suit every aspect of frontline 'day jobs', and this can present a challenge for managers to adapt their style accordingly.

- **'Closed world':** One Local FCA stakeholder mentioned that there can be local tensions between different improvement initiatives, and that the FCA programme can therefore operate as somewhat of a 'closed world' which can be isolating for those professionals who are not directly involved.

- **Use of skills beyond the Big Room:** Pathway-level stakeholders frequently mentioned that they were able to apply their skills gained through the FCA programme to other areas of their work, particularly linked to the COVID-19 pandemic. In addition, pathway-level stakeholders further mentioned developing additional soft skills as a result of being part of the programme.

6.2 Reflections on this evaluation

6.2.1 What does the *delivery* of this evaluation tell us about the programme?

This evaluation has faced several challenges. These include not being able to access a central database of contacts, limitations to the management information available, and challenges with recruitment of interviewees and survey respondents. The nature of these challenges, and the evaluation team's experience of tackling them, provides the study with insight into two areas: the design and delivery of the FCA programme; and the period in which this evaluation has taken place (2020-2022). The influence of the pandemic on the programme and evaluation, has been documented throughout and so is not repeated here.

The programme design and its effect on the evaluation is worth flagging. The devolved structure, driven by the social franchising model, has meant that the Central FCA team has limited influence over the Local FCAs, and even less on actions at the pathway level. Distributing any form of invitation, survey or request for data has therefore been very difficult in the absence of a central database. To the extent that those engaged in the evaluation outside of the central FCA felt a sense of being part of an ongoing programme, it was described in relation to its flexibility and the local adaptation it allowed. These challenges should not perhaps have been a surprise. The QI ethos inspiring the programme is probably partly responsible for it having the flexibility to have been used in a range of places. But it also contributes to activities being delivered quickly, learning gathered and stakeholders moving on to the next challenge. This fast-learning approach has been highly relevant during the crisis points of the pandemic suggesting that the FCA approach has relevance in this context. And while the social franchising model is a contributor to the devolved structure which has challenged the evaluation, it was also the express intention of the programme originators, and was an effective way to grow the LFCAs pre-pandemic (as the rapid recruitment of Local FCA organisations in that period shows).

Given these assessments it is relevant to question the extent to which the FCA programme can be considered a 'standard' programme. Indeed, it lacks many features which are typical to a national programme, including central levers to affect change locally, and a detailed core dataset on what is

being delivered. In many respects, the FCA programme is more akin to a **social movement** where interested and motivated professionals are trained on coaching and QI methodologies and return to their organisation to implement these learnings as they see fit, with minimal oversight or monitoring from the Central team. This has driven the successes of the programme, and is likely to contribute to future sustainability with a variety of new customers. It has also challenged the extent to which learning can be rigorously collected.

This consideration raises questions for future evaluations of the FCA programme, including whether a single evaluation is appropriate, and if further evaluation at the pathway-level would yield more learnings.

6.2.2 What has this evaluation added to the evidence base?

This evaluation builds on findings from the **formative evaluation**. Where the formative evaluation found early evidence of positive impacts and learning at the pathway-level, this summative evaluation identified details of those impacts and gathered evidence to support whether the pathway was effective in working towards them. This evaluation also contributed to the understanding of how Big Rooms work in practice, a key area of enquiry from the formative report. Finally, this evaluation echoes many of the findings from the previous report, identifying again that there are challenges at the pathway in collecting, analysing, and using data to inform decision-making; and that there continues to be inconsistent senior support within trusts across the programme.

There is a growing body of evidence that **the context** of an organisation and pathway play an important role in the success of QI programmes.[19,20] The results from this evaluation support this body of evidence; similar to the broad direction of the literature on this topic, organisational leadership, organisational culture, and data infrastructure were identified as important factors for the success of a quality improvement programme.[16,21] Additionally, the evaluation supports previous findings that organisational leaders need to be supported and engaged in wider improvement activity; a key contextual factor identified through this evaluation.[22] This evaluation also contributes to an ongoing discussion within the QI community around the inclusion of patients within the QI process[23] and posits that the Big Room may act as an effective way to synthesise patient views into QI interventions.

While the evaluation is unable to conclude what types of pathways are better suited for QI methodologies (and rather, the flexibility of the model may be its main strength), it did identify important barriers towards evidencing this. Principally, clinical pathways are more likely to have clear and measurable outcomes which will be easier to generate data for and thus evidence their impact. Comparatively, non-clinical pathways and those working towards more nuanced outcomes will face more challenges to generating robust data to evidence impact. That is not to say that QI programmes are more suited for clinical pathways; simply that when evaluating the application of QI methodologies to

[19] Kaplan HC, Provost LP, Froehle CM, Margolis PA. The model for understanding success in quality (MUSIQ): Building a theory of context in healthcare quality improvement. BMJ Qual Saf. 2012;21(1):13-20. doi:10.1136/bmjqs-2011-000010.
[20] Kaplan HC, Bady PW, Dritz MC, et al. The Influence of Context on Quality Improvement Success in Health Care: A Systematic Review of the Literature. Milbank Q. 2010;4:500-559.
[21] Mannion, R. & Davies, H. Understanding organisational culture for healthcare quality improvement. The BMJ. 2018: 363:k4907. Doi: 10.1136/bmj.k4907
[22] Fulop, N. & Ramsay, A. How organisations contribute to improving the quality of healthcare. The BMJ. 2019: 365:l1773. Doi: 10.1136/bmj.l1773
[23] Bergerum C, Engstrom AK, Thor, J Wolmesjo M. Patient involvement in quality improvement – a 'tug of war' or a dialogue in a learning process to improve healthcare? BMC Health Services Research. 2020:20(1115). doi: 0.1186/s12913-020-05970-4

different pathways, evaluators should be prepared to draw on a suite of data collection tools and frameworks to evidence (or not evidence) the benefits.

This evaluation did not aim to compare the FCA programme to other approaches to QI; however, there are features of the programme which are worth mentioning in relation to the wider QI landscape. Firstly, QI stakeholders estimated that the cost of the programme was less expensive than other QI programmes, and certainly more so than centrally procured, consultancy led contracts (which may be focusing on the same 'Flow' concept as in question here, given pressures on particular parts of the health and care system); the descriptive cost analysis finding the main cost for one of the case studies was the opportunity cost for time for staff attending the Big Room (see Appendix Four). Secondly, the franchise and local ownership model, which notably bears significant trade-offs, is in alignment to the subsidiarity principles which are currently influencing thinking in the NHS. Thirdly, the Big Room offers a highly flexible intervention which can be adapted to suit the local context, strategic direction, and resources which are available across a number of different pathways and trusts.

6.3 Recommendations

6.3.1 Recommendations for the Health Foundation

Based on the findings in this report, the following set of recommendations for the Health Foundation have been developed.

1. QI initiatives aim to create environments of continuous and embedded improvement, seeking to achieve multiple outcomes; this is different from traditional interventions which are often delivered at one point in time and address only one or a few linked outcomes. **QI programmes should therefore adopt a more flexible set of evaluative requirements.** Generally, these evaluations should have the ability to change course, and draw on multiple frameworks depending on how the programme has been applied. In addition, the focus should be much more on outputs, progress and learnings, instead of traditional cost benefit assessments, or aiming to achieve a comprehensive or aggregate description of the programme.

2. **Notwithstanding the more flexible model of evaluation set out in 1), a set of basic but high-quality data collection requirements should be more embedded within QI programmes from the outset, with funding attached to its collection**. These will be output focused, with outcome data collected for primary indicators only (or focused on particularly funded localities / pathways – see later recommendation).

3. The relationship between the Health Foundation and Central FCA, whereby the Health Foundation provides resources, insights, and acts as a programme stakeholder, appears to be effective at building trust and providing oversight. This **model should be considered for future programmes** where the Health Foundation provides funding and expertise, and the programme closely aligns with their strategic direction.

4. As the Health Foundation refreshes its strategy, it should ensure **there are expectations about structure, evidence generation and learning** built into the programme.

Based on the findings in this report, the following set of recommendations for the Central FCA have been developed:

1. The programme team should re-focus on building **data infrastructure** which, at minimum, has up to date information on the number and types of Big Rooms across the programme. This does not have to be at odds with local ownership; light-touch monitoring of this information will help the programme to generate learnings, evidence impact, and attract funding. This will enable the Central FCA to understand the programme's impact and generate learnings more quickly.

2. Linked to the above, the programme should develop a **handful of basic tools** for collecting core data at the pathway level: costs estimates, a menu of patient experience tools, tips on collecting this data, basic process learning, and suggestions on how to access analytical resource should they wish to carry out more robust analysis. Local FCAs should identify ways to **align data analytics teams** with the programme.

3. **Further evaluation, especially linked to the sustainability of Big Rooms, at the pathway-level will add value to the programme.** In line with recommendation 2), the evaluation should be analytically robust and focus on measurable outcomes; ideally, this evaluation would be built into the programme, with a small sample (n=2 or 3) of pathways recruited and funded to take part in a robust impact evaluation from outset. Alternatively, Cycle 6+ sites could be asked to include a robust evaluation during the training programme, with support from an analyst or academic from outset.

4. The programme should **tap into existing networks to help establish a strong QI community within the programme**; this could be through programme alumni, other networks which the programme is aligned with (i.e. the Q network), or secondment of FCA coaches to other programmes or areas of the NHS outside of their regular pathway. More in-person events which take place across the country would also be beneficial.

5. Closely linked to point 4) the programme should also aim to **develop their external communication campaign to help spread knowledge** and best practice identified through the programme; this would be particularly helpful at the Local FCA level, where spread was minimal. This could be achieved through targeted communication support to Local FCAs.

6. The **future strategy of the programme, and its plans for future funding, should focus on the key strengths identified**, including the adaptability of the programme, modest cost, local ownership, and investment in staff at a time of retention challenges.

7. The programme should consider developing a **senior / executive training strand**, similar to the training course but decidedly shorter and geared towards a higher-level, to help align organisation strategies with the FCA programme.

8. The programme should **further develop the FCA Network**; whilst Workplace was felt to be effective among those who used it, there were challenges linked to uptake and access among staff. Therefore, the Central FCA should consider either a) promoting the platform more widely and identifying ways to improve access or b) switching to a different platform which is more easily accessible and embedded within the NHS system.

Based on the findings in this report, the following set of recommendations for Local FCAs and pathways have been developed:

1. Local FCAs should seek to establish a **dedicated data team**, which can help support pathways with data-collection and impact, as well as align pathway outcomes with wider strategic initiatives within their organisation.

2. Local FCA faculty should carefully consider the application of Big Rooms and focus on pathways which have **clear objectives, easily measurable outcomes, and a tight focus of work**. There is potential for the Central FCA to further develop their guidelines on selecting pathways to reflect these requirements. Pathways should kick-off with a **distinct and focused scoping phase** in which clear objectives are agreed with clinical and managerial stakeholders, and a **handful of relevant measurable outcomes** are focused on.

3. Similar to recommendation 2), Local FCAs should assess the alignment of proposed pathways with the **strategic direction of the trust**; this may help to sure ensure the success and sustainability of the Big Room.

4. The contribution of the FCA programme to participants' career development, including receiving promotions and increased responsibility, is well understood. Local FCAs should **emphasise the value of the programme in contributing to professional development** to staff within their organisation.

