



# Programme Evaluation

FUTURE LEADERS IN INNOVATION, ENTERPRISE,  
AND RESEARCH (FLIER) PROGRAMME

FINAL REPORT (MARCH 2022)  
ALERON PARTNERS | FRESHNEY CONSULTING

# Contents

Introduction .....	4
Executive Summary .....	5
1. FLIER Programme Overview .....	7
1.1 Background.....	7
1.2 Programme summary .....	7
1.3 Programme update .....	8
2. Evaluation Methodology .....	10
2.1 Evaluation approach .....	10
2.2 Aims of this evaluation report .....	10
2.3 Data sources and response rates .....	11
3. Participants and Experiences .....	12
3.1 Participant summary.....	12
3.2 Satisfaction with the programme .....	12
3.3 Peer-to-peer networking and learning.....	15
3.4 Cross-sector project.....	16
4. Enablers.....	18
4.1 Introduction .....	18
4.2 Method .....	18
4.3 Results: knowledge, skills & mindsets .....	18
4.4 Results: networks .....	20
4.5 Benefits to employers .....	22
5. Impacts .....	23
5.1 Introduction .....	23
5.2 Method .....	23
5.3 Survey results .....	23
5.4 Participant profiles .....	26
5.5 Quantified impacts .....	30
6. Interviews with Participants .....	31
6.1 Introduction .....	31
6.2 Summary of key findings .....	31
7. Future Areas for Consideration .....	36
7.1 Programme activities.....	36

7.2 Equality, diversity and inclusion .....	36
7.3 Scope of programme .....	37
7.4 Future engagement with the Academy and UK Life Sciences strategy / priorities .....	37
8. Conclusions .....	38
Appendices .....	40

# Introduction

Aleron, working with Freshney Consulting, have been commissioned to conduct an independent impact evaluation of the Academy of Medical Science's Future Leaders in Innovation, Enterprise and Research (FLIER) Programme. The purpose of this report is to summarise findings from the final evaluation of the first two cohorts of the pilot FLIER Programme.

The aim of this evaluation is to provide a view of the impact of the programme after three years, at the end of the programme for cohort 2 and one year after programme end for cohort 1. This report summarises our findings and analysis, with an emphasis on long term impacts.

At the time of writing, the programme had been running for three years. Cohort 1 started the programme in February 2019, while cohort 2 started in February 2020. Due to the COVID-19 pandemic, substantial changes were made to programme delivery from March 2020 onwards with most sessions run online. For this reason, the pilot has been extended to a third cohort, which is due to start in June 2022. The programme evaluation will also be extended to cover the third cohort.

# Executive Summary

## Update to the FLIER programme

- FLIER is a two-year leadership programme, running initially as a pilot over a period of three years from 2019 to 2021 with two Cohorts of participants.
- The aim of the programme is to develop participants' leadership capabilities, equipping them with the skills, knowledge, mindset and networks to be effective cross-sector leaders.
- The programme has been designed by an expert Taskforce of current leaders, including AMS Fellows, across a diverse range of sectors. The FLIER Programme is being delivered in partnership with Cirrus, part of Accenture, a specialist provider in leadership, talent and engagement.
- The FLIER programme has now been running for 3 years, since February 2019. The first cohort completed the programme in early 2021 and the second cohort in December 2021.

## Evaluation approach

- Aleron, working with Freshney Consulting, have been commissioned to conduct an independent impact evaluation of the FLIER pilot programme.
- The evaluation framework seeks to measure the short- and longer-term impacts over the course of the pilot programme and encompasses three core components: Outputs (0-24 months), Enablers (0-24 months) and Impacts (18 months +).
- This report lays emphasis on evidencing impacts for cohort 1, as well analysing shorter term outcomes for cohort 2.
- Our evaluation methodology uses a combination of quantitative and qualitative research techniques, including surveys, detailed interviews, and data tracking.

## Programme experiences

- Despite another year that was heavily disrupted by the pandemic, the findings from this final evaluation evidence the short-term and long-term benefits of the FLIER programme and the value drawn from it by participants across both cohorts.
- Respondents were extremely satisfied with the programme. Less positive feedback was primarily centred around the necessity to hold events online. In particular, participants felt that immersion experiences suffered from the shift to virtual engagement.
- Peer-to-peer networking and learning forms an integral part of the FLIER programme. Participants were highly positive about the ability to form and sustain strong peer support networks within the cohort, and felt that these were invaluable to share learnings and develop cross-sectional networks.
- Qualitative feedback highlighted that the majority of participants were satisfied with how their project had progressed. Three respondents to the survey found it harder to progress due to personal circumstances, or due to recent role changes.