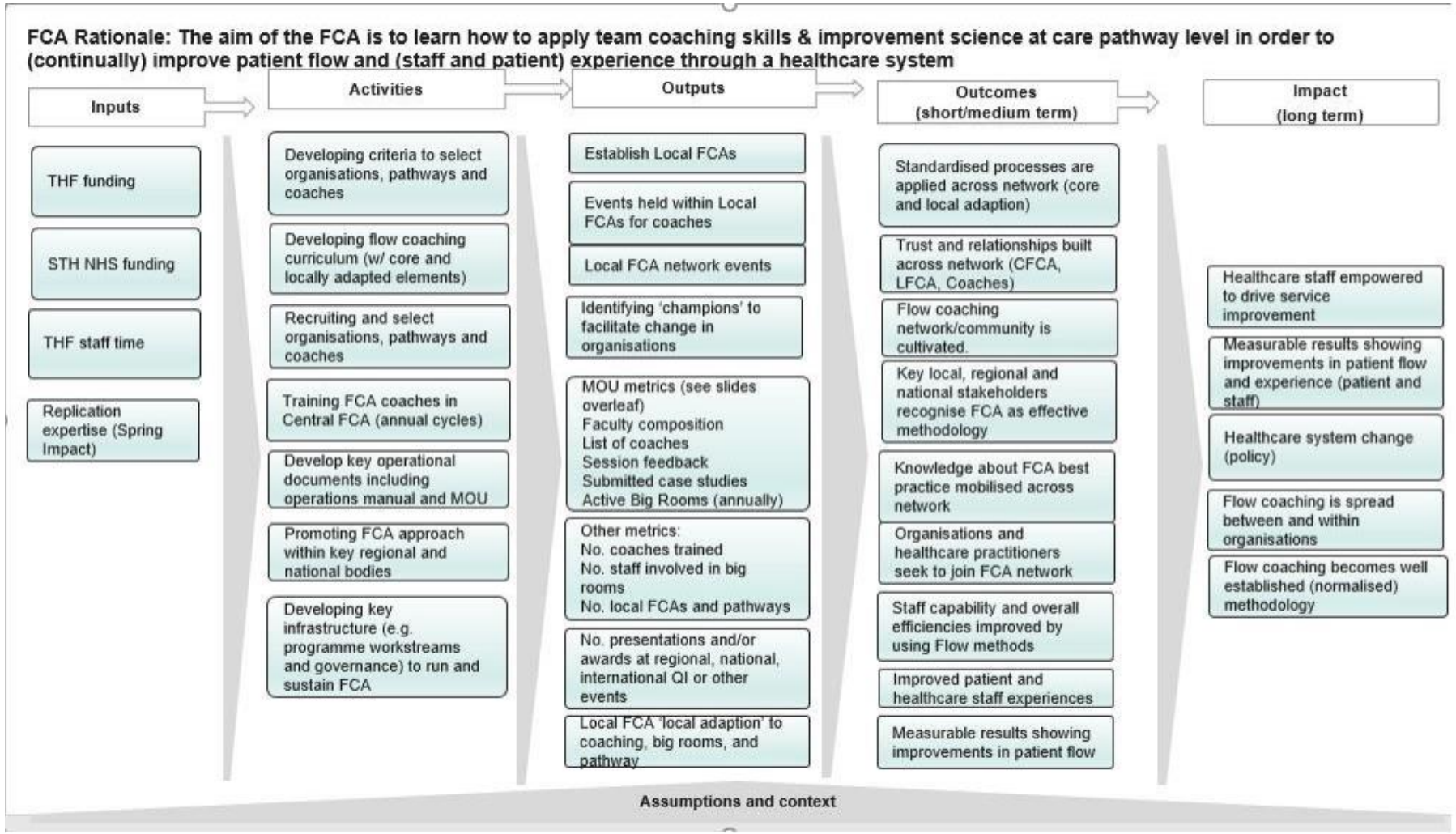
5. The flexibility of the Big Room methodology to other organisational challenges has been shown, including adaptation of Big Rooms to pandemic-related service challenges. Pathways should search for forums within their trust in which **the FCA methodology is shared and celebrated** so that it can be **adopted by others** inside the organisation; this could be further linked by the Central FCA to wider forums within the FCA Network.

6. Pathways should include a patient voice / voices at **every step of the Big Room** process, including the set-up, delivery, and intervention testing. The hybrid approach provides a useful tool for easily including this; the Central FCA can help to support this by focusing on including the patient voice within the training programme.

Appendix One: Programme Theory of Change

Figure 7.1 features the most recent iteration of the FCA Programme's ToC. This was produced by the Health Foundation, following the formative evaluation and various phases of ToC development. This version of the ToC was included in the Invitation to Tender for the summative evaluation.

Figure 7.1: FCA Programme Theory of Change



Appendix Two: Programme Monitoring Information

Table 8.1: MI data provided to date

Monitoring information data source	Description	Planned use and caveats
FCA Session Feedback Survey	Open-ended qualitative feedback from several FCA-run sessions for Local FCAs and coaches. Feedback covered: • What went well? • What could be improved? • Did you deviate from the curriculum? • Any other learning points?	Data are qualitative, meaning it is not possible to report aggregate conclusions. These data sources have been included in a rapid review to supplement qualitative insight and reporting related to the nature and success of the Central FCA's facilitation of the network.
External platform statistics up until April 2021	Twitter data, including tweets, impressions, profile visits, mentions and followers. Website data, including users, new users, sessions, and page views.	Data sources has been included in a rapid review to supplement quantitative insight and reporting related to the external communication campaign of the FCA programme.
Updated external platform statistics for July 2022	Twitter data, including tweets, impressions, profile visits, mentions and followers. Website data, including users, new users, sessions, and page views.	
Post it note evaluation sessions	Open-ended quality feedback from several FCA-run sessions detailing what went well and what could be improved.	Data are qualitative, meaning it is not possible to report aggregate conclusions. These data sources have been included in a rapid review to supplement qualitative insight and reporting related to the nature and success of the Central FCA's facilitation of the network.
Feedback from Cohorts One and Two	Open-ended quality feedback from several FCA-run sessions detailing what went well and what could be improved.	Data are qualitative, meaning it is not possible to report aggregate conclusions. These data sources have been included in a rapid review to supplement qualitative insight and reporting related to the nature

		and success of the Central FCA's facilitation of the network.
FCA Collective 2019	Qualitative feedback from FCA Collective meeting.	Small sample size (n = 3) **Data not included in report.**
FCA Session 1 catch up day evaluation	Qualitative feedback from FCA training session.	Small sample size (n = 4) **Data not included in report.**
Feedback for the FCAs virtual event November 4th	Qualitative feedback from FCA virtual event on 4 November 2020.	Small sample size (n = 4) **Data not included in report.**

Appendix Three: Impact evaluation

As each Flow Coach Academy (FCA) has been developed to tackle local issues, a case study approach has been taken for the impact evaluation. The pathways and outcomes chosen are very different across the FCAs. The level of progress that has been made in dealing with the issues is also very different and therefore a single impact evaluation was not feasible.

Selecting the Case Study Pathways

The case study pathways were chosen in consultation with the Health Foundation evaluation team, the central FCA team and Local FCA pathway leads. An initial list of all pathways that have been included in FCA 'Big Rooms' was compiled to understand the model, outcomes and progress for each of them. Each was then discussed with the Local FCA lead to confirm this detail and understand which might meet the criteria for inclusion in the impact evaluation:

- The rationale for identifying the pathway and the changes made were clear and the date of implementation was known;
- The outcome and any matching variables were available in national datasets to allow a comparison with a synthetic control unit;
- The changes to the service model had been running long enough to detect any impact and this period was not shortened too much by the COVID-19 pandemic.

Through this process, the long list was reduced to a short list of seven pathways that had the most potential to detect any impact if it had occurred. Further discussions were then held with each of these pathway leads to understand the changes made and the outcomes impacted in more detail. As a result, the five pathways with the most potential were then selected to be case studies.

Additional work was undertaken with these five pathways to ensure that each one could be analysed, and the pathway leads were happy to be involved in the evaluation. At this point it was decided, in consultation with the Health Foundation evaluation team and the Central FCA team, that three pathways were unsuitable for inclusion in the impact evaluation due to them either having been evaluated previously or them deciding the pathway had not been operational long enough before the COVID-19 pandemic.

The two pathways that have been included as case studies are:

- Northern Ireland's Elective Orthopaedic pathway at Western Health & Social Care Trust
- Northumbria's Rheumatology pathway.

Agreeing the method

A workshop was held with the team in Northern Ireland to further understand their pathway from a set of wider perspectives, the service changes that happened following the FCA process and the outcomes that were being improved. Further interviews were conducted with the Northumbria pathway to gather the same information. This enabled a theory of change to be developed for each pathway. The theories of change are summarised below.

Table 9.1: Summary Theories of Change

Northern Ireland Elective Orthopaedic Pathway	• The pathway is focused on elective orthopaedic activity for hips and knees and covers the whole trust
	• The original focus was on Arthroplasty but is now more general
	• The main pathway changes happened in January 2019 and were in place until the start of the pandemic in March 2020
	• The changes include the development of an e-triage system, streamlining the pathway from referral to discharge, streamlined processes for requesting blood tests and improving day surgery admissions through a new Day Surgery Unit
	• The outcomes include:
	  ○ reduced waiting times
	  ○ reduced number of blood tests
	  ○ reduced length of stay for Arthroplasty and other procedures
	  ○ improved day case rates
	  ○ improved staff morale through improved engagement.

Northumbria Rheumatology Pathway	• The Rheumatology department at the trust was struggling • They were not meeting any of their national benchmark measures • They were particularly struggling with waiting times and meeting the 18-week Referral to Treatment (RTT) target • Overall, the treatment was good but the trust was not meeting national RTT standards • There was a huge variation in practice across their geographically dispersed patch • The 'Big Room' led to several small changes to the Rheumatology pathway. It is the accumulation of these changes which was thought to have had an impact • The changes included changed ratios, booking systems, scheduling, outcome forms, changing advice messaging • The 'Big Room' meetings stopped during the pandemic. They are now back up and running • The changes were not aimed at a single pathway but at improving the whole department • FCA training started in late 2018 and the pathway changes started shortly after then. The start date used for this analysis is February 2019. The changes are still up and running despite the pandemic • Online consulting has removed the geographic inertia and has helped during the pandemic • The key outcome variables are the RTT 18-week target and the number of incomplete RTT pathways at the end of each month.

These theories were used to develop the method for analysis. The primary analysis for each of the case studies was a Synthetic Control (SC) method.

Synthetic Controls

SC methods have become an increasingly popular choice for programme evaluation, building upon previous difference-in-difference analyses, including Interrupted Time-Series. SC uses a combination of

multiple control units as the counterfactual, testing whether the intervention had any statistically significant effect and therefore whether causality can be inferred.

SC allows the opportunity to extend observational studies. Unlike other difference-in-difference approaches, SC does not explicitly rely on parallel pre-implementation trends.

The pool of potential controls (also known as the donor pool) should reflect the characteristics of the treated unit in terms of pre-intervention values, and the existing theory/conceptual model behind the analysis.

The donor pools for the two case study pathways are different. The pool for the Northern Ireland Elective Orthopaedic pathway includes all Health and Social Care (HSC) trusts in Northern Ireland and all health boards in Scotland providing elective orthopaedic services. Health boards in Scotland were also included as there were too few HSC trusts in Northern Ireland to create a robust synthetic control unit. A small number of trusts in Scotland were removed from the donor pool as they included some missing data for the outcome variables during the period being analysed.

The pool for the Northumbria Rheumatology pathway consists of all acute trusts in England providing Rheumatology services. Five provider organisations were removed from the donor pool as they lacked data for at least one predictor variable.

The similarity of pre-intervention values between the donor units and the treated unit (the FCA pathway) should be similar not only with the main outcome of interest, but also with other predictor values which could influence the outcome. Consistent data has been sourced for all metrics for both case study sites. As data for Northern Ireland and Scotland was required for the elective Orthopaedic pathway, all efforts were made to source comparable data for all organisations.

The data for each FCA pathway was sourced and collated. The dataset for the donor pool units and treatment units were created in a standardised “panel” format, whereby observations for both dependent and independent variables are longitudinal. The Synthetic Control procedures were then initiated using the MSCMT package in R. This package was chosen as it creates a single synthetic control for each pathway based on multiple outcome variables.

A synthetic counterpart of the treated unit was created for each pathway. This was made up of a weighted combination of control units from the donor pool. The fitting and weighting calculations were done through numerical optimisation procedures. These compare the outcome and matching variables in the period pre intervention to identify the best combination of units from the donor pool to create the synthetic control unit. These were done by the MSCMT package.

An outcome analysis was conducted to compare the post-intervention data of the treated unit and its synthetic unit for each of the case study pathways. The outcome variables were standardised before analysis to consider the different sizes of the treatment units and their comparators in the donor pool.

Placebo tests are run to test the robustness of the model and to ensure the analysis is not flawed. This performs the analysis as if other units in the donor pool were the treated unit to generate a distribution of effect estimates.

For the SC methodology to be valid, several key requirements must be met. Potential control units in the donor pool are usually selected for similarity in terms of geographical proximity, or with similar

characteristics, whether that is beyond the matching variables. Subjective assessment of which units to include in the donor pool can also be made, driven by your theory. This was done in consultation with each of the case study sites. Data for Scotland was used to increase the size of the donor pool for the Northern Ireland Elective Orthopaedic pathway. This was done in consultation with the Local FCA lead.

There should be no contamination of effects of the intervention into potential control areas. This means that any positive or negative impact of the intervention on actual units should not have an indirect impact on the outcome for control units. The focus of the FCAs is mainly on the internal flow of activity through their own organisation and is therefore unlikely to impact on any of the control units.

There must be no events that might differentially affect the outcome of interest in the treated or potential control units in both pre and post-intervention periods. In addition, there should be no anticipatory effects, where untreated units would be expected to receive the intervention in the future and begin changing their behaviour prior. This is unlikely as the changes were focused on the FCA organisation and there were no plans to implement the changes more widely.

Each FCA was analysed separately with individual models developed.

The variables and dates used in the Synthetic Controls analysis for each FCA are presented below.

Table 9.2: List of variables and dates used

	Northern Ireland Elective Orthopaedic Pathway	Northumbria Rheumatology Pathway
Outcome variables	• Total Orthopaedic Inpatient (Elective and Day Case) Waiting Times per 1,000 population per quarter • Orthopaedic Outpatient Waiting Times per 1,000 population per quarter	• Percentage of people waiting seen within 18 weeks of a Rheumatology referral per month • Total number of incomplete Rheumatology RTT pathways per FTE consultant each month
Matching variable	• Number of Orthopaedic FTE Consultants • Number of Orthopaedic beds • Number of operating theatres • Percentage of population aged 65 and over • Percentage living in the most deprived quintile • Percentage living in a rural area	• Number of Rheumatology full time equivalent Consultants • Percentage of inpatient spells from patients living in IMD quintile 1 • Percentage of outpatient attendances from patients living in rural areas • Number of outpatient attendances per consultant • NEIAA audit quality standard 1 - the proportion of people referred by their GP within 3 working days
Dates Used	• Data from Quarter 1 2014 to Q1 2020 (COVID-19 pandemic period removed as changes were not operational in this period) • Changes started in Quarter 1 2019	• Data from October 2017 to March 2022 • Changes started in February 2019

Limitations

The changes happened over an extended period and therefore selecting the right date to split the pre and post periods is difficult. Northumbria described their changes as a series of smaller changes that

would have an incremental effect. Additional analysis has been done to examine the impact of moving their intervention date to October 2019 to understand if this changes the impact of the intervention.