## Enabler results

- A comprehensive evaluation of enablers for participants in CH1 and CH2 was provided in the second interim report. Whilst a particular focus of this report lies on impacts delivered by participants in both cohorts, a summary of enabler results from CH2 are also presented and described below.
- CH2 participants' self-perception of skills, knowledge and mindset has significantly increased over the programme, across all areas measured. In particular, 'Ecosystem knowledge', 'Professional skills', 'Interpersonal skills', and 'Cross-sectoral ways of working' saw large increases between baseline and programme end. 'Business knowledge' and 'Financial management' saw smaller increases, and participants felt overall less confident about their ability in these areas at programme end.
- When asked whether they felt that their abilities improved as a result of the FLIER programme, participants responded that this was very much the case across all areas measured except financial management. This skill area was primarily addressed by the finance training, where we found that a

significant proportion of the cohort did not attend these sessions, or did not feel that the training was relevant to them (44% of respondents indicated not being 'satisfied' or 'extremely satisfied' with the finance training). A lack of engagement in this programme element is therefore likely to have caused less positive results in this skill area.

- Inevitably, networking was severely curtailed during 2020 and 2021 due to restrictions from the COVID-19 pandemic, which had the most impact on participants in cohort 2. Nonetheless, we found that participants were able to make strong networks with Academia, NHS, Government department /policy making, however this was achieved to a lesser extent with Non-profit funders, and Investors.
- We also found that participants from Industry in CH2 were somewhat less positive about improvements to their network than participant from NHS, Academia or Government bodies. This could be due to participants from Industry, of which there were two in CH2, having stronger networks at the start of the programme, and therefore seeing less progress.
- We asked employers, through our survey, to what extent their organisation has benefited from working with a FLIER participant. Increased networks of the participant was mentioned as one of the primary benefits, followed by opportunities for collaboration with other organisations. Employers also spoke to the improved leadership of participants, who have developed key skills in innovation, collaboration and mentoring through the programme.

## Impacts

- In this report, we measured impacts through a variety of data collection methods. We used surveys, interviews, and other materials to investigate impacts achieved and to what extent impacts were attributed to the programme by participants. We also compiled profiles of seven participants to illustrate achievements and the role that the programme played in this. Finally, we have made an attempt at quantifying results across the cohort by estimating the total amount of funding secured, as well as the total number of publications, new cross sector collaborations and levels of career progression or promotion.
- Survey findings show that participants in cohort 1 have achieved impacts in a large number of areas, and have strongly attributed these to the programme. Impacts in the areas of new cross-sector collaborations and partnerships, career progressions and increased leadership were achieved by a large proportion of the cohort, and highly attributed to the programme. Publications, presentations, and funding secured were also widely achieved, however less strongly attributed to the programme. Findings from cohort 2 were similar, however the impacts of the programme were slightly lower than in cohort 1, which is to be expected, as they are one year behind the first cohort.
- By looking at the number of impacts that each participant had achieved, we found that 100% of cohort 1, and 94% of cohort 2, had achieved at least one of the measured impacts, which they strongly attributed to the FLIER programme.
- The nature of the programme impact on participants has been multi-faceted, as we found that all cohort 1 participants achieved at least 7 of the measured impacts.
- Participants who were based in academia reported significant success in attracting grant funding from a wide range of sources. Five participants reported securing grant income totalling £35m since joining the programme, 51% of which was secured by FLIER participants as Principal Investigators. The most common source of funding was the NIHR (£14.6m).
- In interviews, several examples were provided where participants felt that FLIER had accelerated their career progression. Of the ten participants interviewed, eight had secured a more senior position and / or received increased responsibilities within the same organisation. Two participants who were interviewed had changed organisations since joining FLIER, one of whom had set up as an independent consultant.
- 75% of participants from CH1 and 72% of participants from CH2 were promoted to a more senior position within their organisation after joining FLIER. Three participants from across both cohorts moved to senior roles in other organisations. Four participants in Academia from CH1 were promoted to Professor, as were four from CH2, and one further participant from CH1 received an Honorary Chair.

# 1. FLIER Programme Overview

## 1.1 Background

The Academy's mission is to advance biomedical and health research and its translation into benefits for society. One of the Academy's core strategic objectives is to develop talented researchers. They achieve this by offering a range of research grant schemes, career development programmes, training, and networking opportunities.

The Academy's five-year strategy (2017-2021) set out priorities to further support and connect the next generation of research leaders who work at the intersection of academia, industry and healthcare.