Data availability needs to be consistent across both the treated and control units. Incomplete or missing data can bias the results. There are only three other Health and Care Trusts in Northern Ireland that provide elective orthopaedic services. This is too few to develop robust synthetic controls. This has been mitigated by adding trusts from Scotland to the donor pool. The two health systems were seen as similar, and it was possible to collect the same metrics for all the trusts in Northern Ireland and Scotland. When the analysis was run only trusts within Northern Ireland were selected in the synthetic control which suggests the differences between the two systems is larger than anticipated. The main factor driving this is the higher rates for both outcome variables in trusts from Northern Ireland.

There may be other changes in local pathways or in the donor pool units at the same time as the FCA intervention. This has been mitigated by discussions with the local projects to understand the intervention and the context. It is not possible to know whether changes were made to the pathways in the donor pool units. Any changes are likely to affect the Northern Ireland Elective Orthopaedic pathway more as the synthetic control is made up of only two trusts.

It is not possible to aggregate the effect sizes of the two selected pathways as the two interventions were different and they focused on different outcome variables.

Results

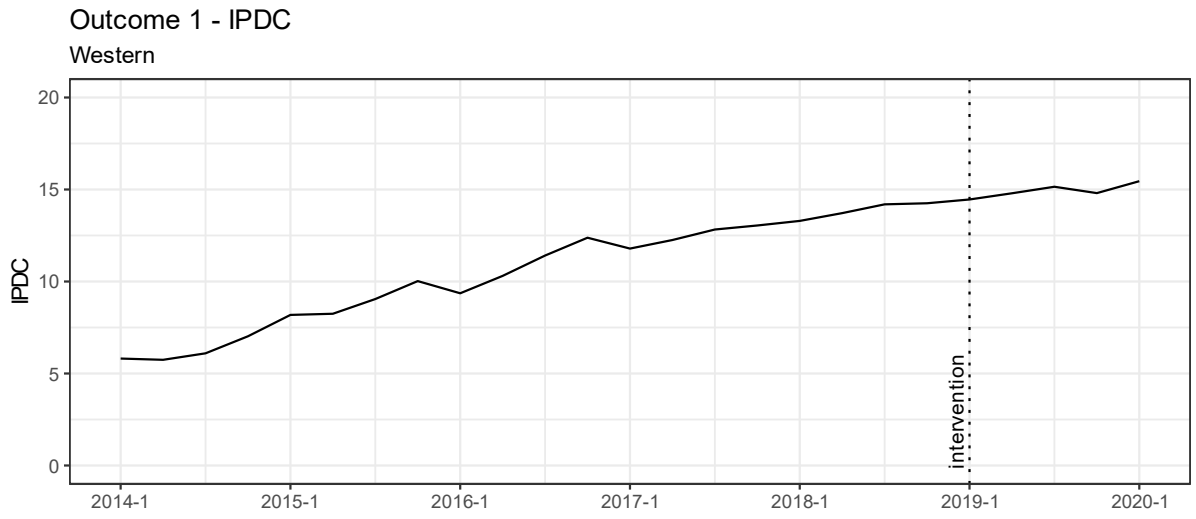
The two pathways were analysed separately and therefore the results are presented separately.

Northern Ireland

Outcome trends

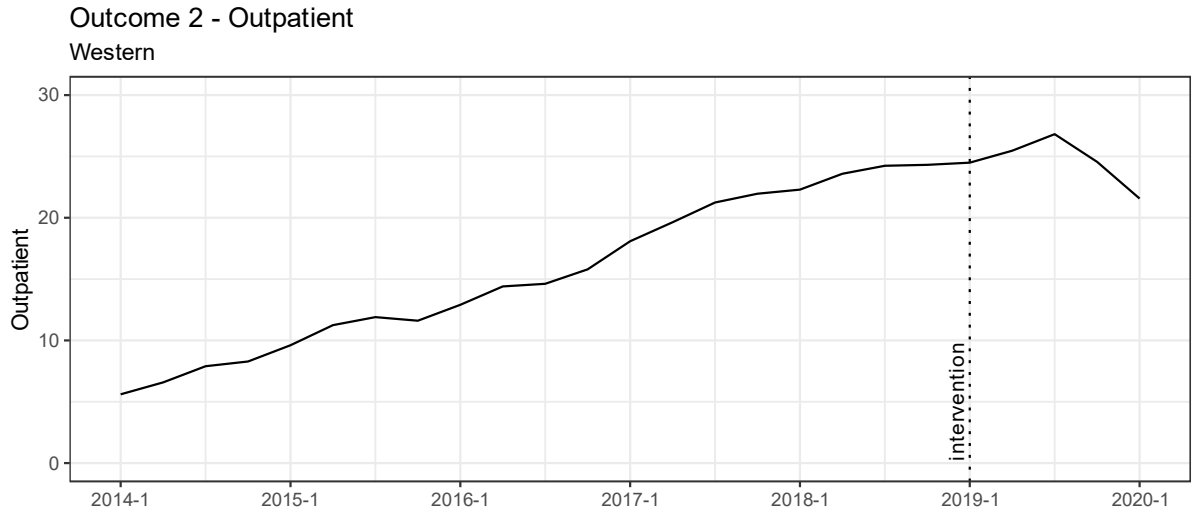
The figure below shows the number of elective inpatient and day case waiters per 1,000 population for the Northern Ireland Elective Orthopaedic pathway. The rate has been increasing each quarter since quarter 1 2014 and continued to increase following the introduction of the FCA changes. This may be due to other factors and the SC analysis is required to control for these factors.

Figure 9.2: Figure 9.1 Number of elective inpatient and day case waiters per 1,000 population per quarter for the Northern Ireland Elective Orthopaedic pathway



Error! Reference source not found.9.3 shows the number of outpatient waiters per 1,000 population for the Northern Ireland Elective Orthopaedic pathway. The rate increased each quarter since quarter one 2014 until quarter three 2019 when it started to decrease.

Figure 9.3: Number of outpatient waiters per 1,000 population per quarter for the Northern Ireland Elective Orthopaedic pathway



Synthetic model components

A synthetic trust was created, which is a weighted average of selected trusts in the donor pool. The weightings are the percentage of each trust used to create the synthetic trust. The SC used the trusts in table 9.3 below.

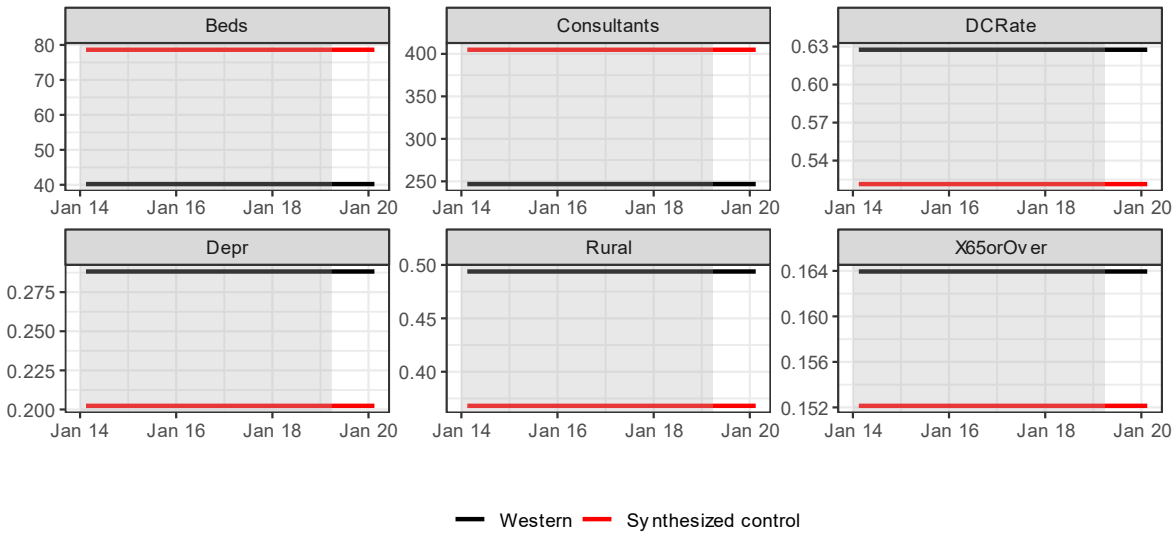
Table 9.3: Trusts used to create the synthetic trusts and their weightings

Donor organisations	% weight in SCM
Belfast	25.1%
Southern	74.9%

The method applied created a control made up of only two trusts and none from Scotland. This is related to the large difference in the outcome variables between Northern Ireland and Scotland. The rates in Northern Ireland are higher than those in Scotland and therefore only uses those trusts that are close enough to the FCA trust to match the outcome variables. This means the level of matching in the pre period between the NI FCA pathway and its synthetic control for both outcome variables is poor. This impacts the results and makes it difficult to detect impact.

Figure 9.4 shows how each of the matching variables in the treated unit compares with the synthetic control unit. There are some large differences that suggest the two are poorly matched.

Figure 9.4: Comparing actual vs synthesized control data for each predictor variable



Synthetic control

Figure 9.5 – 9.8 compare the Northern Ireland Elective Orthopaedic pathway at Western Health & Social Care Trust (actual data) against their synthetic control (synthesized data) for the two outcome variables. The trend is similar for elective inpatient and day case waiters but the synthetic control is consistently below the FCA trend.

Figure 9.5: Comparison of actual data with synthesized control data for elective inpatient and day case waiters

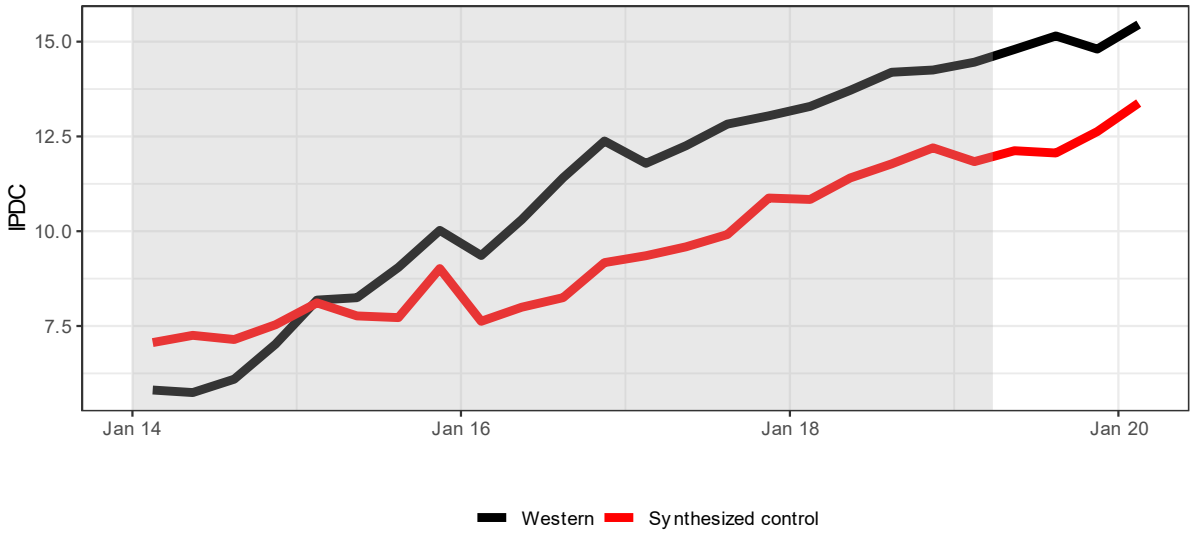
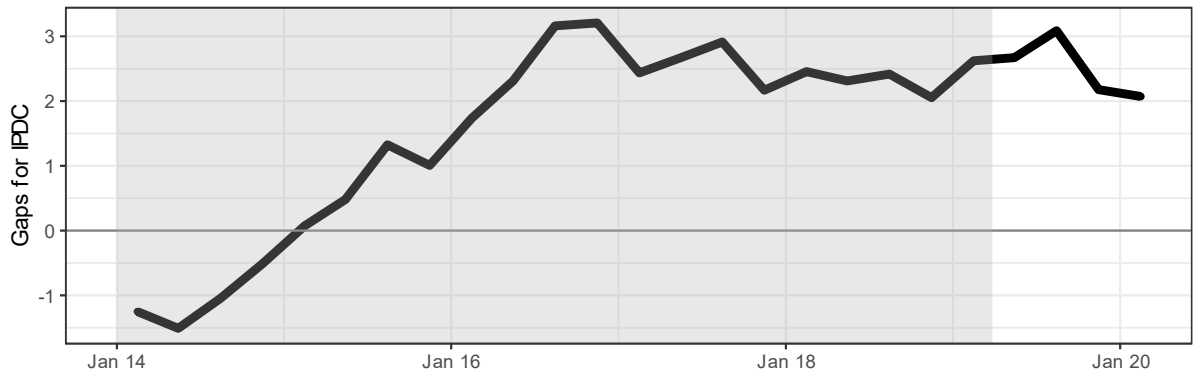


Figure 9.6: Gaps chart showing the difference between actual and synthesized control data



The trends for outpatient waiters are very different in the pre period making it difficult to make any inferences on the impact of the FCA changes. An additional Interrupted Time Series (ITS) analysis was also undertaken to examine whether the decrease from quarter three 2019 was statistically significant. The time period available was too short to show impact and therefore the analysis has not been included in the report.

Figure 9.7: Comparison of actual data with synthesized control data for outpatient waiters

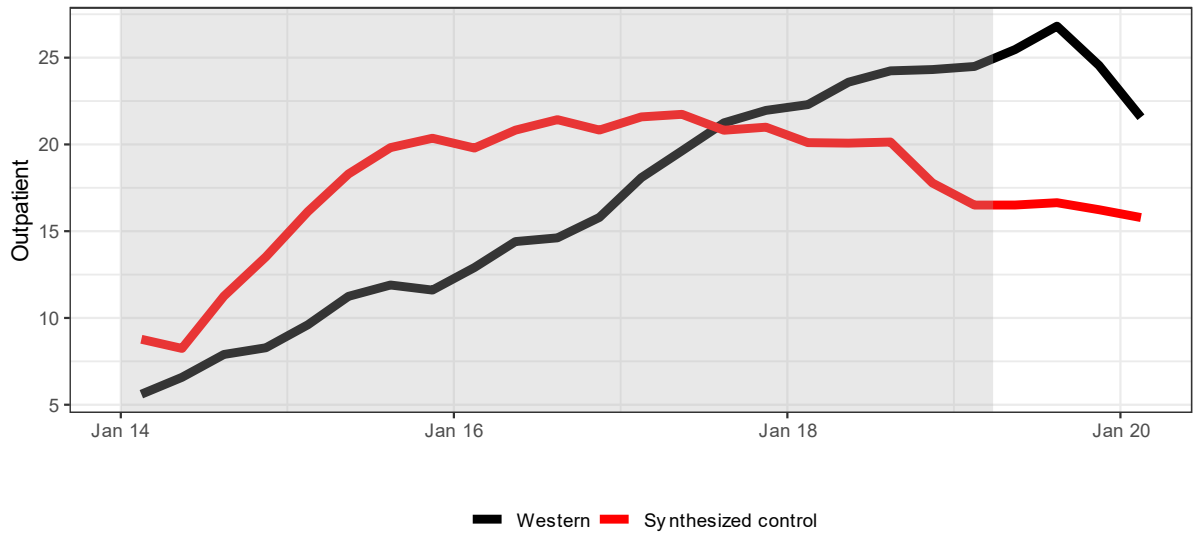
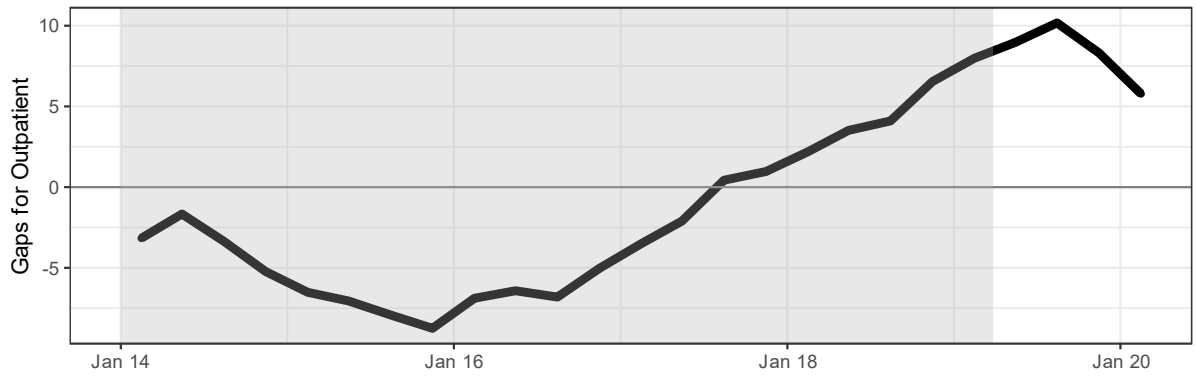


Figure 9.8: Gaps chart showing the difference between actual and synthesized control data



Placebo testing

Testing whether the intervention had a significant effect involves systematically applying the SC model to each of the other donor pool organisations to build a response profile that we can compare our treated unit against. The placebo testing for Northern Ireland shows distinct differences between the treated and synthetic control units that are likely to impact the validity of any analysis.

Controls with pre-treatment gaps greater than five times the average root mean square percentage error (RMSPE) for Western have been excluded to improve comparisons (see below table for the exclusion).

Figure 9.9: Placebo gaps plot for elective inpatient and day case waiters

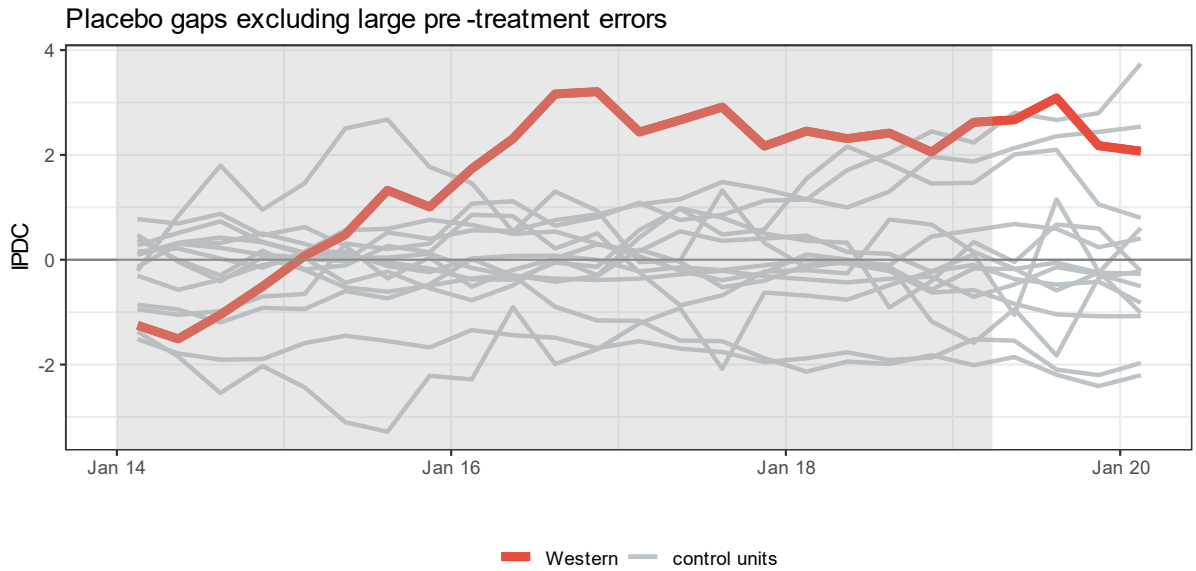
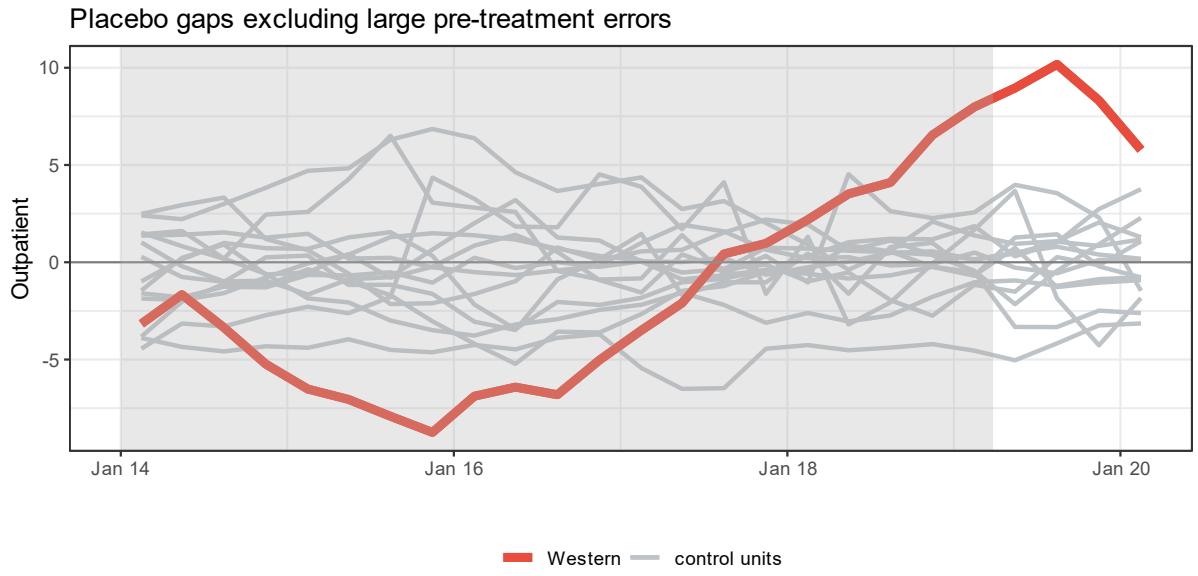


Figure 9.10: Placebo gaps plot for Outpatient waiters



Model results

A p value below 0.05 is required to show causality. The p values for both outcome variables are very high. This means it is not possible to detect any impact for the Northern Ireland FCA on these variables. This is mainly driven by the outcome data available that matches poorly with the synthetic control.

Table 9.4: Model Results

	Number of elective inpatient and day case waiters per 1,000 population	Number of outpatient waiters per 1,000 population
Effect Size	1.048165	10.56106
Average pre	1.477127	-2.318556
Average post	2.525293	8.242501
P value	0.8	1
Rank	[1] 12	[1] 15
Excluded	Belfast	Belfast

* units excluded from the effect size analysis because their pre-treatment RMSPE values were 5 or more times the average pre-treatment RMSPE for Western.

Northumbria

Exclusions

Five provider organisations had gaps in data for either the rurality or quality standard 1 variables.

Table 9.5: Trusts excluded from the donor pool

Provider code	Provider name	Rurality [1]	QS1 [1]
RAS	The Hillingdon Hospitals NHSFT	0	54
RJE	University Hospitals of North Midlands NHST	54	54
RTG	University Hospitals of Derby and Burton NHSFT	0	54
RXP	County Durham and Darlington NHSFT	0	54
RYR	University Hospitals Sussex NHSFT	0	54

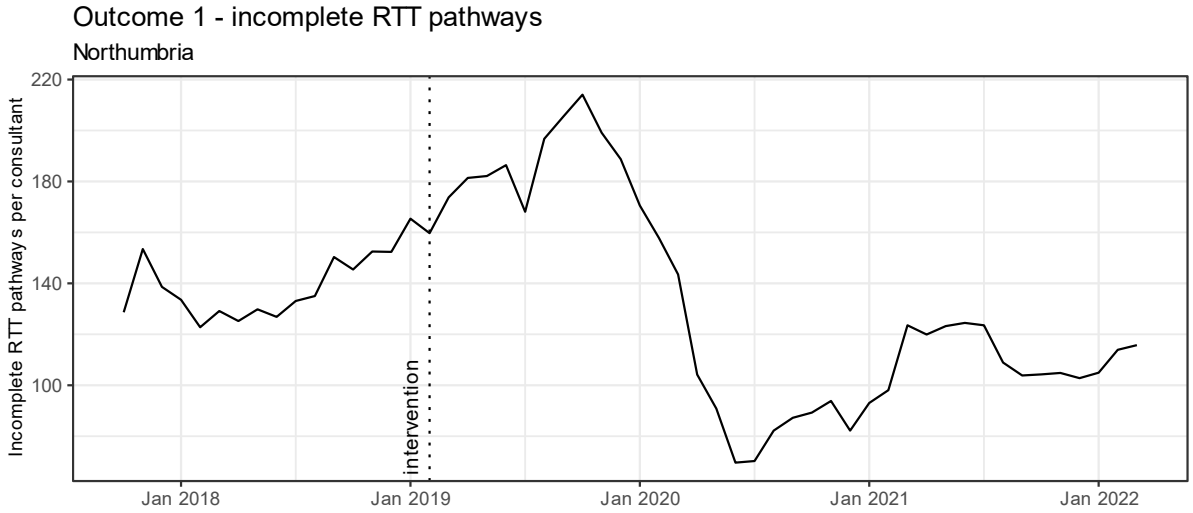
[1] The number of observations (months) without data. NB, there are 54 months in the dataset, spanning October 2017 to March 2022.

These five organisations were excluded from the rest of the analysis as the synthetic control method requires data for all predictor variables and for all units (providers).