In tackling the complex health challenges that we face, a more fluid interaction across sector boundaries is required, where effective interdisciplinary working is encouraged and supported. In doing this, a new type of leadership is necessary that is more connected and collaborative, working across different areas and sectors with ease.

With this in mind, the Academy established the Future Leaders in Innovation, Enterprise and Research (FLIER) Programme to develop leaders of the future who can create collaborations across academia, industry, the NHS and government to drive innovation. The programme seeks to equip these future leaders with skills to help solve the biggest health challenges we face, enabling them to seize opportunities afforded to us by new discoveries in science, technology, and medicine.

## 1.2 Programme summary

The FLIER Programme was developed by a cross-sector Taskforce of current leaders in the Life Sciences, drawn from a diverse range of organisations and sectors, led by Professor Martin Humphries FMedSci. The full list of current Taskforce members can be found in Appendix 1 and on the Academy's website [here](#). The FLIER programme is being delivered in partnership with bespoke leadership, talent and engagement specialists [Cirrus, part of Accenture](#).

The two-year programme forms Cohorts of emerging leaders drawn from across academia, industry, the NHS and government/policy organisations and includes:

- Residential and one-day meetings to expose candidates to current national and international leaders across the wider scientific and health ecosystem;
- Face-to-face and virtual workshops;
- Regular tailored coaching sessions from professionals at the forefront of leadership development;
- Mentorship from a research leader;
- Cross-sector immersion experiences with an array of other organisations;
- A cross-sector project in the second year of the programme. This is an opportunity to apply acquired strategic and higher-level operational skills to a work-based project while being supported by colleagues, a coach and a mentor;
- Finance training delivered over four half-day sessions by an external facilitator.

FLIER is aimed at those in the middle of their career, established within their own sector and with the potential to affect organisational change. They will have an emerging vision of how cross-sector working and collaboration could help maximise opportunities and solve the future challenges of research and healthcare. They will be looking to explore and shape their vision in dialogue with colleagues across sectors.

The FLIER Programme has been running initially as a three-year pilot, from 2018 to 2021, with two cohorts of participants. The pilot programme will provide the Academy with an opportunity to test the design and logistics of programme delivery and understand how it could be improved before a full-scale rollout. Due to the pandemic, the delivery of FLIER changed substantially between cohorts. To gather further data the

Academy is extending the pilot to encompass a further cohort while developing the next phase of the programme.

### 1.3 Programme update

This evaluation report was written in March 2022. The FLIER programme has now been running for 3 years, since February 2019, and has seen two pilot cohorts, both lasting two years. The first cohort (CH1) completed the programme one year ago (February 2021), and the second cohort (CH2) has just completed their programme (December 2021). The first cohort was extended by 3 months due to the pandemic.

The following table (Table 1) summarises programmatic outputs delivered up until this point, including number of sessions delivered and total number of attendees (source: *Output tracker*). In addition to the activities listed in the table, participants in CH2 started organising spotlight sessions, informal virtual meetings where participants discussed career journeys and personal stories.

Period	Cohort 1		Cohort 2	
	Number delivered	Total attendees	Number delivered	Total attendees
<b>Face to face workshops</b>				
0-6 months	6	97	2	35
6-12 months	2	34	0	0
12-18 months	0	0	0	0
18-24 months	0	0	1	17
24+ months	0	0	-	-
<b>Total</b>	<b>8</b>	<b>131</b>	<b>3</b>	<b>52</b>
<b>Webinar workshops</b>				
0-6 months	3	39	3	47
6-12 months	0	0	6	72
12-18 months	1	10	4	33
18-24 months	6	56	4	65
<b>24+ months</b>	<b>3</b>	<b>41</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>13</b>	<b>146</b>	<b>17</b>	<b>217</b>
<b>1 to 1 coaching sessions</b>				
0-6 months	3	44	3	50
6-12 months	4	59	3	29
12-18 months	3	49	5	59
18-24 months	2	44	3	48
<b>24+ months</b>	<b>1</b>	<b>11</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>13</b>	<b>207</b>	<b>14</b>	<b>121</b>
<b>Group coaching (previously called action learning groups)</b>				
0-6 months	3	37	4	47
6-12 months	3	24	3	41
12-18 months	4	43	2	30
18-24 months	3	51	1	17
24+ months	0	0	-	-
<b>Total</b>	<b>13</b>	<b>155</b>	<b>10</b>	<b>106</b>
<b>Immersion experiences</b>				
0-6 months	0	0	0	0
6-12 months	9	56	3	23
12-18 months	0	0	1	6