Outcome trends

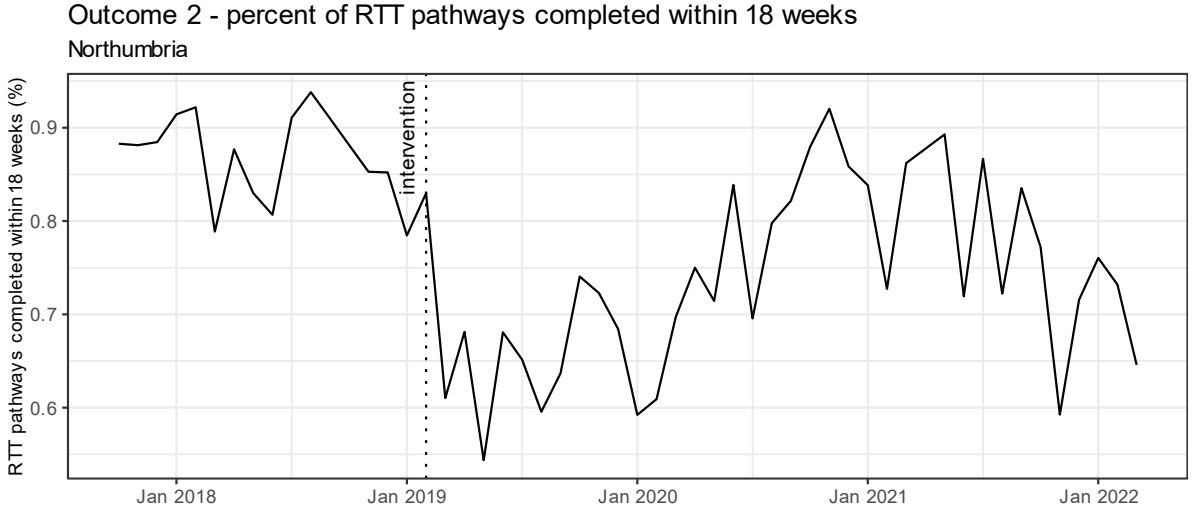
These charts show the trends in the two outcomes (incomplete RTT pathways and RTT pathways completed within 18 weeks) over the full period. The intervention, identified as taking place in February 2019, is marked with the dotted line.

Figure 9.11: Number of incomplete rheumatology RTT pathways per FTE rheumatology consultant per month



Error! Reference source not found.1, above, shows the number of active rheumatology RTT pathways each month, standardised by FTE rheumatology consultants. The rate increased from ~130 pathways per consultant in October 2017 to ~215 in October 2019, after which it fell sharply fell to ~75 by June 2020 before rising and steadying between 100-130 pathways per consultant through 2021/22.

Figure 9.12: Percent of rheumatology RTT pathways completed within 18 weeks of referral



Error! Reference source not found.2, above, shows the percentage rate of rheumatology RTT pathways completed within 18 weeks from referral. The timeseries shows pronounced sawtooth patterning between months with an overall trend of approximately 85% compliance pre-intervention, falling to around 65% over 2019 before increasing again throughout 2020 to a peak of over 90% compliance before falling over 2021 to around 70% in early 2022. This shows there was a reduction in performance post intervention, but further testing is required to understand if this change is related to the FCA pathway changes.

Synthetic control

A single SC model was produced that optimised a match with both of Northumbria's outcome measures in the pre-intervention period. The synthetic model provides an approximate, but not perfect, pre-intervention match with Northumbria's data.

Incomplete RTT pathways per consultant

Figure 9.13 shows the actual data overlaid by the synthesized control data. Figure 9.14 shows the gaps between the actual data and the synthesised control.

Figure 9.13: Comparison of actual data with synthesized control data for the incomplete RTT outcome

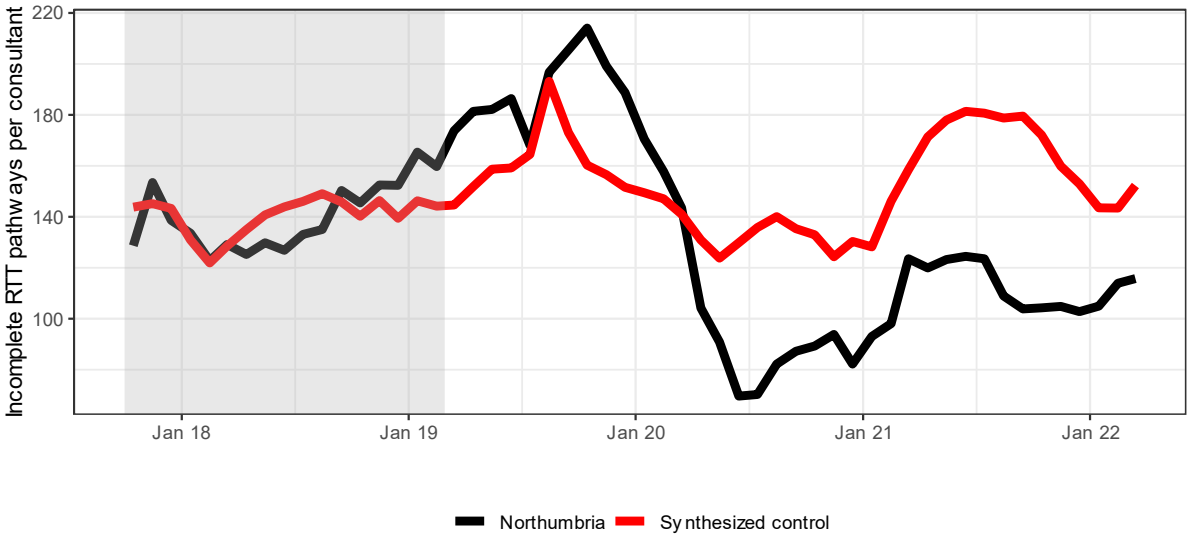
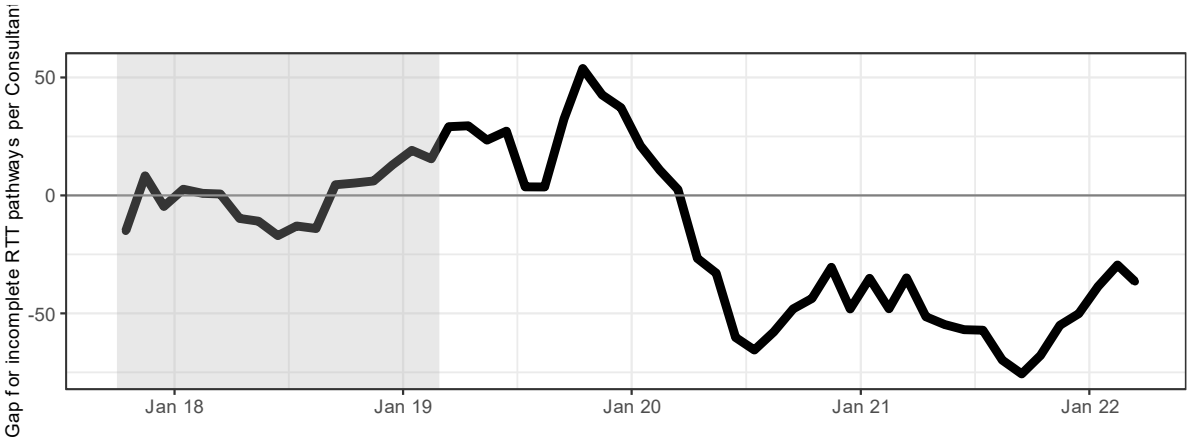


Figure 9.14: Gaps chart showing the difference between actual and synthesized control data



For incomplete RTT pathways from June 2020 onward the synthetic model appears to deviate from the actual data, suggesting that by 2022 there would have been a higher rate of incomplete pathways than was the case. Assuming that fewer RTT pathways is a good outcome this indicates the intervention had a positive impact on incomplete RTT pathways.

RTT pathways completed within 18 weeks

Figure 9.15 shows the actual data overlaid by the synthesized control data. Figure 9.16 shows the gaps between the actual data and the synthesised control.

Figure 9.15: Comparison of actual data with synthesized control data for RTTs completed within 18 weeks

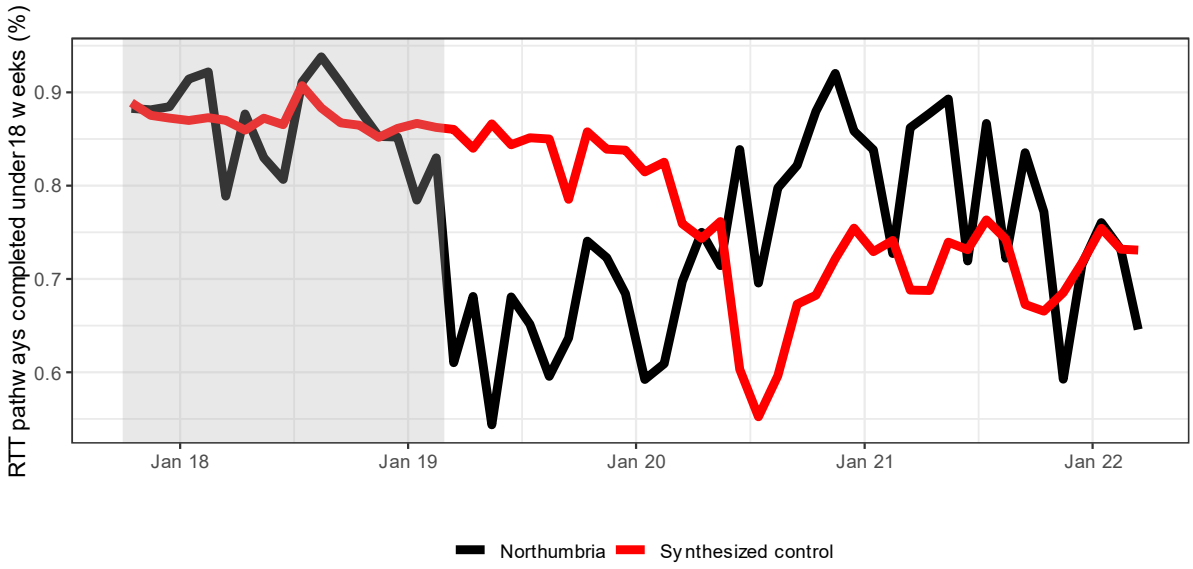
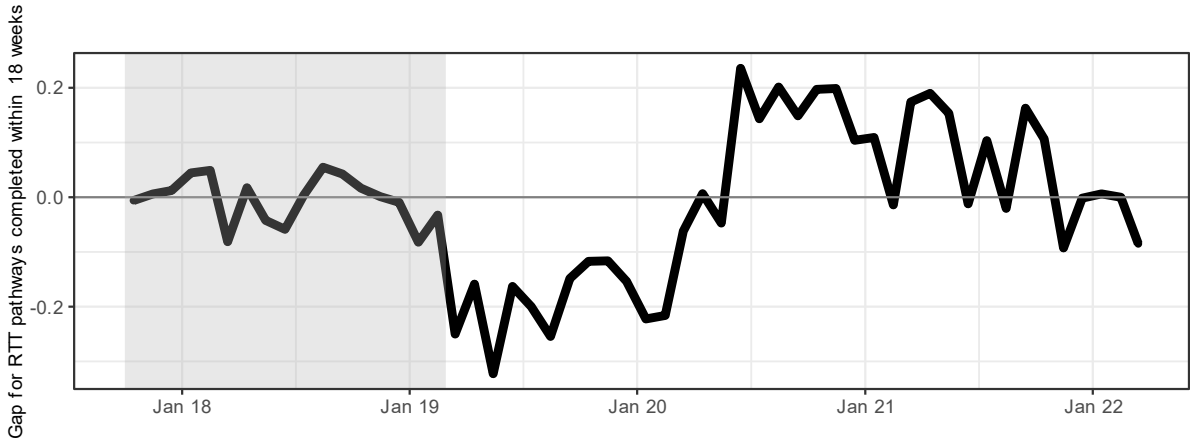


Figure 9.16: Gaps chart showing the difference between actual and synthesized control data



For complete RTTs within 18 weeks the picture is mixed. After the intervention and throughout 2019 the synthetic model indicates a higher rate of RTT completion within 18 weeks than the actual data reports, but around April 2020 this difference disappears. From 2021 onwards the two lines frequently overlap indicating no discernible difference between the actual and synthetic control data.

Synthetic model components

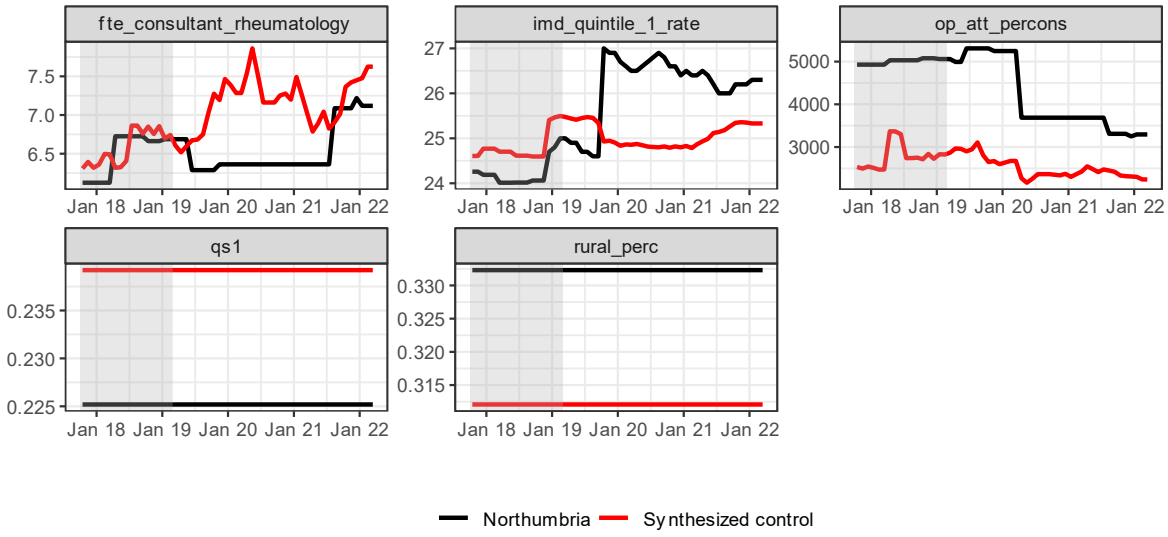
Table 9.6 shows the seven donor units that were found to provide optimum inputs to the synthetic control and the percentage of each donor unit used in the calculation of the synthetic control (the weighting).

Table 9.6: Trusts used to create the synthetic trusts and their weightings

Donor organisations	% weight in SCM
The Royal Wolverhampton NHST	19.4%
University Hospitals of Morecambe Bay NHSFT	18.6%
Norfolk and Norwich University Hospitals NHSFT	15.2%
Maidstone and Tunbridge Wells NHST	14.5%
Manchester University NHSFT	13.6%
East Suffolk and North Essex NHSFT	13.1%
Homerton University Hospital NHSFT	5.5%

Figure 9.17 shows how each of the matching variables compare between the treated unit and the synthetic control unit.

Figure 9.17: Comparing actual vs synthesized control data for each predictor variable



Placebo testing

Testing whether the intervention had a significant effect involves systematically applying the SC model to each of the other donor pool organisations to build a response profile that we can compare our treated unit against.

The controls with pre-treatment gaps greater than five times the average RMSPE for Northumbria have been excluded to improve comparisons (see below table for a list of exclusions).

Figure 9.18: Placebo gaps plot for incomplete RTT pathways per consultant

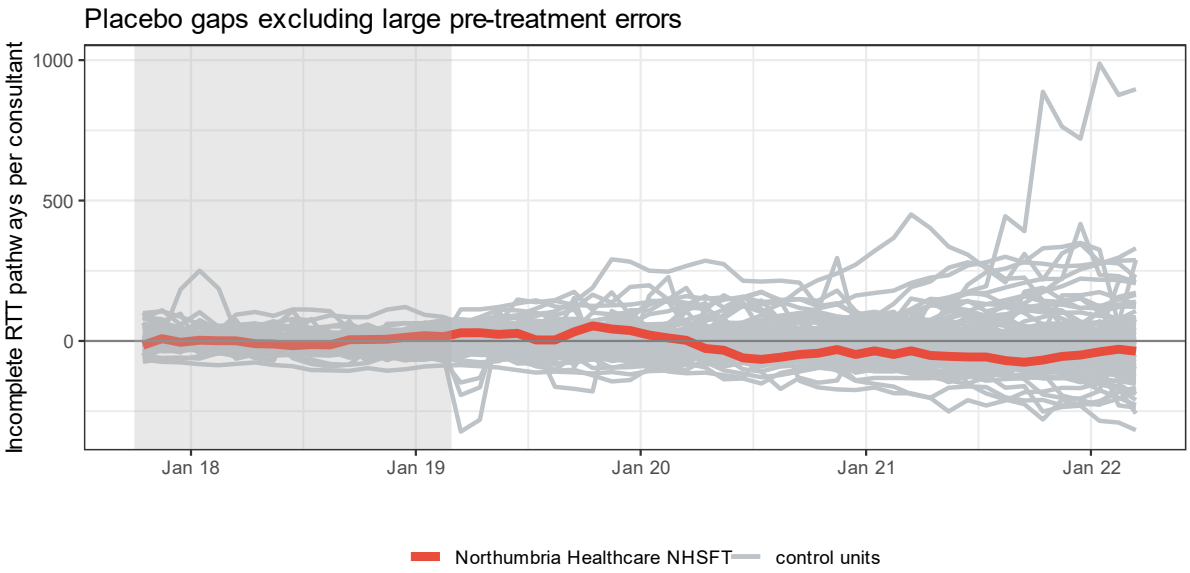
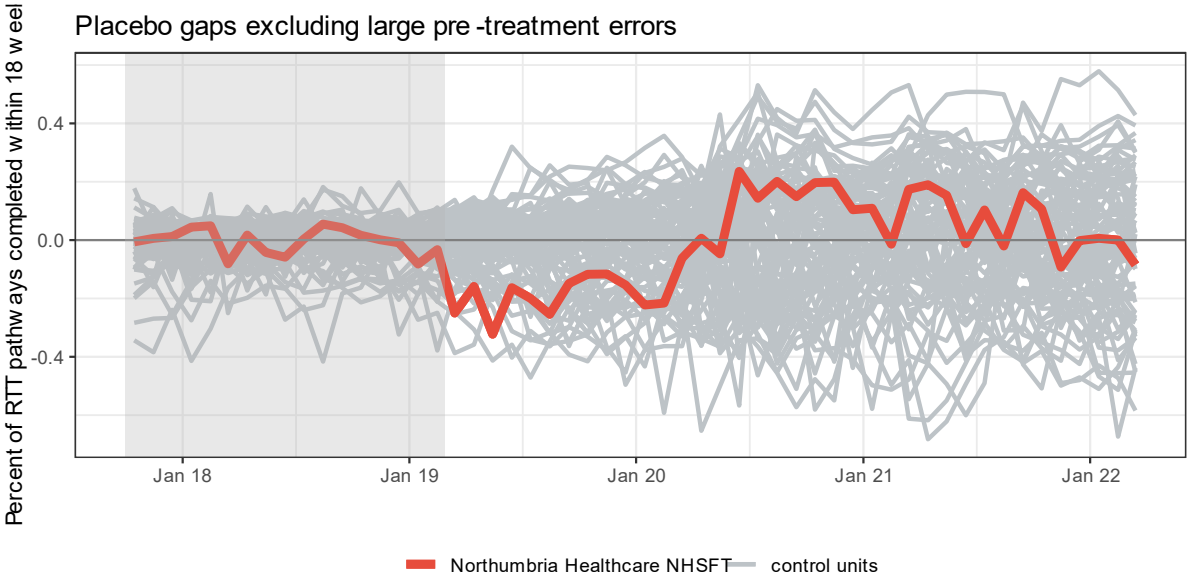


Figure 9.19: Placebo gaps plot for RTT pathways completed within 18 weeks



For both outcomes the gaps between the actual data for Northumbria and its synthetic control fall clearly within the distribution for all the other controls units. This indicates the effects are not significant.

Model results

Table 9.7 below summarises the results from the SC model.

The results confirm the above analysis:

1) There was an effect to reduce the number of incomplete RTT pathways per consultant in Northumbria but not for RTT completion within 18 weeks (noted in the *Effect size*),

2) Neither outcome is statistically significant (noted in the *P value*).

Table 9.7: Model Results

	Incomplete RTT pathways per FTE rheumatology consultant	RTT pathways completed within 18 weeks (percent)
Effect size	-21.66539	-0.008017875
Average pre	-0.5129004	-0.003838514
Average post	-22.17829	-0.01185639
P value	0.3793103	0.5283019
Rank	11	28
Excluded*	Isle of Wight NHST London North West University Healthcare NHST Yeovil District Hospital NHSFT University Hospitals Bristol and Weston NHSFT Torbay and South Devon NHSFT North Middlesex University Hospital NHST Kingston Hospital NHSFT Walsall Healthcare NHST Mid Cheshire Hospitals NHSFT Bedfordshire Hospitals NHSFT York and Scarborough Teaching Hospitals NHSFT Airedale NHSFT The Queen Elizabeth Hospital Kings Lynn NHSFT Milton Keynes University Hospital NHSFT East Suffolk and North Essex NHSFT Frimley Health NHSFT The Rotherham NHSFT West Suffolk NHSFT Royal Devon and Exeter NHSFT University Hospital Southampton NHSFT Sheffield Teaching Hospitals NHSFT Portsmouth Hospitals University NHST Lewisham and Greenwich NHST Croydon Health Services NHST South Warwickshire NHSFT Northern Lincolnshire and Goole NHSFT Sherwood Forest Hospitals NHSFT University Hospitals Plymouth NHST University Hospitals Coventry and Warwickshire NHST Whittington Health NHST The Royal Wolverhampton NHST Wye Valley NHST Norfolk and Norwich University Hospitals NHSFT Northern Care Alliance NHSFT Tameside and Glossop Integrated Care NHSFT Hampshire Hospitals NHSFT The Dudley Group NHSFT Kettering General Hospital NHSFT Northampton General Hospital NHST Salisbury NHSFT Doncaster and Bassetlaw Teaching Hospitals NHSFT Medway NHSFT Chelsea and Westminster Hospital NHSFT Homerton University Hospital NHSFT Leeds Teaching Hospitals NHST The Newcastle Upon Tyne Hospitals NHSFT Oxford University Hospitals NHSFT Surrey and Sussex Healthcare NHST South Tees Hospitals NHSFT Epsom and St Helier University Hospitals NHST East Kent Hospitals University NHSFT North Tees and Hartlepool NHSFT Southport and Ormskirk Hospital NHST Hull University Teaching Hospitals NHST	Isle of Wight NHST Yeovil District Hospital NHSFT Kingston Hospital NHSFT York and Scarborough Teaching Hospitals NHSFT Harrogate and District NHSFT The Queen Elizabeth Hospital Kings Lynn NHSFT Milton Keynes University Hospital NHSFT East Suffolk and North Essex NHSFT Liverpool University Hospitals NHSFT West Suffolk NHSFT University Hospital Southampton NHSFT Sheffield Teaching Hospitals NHSFT Lewisham and Greenwich NHST Croydon Health Services NHST Northern Lincolnshire and Goole NHSFT Kings College Hospital NHSFT Sherwood Forest Hospitals NHSFT The Royal Wolverhampton NHST Wye Valley NHST Tameside and Glossop Integrated Care NHSFT The Dudley Group NHSFT Kettering General Hospital NHSFT Northampton General Hospital NHST Salisbury NHSFT Doncaster and Bassetlaw Teaching Hospitals NHSFT Medway NHSFT Homerton University Hospital NHSFT Wrightington Wigan and Leigh NHSFT Ashford and St Peters Hospitals NHSFT South Tees Hospitals NHSFT Epsom and St Helier University Hospitals NHST East Kent Hospitals University NHSFT North Tees and Hartlepool NHSFT Hull University Teaching Hospitals NHST Maidstone and Tunbridge Wells NHST Stockport NHSFT Warrington and Halton Teaching Hospitals NHSFT Calderdale and Huddersfield NHSFT East Sussex Healthcare NHST Mid Yorkshire Hospitals NHST Blackpool Teaching Hospitals NHSFT Imperial College Healthcare NHST

	Maidstone and Tunbridge Wells NHST Stockport NHSFT Worcestershire Acute Hospitals NHST Warrington and Halton Teaching Hospitals NHSFT Calderdale and Huddersfield NHSFT East Sussex Healthcare NHST Mid Yorkshire Hospitals NHST Sandwell and West Birmingham Hospitals NHST Blackpool Teaching Hospitals NHSFT Buckinghamshire Healthcare NHST East Lancashire Hospitals NHST Imperial College Healthcare NHST	

* units excluded from the effect size analysis because their pre-treatment RMSPE values were 5 or more times the average pre-treatment RMSPE for Northumbria.

October 2019 intervention

We noted in the methods section that the Northumbria Rheumatology project is the result of several small changes over time and the choice of February 2019 as the intervention date is somewhat arbitrary. To examine the impact of a later intervention date the SC analysis was repeated using October 2019 as the intervention date.