18-24 months	2 <sup>1</sup>	2	0	0
24+ months	1 <sup>1</sup>	2	-	-
<b>Total</b>	<b>12</b>	<b>60</b>	<b>4</b>	<b>29</b>
<b>Mentors recruited</b>				
0-6 months	1	Not tracked	0	Not tracked
6-12 months	3	Not tracked	4	Not tracked
12-18 months	1	Not tracked	3	Not tracked
18-24 months	4	Not tracked	-	-
24+ months	0	Not tracked	-	-
<b>Total</b>	<b>9</b>	<b>Not tracked</b>	<b>7</b>	<b>Not tracked</b>

**Table 1: Summary of programmatic outputs for Cohorts 1 and 2, for the period November 2018 – February 2022, inclusive)**

In addition, the following Thought Leadership sessions were held:

Date	Session	CH1	CH2
01/07/2020	Thought leadership with Helena Teede	12	9
15/10/2020	Thought leadership with Tony Young	9	11
21/02/2021	Thought leadership with Nicola Rollock	4	9
02/07/2021	Thought leadership with Ele Zeggini and Dirk-Peter Herten	1	6
07/09/2021	Thought leadership with Barbara Domayne-Hayman	4	5
26/10/2021	Thought leadership with Jackie Hunter and Nathan Benaich	6	7
10/11/2021	Thought leadership with Helen McShane	4	4
<b>Total attendees</b>		<b>40</b>	<b>51</b>

**Table 2: Thought Leadership sessions held, and number of attendees.**

A number of changes were made to the FLIER programme over the last year for CH2. Noteworthy changes include the following:

- The group coaching sessions were changed to quarterly workshops. In total, 3 sessions were run, of which two were virtual and one was in-person. The in-person session was partly run by Cirrus, and partly run by an external facilitator to do a workshop on presentation skills. This was not done with CH1.
- The end of programme event was scheduled to be in-person, but at last minute needed to be changed to a virtual event due to the COVID omicron variant. This was very disappointing to the cohort.
- In general, there was continued disruption of covid. For example, for the in person quarterly workshop 2 participants were unable to join in person and joined virtually due to covid.

<sup>1</sup> These were arranged for CH2, but CH1 was invited

## 2. Evaluation Methodology

### 2.1 Evaluation approach

The aim of the evaluation is to identify and capture the outputs and impacts of the programme to inform its delivery and continuation.

The key objectives of the evaluation have been framed by the following questions:

- I. What characteristics are required to become a successful leader of the future?
- II. What were the original aims of the programme, and how would we define programme 'success'?
- III. What short-term outputs has the programme achieved?
- IV. What have been the longer-term impacts of the scheme on participants?
- V. How can the design and delivery of the programme be improved for the future?

We developed an evaluation framework in close consultation with internal and external stakeholders (see Appendix 1 for the full list of individuals). The evaluation framework outlines the intended outputs and impacts of the FLIER Programme, and how we will evaluate the pilot against these areas.

For a full overview of Evaluation Methodology and its development please see the first [Interim Report](#).

It is intended that all FLIER participants will experience a 'journey of change', which benefits individual participants, their employers, colleagues, and the wider ecosystem. Each Cohort of FLIER participants will comprise a rich diversity of individuals with varying backgrounds and experiences, so we recognise that the 'journey of change' and the impact of the FLIER programme will be different for everyone.

In order to measure the short-term and long-term impacts of the FLIER programme, we have developed an evaluation framework that can be broken down into three core components: Outputs; Enablers; and Impacts. These three components incorporate the priorities and viewpoints of both participants and wider stakeholders (e.g., employers).

**Outputs** demonstrate the short-term results of the FLIER programme. This includes activities completed and beneficiaries reached, as well as engagement, experiences and satisfaction with the programme. Outputs are measured through reflections and feedback from participants recorded in surveys, interviews, and data tracking from the Academy (internal monitoring, Strata platform, social media).

**Enablers** represent the key building blocks and attribute that participants develop whilst on the FLIER Programme, which enable them to become successful leaders and create long-term impact in the future. Enablers are measured quantitatively and qualitatively in surveys at multiple points throughout the programme, and measured qualitatively in interviews.

**Impact** refers to the longer-term change created as a result of the programme, both directly for participants and indirectly for their surrounding environments. Impact is measured qualitatively in surveys and interviews at the end of the programme.

Please see Appendix 2 for a full visual overview of the Evaluation Framework.

### 2.2 Aims of this evaluation report

In previous [Interim Reports](#), the focus has been on demonstrating the programme's success in creating enablers for participants, as the longer-term impacts had not yet come about. This report will lay emphasis on evidencing impacts for CH1, as well analysing shorter-term outcomes for CH2.