Figure 9.20: Comparison of actual data with synthesized control data for the incomplete RTT outcome (October intervention)

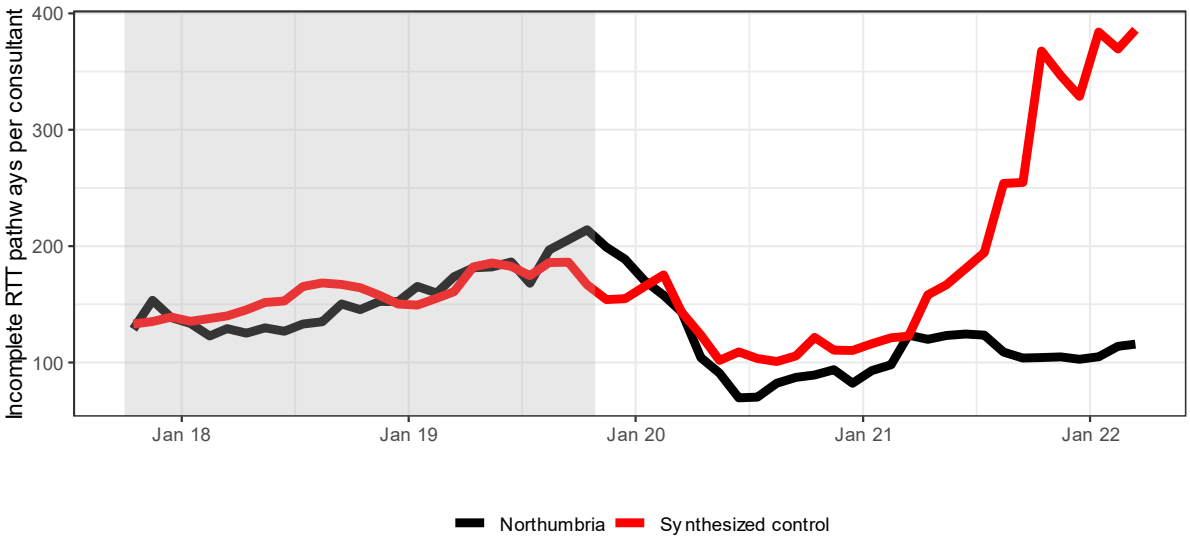
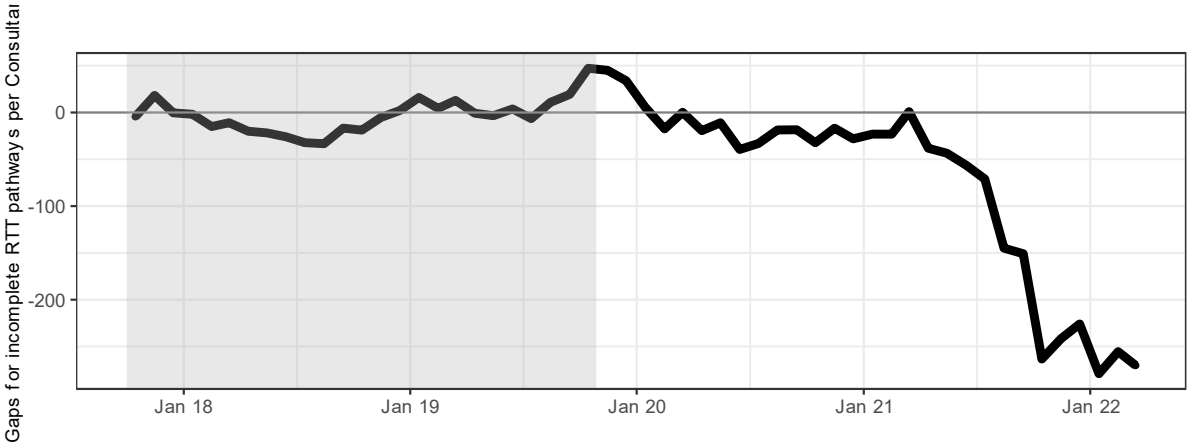


Figure 9.21: Gaps chart showing the difference between the actual and synthesized control data (October intervention)



For incomplete RTT pathways per consultant each month the synthetic model follows the actual data throughout 2020 and until April 2021 when the synthetic control rises sharply to indicate around 380 incomplete RTT pathways per consultant by March 2022 in contrast to the 120 shown by the actual data.

Figure 9.22: Comparison of actual data with synthesized control data for RTTs completed within 18 weeks (October intervention)

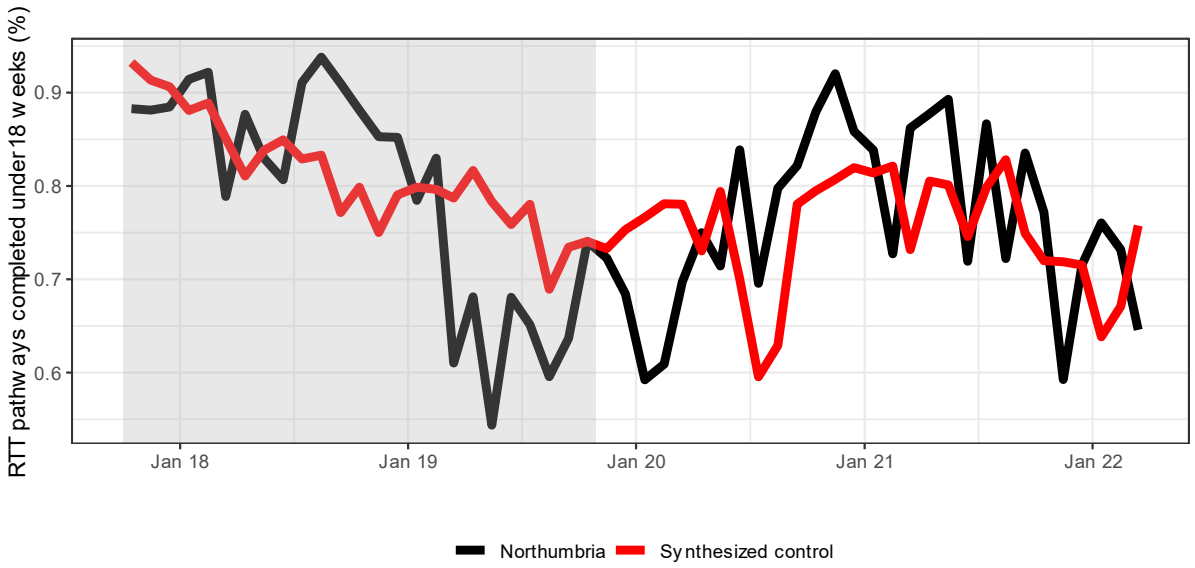
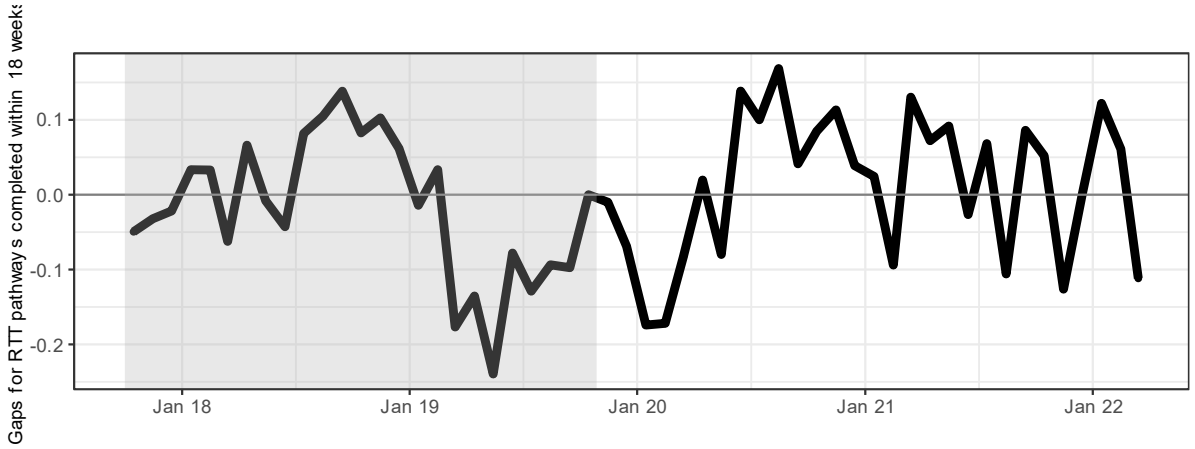


Figure 9.23: Gaps chart showing the difference between actual and synthesized control data (October intervention)



For complete RTTs within 18 weeks the synthesized control generally follows the trends of the actual data with frequent overlap between the two lines indicating no discernible difference them.

Model results

Using October 2019 as the intervention date emphasised the effect size on the incomplete RTT pathways, which decreased probability to 8% (from 38% using Feb 2019) which is notable but not considered statistically significant using a 5% threshold.

There was no notable change to the rate of RTT pathways completed within the 18 weeks target.

Table 9.8: Model Results

	Incomplete RTT pathways per FTE rheumatology consultant	RTT pathways completed within 18 weeks (percent)
Effect size	-69.65834	0.02971422
Average pre	-3.309921	-0.01769381
Average post	-72.96826	0.01202041
P value	0.08474576	0.5529412

Rank	5	47

Conclusion

Evaluating the impact of the FCA interventions has been challenging. The method used data to identify issues within pathways and then any potential changes to improve flow. It requires additional work and resources to then deliver these changes. This means the changes can be small and several changes are delivered over a longer period. Therefore, the impact can be small and iterative, and it is difficult to identify a precise intervention date or demonstrate a causal link between the pathway changes and any changes in the outcome metrics. The pandemic also had an impact on the implementation of changes within pathways which made it difficult to identify more case studies to evaluate.

Proving causality requires a high threshold. There appears to be a large change in the total number of incomplete Rheumatology RTT pathways per FTE consultant in Northumberland from October 19 when compared to the synthetic control. The change is larger than the change within the synthetic control but the p-value of 0.08 does not quite meet the threshold for showing causality (0.05). This means it is not possible to conclude the changes made following the Rheumatology 'Big Room' led to the changes in the outcome.

It is not possible to make any conclusions on the impact of the Northern Ireland Elective Orthopaedic pathway due to the difficulty in identifying a suitable synthetic control. There are too few trusts within Northern Ireland and although the system and metrics available from Scotland are similar the rates for the outcome metrics are too different in the pre-intervention period for them to be included in the synthetic control. The pathway changes were also curtailed by the Covid-19 pandemic that affected the time available to deliver the planned improvements in outcomes.

Although it has not been possible to show any impact of the two case study pathways analysed, there has been a separate impact evaluation of an intervention developed using the FCA method. An evaluation of Sepsis pathway from the Imperial Pathway, published in February 2020[24], showed that the method can deliver improvements in outcomes. The Sepsis Big Room led to the introduction of a digital sepsis alert for patients within the trust. The evaluation concluded there had been a significant impact on three outcome metrics (In-hospital 30-day mortality (all inpatients), prolonged hospital stay (≥7 days) and timely antibiotics (≤60 minutes of the alert) for patients who alerted in the emergency department).

References

- Working with package MSCMT - http://www.maths.bristol.ac.uk/R/web/packages/MSCMT/vignettes/WorkingWithMSCMT.html
- SCM Using Time Series - http://www.maths.bristol.ac.uk/R/web/packages/MSCMT/vignettes/UsingTimeSeries.html
- MSCMT - https://cran.rstudio.com/web/packages/MSCMT/MSCMT.pdf

[24] Honeyford K, Cooke GS, Kinderlerer A, Williamson E, Gilchrist M, Holmes A; Sepsis Big Room, Glampson B, Mulla A, Costelloe C. Evaluating a digital sepsis alert in a London multisite hospital network: a natural experiment using electronic health record data. J Am Med Inform Assoc. 2020 Feb 1;27(2):274-283. doi: 10.1093/jamia/ocz186. Erratum in: J Am Med Inform Assoc. 2020 Mar 1;27(3):501. PMID: 31743934; PMCID: PMC7025344. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7025344/pdf/ocz186.pdf

- Synthetic Control Methods: Never Use All Pre-Intervention Outcomes Together With Covariates - https://mpra.ub.uni-muenchen.de/83790/1/MPRA_paper_83790.pdf
- Synthetic control methodology as a tool for evaluating population-level health interventions - https://jech.bmj.com/content/72/8/673

Data sources

Table 9.9: Northern Ireland Elective Orthopaedic Pathway

Variable	Source
Total Orthopaedic Inpatient (Elective and Day Case) Waiting Times per month	NI: https://www.health-ni.gov.uk/publications/northern-ireland-waiting-time-statistics-inpatient-and-day-case-waiting-times-december-2021 Scotland: https://publichealthscotland.scot/publications/nhs-waiting-times-stage-of-treatment/stage-of-treatment-waiting-times-inpatients-day-cases-and-new-outpatients-30-november-2021/
Orthopaedic Outpatient Waiting Times per month	NI: https://www.health-ni.gov.uk/publications/northern-ireland-waiting-time-statistics-outpatient-waiting-times-december-2021 Scotland: https://www.publichealthscotland.scot/publications/nhs-waiting-times-stage-of-treatment/stage-of-treatment-waiting-times-inpatients-day-cases-and-new-outpatients-22-february-2022/
Number of Orthopaedic FTE Consultants	NI: https://www.health-ni.gov.uk/publications/northern-ireland-health-and-social-care-hsc-key-facts-workforce-bulletin-december-2021 Scotland: https://turasdata.nes.nhs.scot/data-and-reports/official-workforce-statistics/all-official-statistics-publications/01-march-2022-workforce/dashboards/nhsscotland-workforce/?pageid=6429
Number of Orthopaedic beds	NI: https://www.health-ni.gov.uk/publications/hospital-statistics-inpatient-and-day-case-activity-202021 Scotland: https://www.opendata.nhs.scot/dataset/annual-hospital-beds-information/resource/d719af13-5fb3-430f-810e-ab3360961107
Number of operating theatres	NI: https://www.health-ni.gov.uk/publications/hospital-statistics-inpatient-and-day-case-activity-202021 Scotland: https://www.audit-scotland.gov.uk/docs/health/1999/nr_9905_theatre_utilisation_hospitals.pdf
Percentage of population aged 65 and over	NI: https://www.nisra.gov.uk/publications/2020-mid-year-population-estimates-northern-ireland Scotland: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/mid-2020
Percentage living in the most deprived quintile	NI: https://www.nisra.gov.uk/publications/2020-mid-year-population-estimates-northern-ireland Scotland: https://datamap-scotland.co.uk/2020/03/population-in-scotlands-deprived-zones/
Percentage living in a rural area	NI: https://www.health-ni.gov.uk/publications/hospital-statistics-inpatient-and-day-case-activity-202021 Scotland: https://www.webarchive.org.uk/wayback/archive/20141129041710/http:/www.scotland.gov.uk/Publications/2014/11/2763/downloads
Day Case Rates	NI: https://www.health-ni.gov.uk/publications/hospital-statistics-inpatient-and-day-case-activity-202021 Scotland: https://publichealthscotland.scot/publications/acute-hospital-activity-and-nhs-beds-information-quarterly/acute-hospital-

	activity-and-nhs-beds-information-quarterly-quarter-ending-31-december-2020/data-files/