## 2.3 Data sources and response rates

Our methodology has combined a range of data collection methods to yield more in-depth information and develop a holistic understanding of programme impact. In this report, findings from participant surveys, employer surveys, interviews and other materials are presented.

Since the last interim report, the following additional data collection activities have taken place, with the following response rates (Table 2).

Survey method	Participant group	# Responses	% of total
<b>Programme end survey</b>	<b>Participants, CH2</b>	16	89%
	<b>Employers, CH2</b>	13	72%
<b>Follow-up survey</b> (1 year after programme end)	<b>Participants, CH1</b>	14	88%
<b>Interviews</b>	<b>Participants, CH1</b>	5	31%
	<b>Participants, CH2</b>	5	28%

Table 2: Evaluation data collection activities for the period March 2021 – March 2022.

# 3. Participants and Experiences

## 3.1 Participant summary

Demographics and participant information was recorded in baseline surveys and has been reported on in detail in the previous [interim report](#). This section provides a high-level summary of participants in FLIER.

The FLIER Programme has received significant interest, attracting a substantial number of applications for both Cohort 1 (CH1) and Cohort 2 (CH2). There were 48 applicants for Cohort 1, of which 17 were successful, giving a success rate of 35%. Cohort 2 received fewer applications, receiving a total of 32 applications of which 18 were successful, resulting in a higher success rate of 56% (Table 3A).

Cohort	# Applied	# Successful	Success Rate
CH 1	48	17	35%
CH 2	32	18	56%
<b>Total</b>	<b>80</b>	<b>35</b>	<b>44%</b>

Table 3A: Summary of applicants and participants per Cohort

The table below shows a breakdown of participant demographics (Table 3B). For a further breakdown of applicant and participant details, please see first [Interim Report](#).

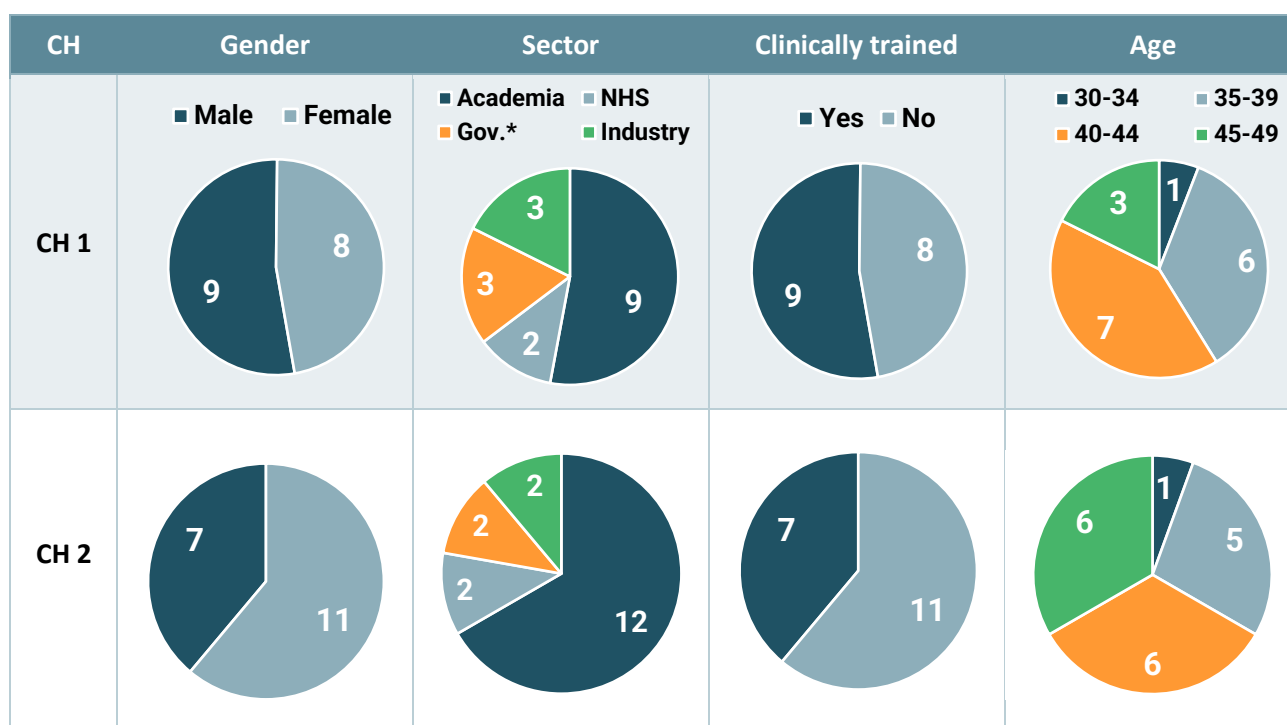


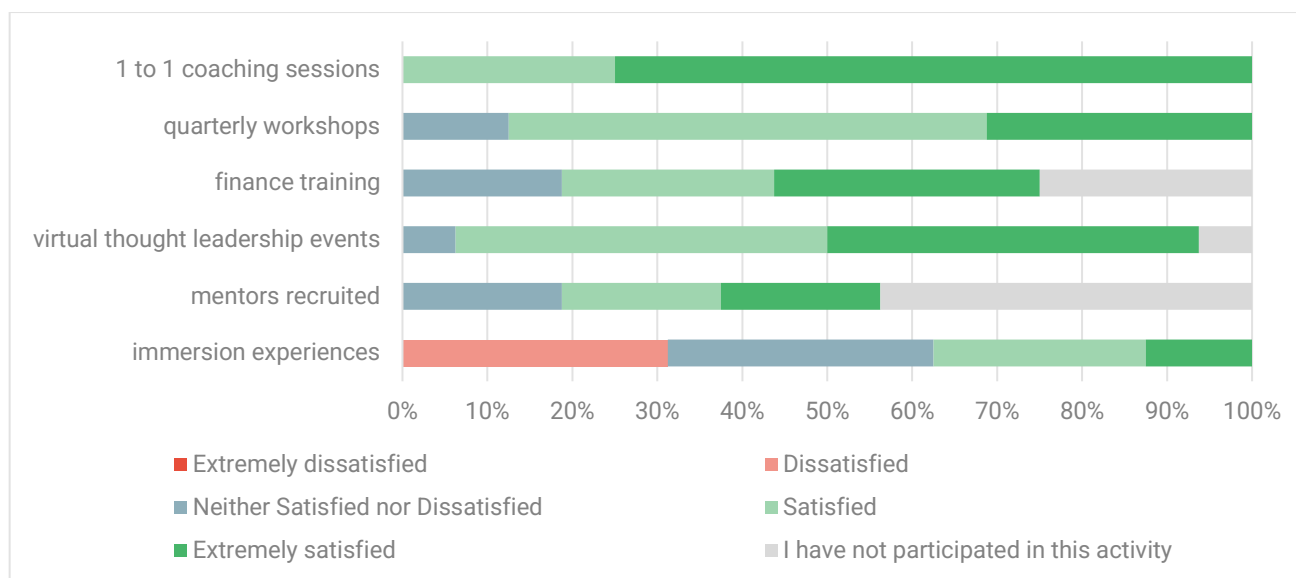
Table 3B: Summary of participant demographics per Cohort. \*Gov. includes government, public sectors and/or charity sectors.

## 3.2 Satisfaction with the programme

We asked participants to rate their overall experience on the FLIER programme on a scale of 1 to 5, and to explain their answer. Respondents rated the programme on average an incredibly positive 4.8 out of 5, and those that did not rate the programme 5/5 mentioned that this was due to the pandemic and/or personal circumstances, rather than the programme itself. We have included a few comments below to illustrate the positive experiences that participants have had on the programme. These are mainly based on CH2 but have been informed by CH1 responses too:

- *It has been tough but rewarding. I am an improved version of the person that started the programme. Dedicated time to think about my learning, and apply this was fantastic. The length of the programme and diversity of content is unlike anything else available.*
- *It's been very enjoyable for a start, and thought provoking. It's a bit like an extended spa day for the mind; you feel rather pampered and valued, and come out feeling better. I feel like FLIER has given me stuff although it's a bit harder to draw the direct line between specific activities and outcomes.*
- *FLIER is the single most important thing that has happened to me in my career. It has showed me what is possible and given me to confidence to push my boundaries. The next 20 years of my career will be very different as a result of the programme.*
- *The scope and content of the programme was incredible, as were my fellow FLIERS. The only reason I haven't given 5 stars is because of the online delivery- I know this is no-one's fault but it has impacted on my experience of the programme*
- *I'm so grateful to the Academy for putting on FLIER. It's the single most transformative thing I've done in my entire working career. – CH1 participant (interview)*
- *It's caused a change in direction in what I do and increased my confidence to try things – CH2 participant (interview)*

Satisfaction with different programme elements was measured through surveys, by asking participants to grade activities on a scale of 1: extremely dissatisfied to 5: extremely satisfied. The results from these questions are shown in **Figure 3A**. Participants were also asked to provide feedback explaining their score.