Table 9.10: Northumbria Rheumatology Pathway

Variable	Source
Percentage of people waiting seen within 18 weeks of a Rheumatology referral per month	https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/
Total number of incomplete Rheumatology RTT pathways per month	https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/
Number of Rheumatology full time equivalent Consultants	https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics
Percentage of inpatient spells from patients living in IMD quintile 1	https://digital.nhs.uk/data-and-information/publications/statistical/shmi
Percentage of outpatient attendances from patients living in rural areas	Hospital Episode Statistics (HES) data linked to Rural Urban Classification at Lower Super Output Area (LSOA) Level
Number of outpatient attendances per consultant	https://digital.nhs.uk/data-and-information/publications/statistical/hospital-outpatient-activity/
NEIAA audit quality standard 1 - the proportion of people referred by their GP within 3 working days	https://www.rheumatology.org.uk/practice-quality/audits/neiaa# (Trust Health Board Data 2021.xlsx)

Appendix Four: Economic assessment

We use a descriptive approach for the cost analysis, presenting the input costs for the delivery of the Big Rooms and the costs related to the subsequently implemented interventions. As per the impact evaluation, the cost analysis focuses on the two case studies Western Trust and Northumbria. The two descriptive analyses provide policy makers with an idea of the potential costs associated with two different flow coaching interventions. The descriptive approach is motivated by the lack of intervention effects following the impact evaluation, the limited available cost data, and the limited external validity of the two case studies. Costs are presented from a health care provider's perspective.

Case study (1) Northern Ireland – Western Trust

The focus of the Big Room events in the Western Trust in Northern Ireland was to improve efficiency and patient experience in the elective orthopaedic pathway, from referral to discharge. We approach the analysis using the same intervention timespan as applied in the impact evaluation: the time prior to the Big Room intervention and the post-Big Room intervention period which is the financial year 2019/2020. The Trust communicated to us the following four key cost components relating to the Big Room events and the actions that followed from decisions made at the Big Room events:

(1) Opportunity cost of time for staff attending Big Room events

This cost component relates to the time spent by staff attending Big Room events which they could have alternatively spent on alternative (job-related) tasks. The Big Room events took place during staff working hours. The opportunity costs of Big Room events were provided by the Trust and calculated based on the time spent per Big Room event, the estimated number and type of staff attending the event, the number of Big Room events per financial year, and the unit cost per staff type (level) expressed in 2020/21 values.[25] The resultant estimated opportunity cost per Big Room event is £255.57. The total opportunity cost of Big Room events amounts to £18,657, broken down into £8,689 for 34 Big Room events in the pre-intervention period in 2018/2019 and £9,967 for 39 Big Room events in the post-intervention period in 2019/2020.

(2) Cost for additional allied health professionals at clinics

The Trust planned to allocate different sub-specialities of allied health professionals to offer orthopaedic patients with specific sessions at respective clinics in the post-COVID period (e.g. physiotherapists, podiatrists, Integrated Clinical Assessment and Treatment Services (ICATS) physiotherapy practitioners). However, no additional allied health professionals were allocated to orthopaedic clinics during the selected post-intervention period of the analysis (2019/2020), and as such no additional costs were incurred.

(3) Patient education booklets and leaflets

Elective knee and hip patients received a set of patient information booklets and leaflets prior to the Big Room intervention (hip booklet, knee booklet, hip leaflet, knee advice leaflet). Aiming to further improve

[25] The Trust reported an average of 15-20 staff attending per Big Room event. Each Big Room event had at least one of the following staff types attending: Consultant, Service Level Manager Band 8b, Admin Band 4, Admin Band 7, Ward manager Band 6, Registered Nurse Band 5, Health Care Assistant Band 3, Physio Band 5, Occupational Therapist Band 5. A Big Room event lasted on average an hour. The computed cost per Big Room event is to be considered as an approximation due to variations in attendance at each event.

access to information about patients' treatment journeys, additional booklets were created to provide specific information about waiting times, daily post-operative goals, and the whole hip & knee journey (i.e. pathway). Patients received the existing and additional booklets and leaflets at different points of their treatment pathway.

We received information from the Trust on the cost of the booklets and leaflets expressed in 2020/21 values. The cost of the three additional booklets per elective hip or knee patient amount to £8.55 (daily goals leaflet £4.80, waiting times leaflet £2.73, hip and knee journey leaflet £1.02). Using information on the number of full consultant episodes (FCE) for elective knee and hip patients in the Western Trust in the financial year 2019/2020 (i.e. the post-intervention period), the total cost for the additional three booklets amounts to £3,026.[26](In comparison, the costs of the booklets and leaflets already existing prior to the Big Room intervention are £1.90 for the knee booklet, £3.73 for the hip leaflet, £2.30 for the hip booklet, £3.73 for the knee advice booklet, and £5.20 for the wound care booklet. Costs are 2020/2021 values and were provided by the Trust.)

(4) Prehab classes

Prehab classes to prevent orthopaedic injuries have not started at the time of analysis, and as such no such costs have yet been incurred.

Limitations

We note the limitations of the provided descriptive analysis. The main limitations are:

- Information on the variation of costs is not available. Therefore, it was necessary to generate ballpark figures, which may carry considerable uncertainty. Since the estimates are not causal, they should be interpreted with caution and are solely intended to inform on the potential scale of associated costs.
- We lack precise cost information and information about wider costs such as the administrative costs for setting up the Big Room events or the inputs for designing the new booklets and leaflets.
- We do not consider averted cost or cost savings from a health provider perspective. However, findings from the impact evaluation - of no effect for a small set of outcomes - indicate that cost-savings were unlikely.
- The analytical horizon of one financial year is short. Opportunity cost of time associated with the Big Room event are likely further reduced in the long-term once interventions are more established and meetings occur less often.

Case study (2) England - Northumbria Trust

Given that we had not received the requested cost information at the time of analysis, we reverted to the alternative plan and estimated the costs associated with changes in staff mix at the rheumatology

[26] The number of FCEs was 354 for the Western Trust in the financial year 2019/2020. This number was multiplied by the cost of the additional three leaflets per patient. FCE information is informed by HRG unit costs by provider and specialty | Department of Health (health-ni.gov.uk)

services in the Northumbria Trust using a before-and-after comparative approach. The comparison focuses on three key outcomes: (1) the share of total full-time equivalent (FTE) staff formed by different clinical staff groups at the rheumatology department, (2) the FTE count of staff groups working at the rheumatology department, and (3) the aggregated total staff costs at the rheumatology department.

We used Ordinary Least Squares (OLS) regression to examine whether any differences in these outcomes (dependent variables) could be explained by time (independent variable, expressed as a binary variable indicating the time before and after the intervention). Thereby, we compare the mean differences of the outcome after and before the intervention.

(1) Data

We use publicly available NHS workforce statistics for staff mix by specialty and PSSRU unit costs for staff time to inform the analysis. PSSRU unit costs account for salary, salary oncosts, overheads, and capital overheads per staff group and band. We use 11 observations in the analysis (five before and six after the intervention) with the observations being the third, sixth, ninth and 12th month (i.e. March, June, September, December) of the respective year at the rheumatology department. The breakdown of NHS workforce by sub-type (i.e. working in rheumatology) is only reported for these months. The reported clinical staff groups in the NHS workforce statistics at the rheumatology department in Northumbria are: (1) Support nurses, band 2; (2) band 6 nurses; (3) band 7 nurses; (4) Specialty Registrars; and (5) Consultants.

Outcome (1), the shares of these clinical staff groups working at the rheumatology department, is calculated as the FTE per staff-group per month divided by the total FTE of all five clinical staff per month at the rheumatology department. Outcome (2) is the FTE of the five staff groups per month. Outcome (3) is the total cost of the reported five clinical staff groups; this is estimated as the FTE per staff group per month times their PSSRU derived unit cost per FTE, and then aggregated to compute the total clinical staff cost per month.

(2) Before and after analysis for shares of clinical staff

Findings from the before and after analysis for shares of clinical staff groups are reported in table A1. The findings show that the period after the intervention has a statistically significant positive association with the share of band 6 nurses (increase of 9 percent in the total clinical staff-mix) and a statistically significant negative association with the share of band 7 nurses (decrease of 6 percent) and consultants (decrease of 4 percent). All other things being equal, such a difference over time could be explained by implementation of the flow coaching intervention in the intervening period.

Table 10.1: **Before and after differences in the share of staff groups with the total staff mix at the NHS Northumbria NHS rheumatology department**

	(1) Share: Support Nurses	(2) Share: Nurses Band 6	(3) Share: Nurses Band 7	(4) Share: Speciality Registrars	(5) Share: Consultants
Mean before intervention	0.06	0.318	0.116	0.095	0.412
	(0.017)	(0.019)	(0.024)	(0.034)	(0.02)
Mean after intervention	0.066	0.412	0.058	0.093	0.37
	(0.002)	(0.022)	(0.002)	(0.004)	(0.014)

Mean difference: *Mean after intervention - Mean before intervention*	0.006 [0.008]	0.094*** [0.012]	-0.057*** [0.011]	-0.001 [0.015]	-0.042*** [0.010]

*Standard deviations in parentheses; standard errors in brackets; p-values: *** p<0.01, ** p<0.05, * p<0.1*

(3) Before and after analysis for FTE of clinical staff and total unit costs

The analysis of FTE count per staff group (table A2) shows that there was a significant positive association between the period after the intervention and FTE count for band 6 nurses (equivalent to about 2 FTE staff or two full-time contracts), a significant negative association with FTE count of band 7 nurses (equivalent to about 1 FTE staff or one full-time contract), and an overall positive association on the full FTE count of clinical staff of about 1.3 FTEs.

The contextual impact analyses show that the flow coaching intervention is associated with a change in the staff-mix as intended by the intervention, whilst increasing the total hours worked at the department. Findings from the cost analysis (table A2, column 7) show that despite the increase in total FTE count, the total costs did not (statistically) significantly change due to the aforementioned changes in staff mix.

Table 10.2: Before and after differences in Full-time Equivalent (FTE) count for staff groups, total FTE, and total costs at the NHS Northumbria rheumatology department

	(1) FTE: Support Nurses	(2) FTE: Nurses Band 6	(3) FTE: Nurses Band 7	(4) FTE: Speciality Registrars	(5) FTE: Consultants	(6) Total FTE	(7) Total Unit Cost (£, 2020/2021 prices)
Mean before intervention	0.956 (0.275)	5.022 (0.245)	1.833 (0.408)	1.5 (0.548)	6.508 (0.298)	15.819 (0.621)	47,685.80 (1,555.296)
Mean after intervention	1.133 (0.0)	7.08 (0.623)	1 (0.0)	1.6 (0.0)	6.333 (0.041)	17.146 (0.629)	49,230.3 (1,227.347)
Mean difference: *Mean after intervention - Mean before intervention*	0.178 [0.124]	2.058*** [0.274]	-0.833*** [0.184]	0.100 [0.247]	-0.176 [0.135]	1.326*** [0.378]	1,544.497 [859.205]

*Standard deviations in parentheses; standard errors in brackets; p-values: *** p<0.01, ** p<0.05, * p<0.1*

Limitations

We note that there are various limitations of the provided before and after analysis, as follows:

The analysis considers only the costs of general staffing levels, and no other input costs such as costs directly associated with the big-room events. Therefore, the above estimates present a lower boundary for the flow coaching costs at the Northumbria Trust.

No wider health system costs, such as averted costs from patient flow impacts or wider administrative costs are considered. However, the impact evaluation did not identify impacts on patient related outcomes.

The estimation is limited to 11 observations (i.e. different months of the year) from the Northumbria Trust. We cannot infer causality from these estimates as no counterfactual was estimated, and statistical inference is limited. The estimates are only to be read as associations.

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