**Figure 3A: Satisfaction with programme elements. Survey results from the question: 'To what extent were you satisfied with the following programme elements?'. Source: Programme end survey, CH2**

Results are discussed by programme element below.

### 1 to 1 coaching sessions

1 to 1 coaching sessions were felt to be hugely beneficial to participants. 75% of survey respondents were 'extremely satisfied' with this programme element, and only had positive things to say about the coaches. One participant mentioned that it took a few sessions to realise how to get the most value out of the sessions. Another felt that they would have benefited from switching coaches after one year to get exposure to different coaching styles. Selected comments are shown below.

- *The coaching sessions were great, one of the best parts of the whole programme!*
- *The 1:1 coaching has been great and really a staple of the programme. Rooting the programme in the personality tests and having the opportunity to reflect and work with the coaches over two years has been really helpful.*

## Quarterly workshops

Quarterly workshops replaced group coaching for the second year of CH2. The cohort was also very satisfied with quarterly workshops, with 87% reporting to be 'satisfied' or 'extremely satisfied'. The main point of feedback was that the online format was not as engaging as in-person:

- *I loved these, the content, the discussions, the group work. My only frustration was the virtual meetings, I feel we lost something as a group*
- *The quarterly workshops we had in person were great - the ones on zoom were more of a challenge. Obviously, zoom couldn't be helped and I know that AMS did their best with them but it's just not the same meeting in the virtual world compared to face to face.*

Interviews with participants from CH2 revealed some differing preferences about the quarterly workshops held in the second year, which replaced group coaching in the previous year. One participant preferred the quarterly workshops, feeling that they had more focus and value. The group coaching relied on an attendee having an issue to put forward, which was the preferred format for another participant, who liked the opportunity to receive diverse opinions and suggestions from the group on how to tackle a real issue an attendee was struggling with.

## Finance training

While a significant proportion did not attend the finance workshop (25% of respondents), of those that did, 75% indicated being 'satisfied' or 'extremely satisfied'. Some participants felt that part of the content covered was not as useful to them and that the course required large time commitments. These issues could be overcome by splitting up the training into multiple short sessions, and clearly explaining what will be covered in each, so that participants can choose which sessions to attend. One participant also mentioned that they would have liked to see fundraising included as part of the finance training. Selected comments are shown below:

- *Consider including considerations on fundraising as part of financial training (or separate but around the same time in the programme)*
- *The financial training was good, but it was a bit too advanced for me! It also required an intense time commitment over a short period of time - it was a lot of zoom.*
- *This was OK - long course and mixed how useful*
- *This was fabulous and I recommend it gets done a bit earlier than we had it*
- *My ability to develop entrepreneurial activities was helped considerably by the finance training, which was outstanding - the lecturer was absolutely brilliant. CH2 participant (interview)*

## Virtual thought leadership events

Participants were very satisfied with this programme element, with 93% of those that attended being 'satisfied' or 'extremely satisfied'. Feedback on the events was very positive:

- *There were some brilliant speakers, the more unguarded and personal events were the most rewarding*
- *very good, and hope that we can continue to attend these, very useful to hear how people have navigated their careers and the ones that I went to all were very open and honest given the 'Chatham House Rules'*

## Mentors recruited

56% of respondents reported having a mentor during the course of the programme, and of this group, 67% were 'satisfied' or 'extremely satisfied' with their mentor. Some participants felt that mentoring was not a priority to them during the programme, or that they did not feel that they needed it. One participant reported struggling to find a mentor at the start of the programme and suggested that the programme should shortlist a group of individuals that are willing and able to mentor on the programme. Another respondent thought that mentoring could be a more formal part of the programme and that AMS could help with match making. Other participants fed back the following:

- *I struggled with mentoring, initially technical barriers and then uncertainty as to what I needed, this could be improved*
- *I believe this is not relevant for me, in the sense that I had a mentor before joining FLIER (in fact it was my AMS mentor who recommended the FLIER programme)*
- *I also wonder if mentoring could be a more formal part of the programme. I know it's generally accepted that 'forced' mentorship doesn't work but there might be a way that AMS could helpfully do some form of more organic match making that would be helpful. I'm not sure how many people from cohort 2 took forward the mentoring dimensions of the programme?*

One interviewee commented that they had struggled to identify potential mentors from the long directory, and that some, when approached, had been too busy to commit. In the future, it might be helpful to develop a smaller group of Fellows who have expressed interest in being a mentor to a FLIER participant, and for further support to be offered by the Academy to help find a match.

### Immersion experiences

Immersion experiences were the lowest rated programme element in terms of satisfaction, with only 38% of respondents being 'satisfied or 'extremely satisfied', and 31% reporting to be 'dissatisfied'. This is in stark contrast to feedback from CH1 participants after their first year, where immersion events were one of the most valued aspects of the programme. CH2's feedback was predominantly centred around the negative impact of the pandemic, and how this element suffered the most from the shift to virtual platforms. Selected comments are shown below:

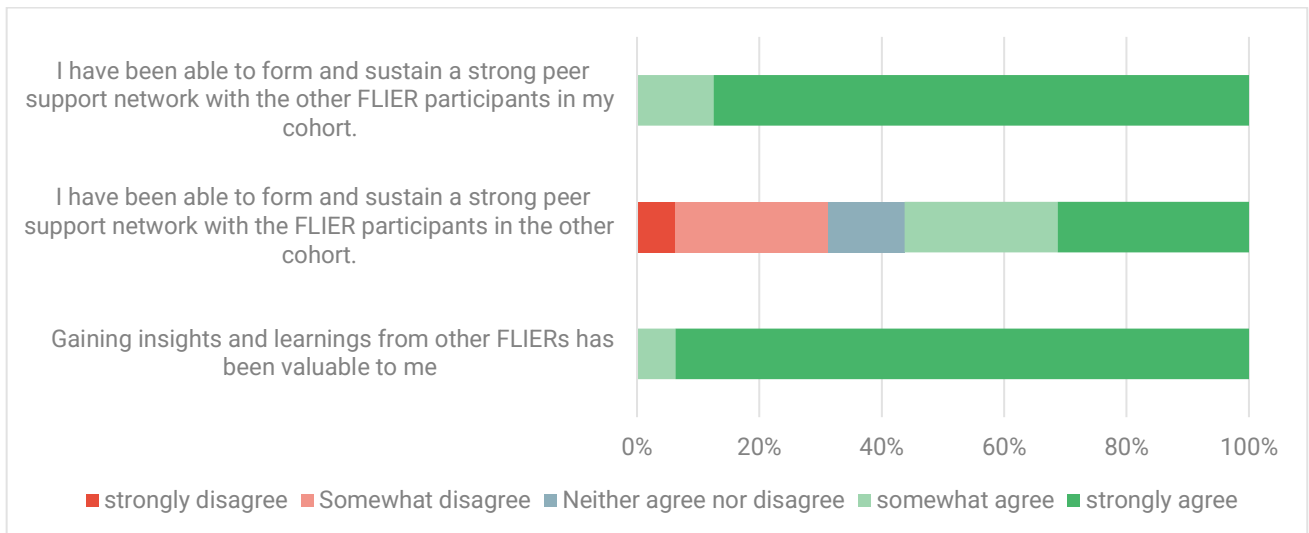
- *It was not the fault of the people running them, but a couple of hours online is a poor substitute for actually being in an organisation*
- *This is probably the aspect that has suffered the most from moving online - whilst the immersion (I attended only one in the end) was interesting and informative, I really would have liked to be in the organisation, sit in a meeting (if possible) and get a sense of the organisation, rather than listen to presentations; I completely appreciate complexities around this, it was not possible during the pandemic and am grateful that an alternative has been explored; the concept of the immersion is great and I think it is something that (especially if truly delivered as an immersion) would be really beneficial to future participants*
- *This was the bit I found least valuable virtually. clearly not AMS's fault!*

### 3.3 Peer-to-peer networking and learning

Peer-to-peer networking and learning forms an integral part of the FLIER programme. By bringing individuals who are at a similar career stage from across the life sciences together, programme participants are able to support each other, share learnings and perspectives, and build invaluable networks. In the previous evaluation, we noted that participants felt they have enough in common for building trust and valuing opinions, but they are sufficiently different to contribute varied perspectives.

We asked participants in CH2 whether they were able to form strong peer support networks within and across cohorts and whether this network has been valuable for their professional and personal development (**Figure 3B**). Participants from CH2 were highly positive about the ability to form and sustain strong peer support networks within the cohort. Participants were mixed about their success to do so across cohorts, with only 50% indicating they 'agree' or 'strongly agree' that they have been able to do so. These results are somewhat more positive than the results from the second interim evaluation, where only 25% from CH1, and 33% from CH2, felt they were able to form a strong network with the other cohort. One noteworthy example of a successful cross-cohort collaboration was on the cross-sector project, where a participant from CH2 collaborated with an individual from CH1 in the development of a medical device to tackle brain tumours.

The Spotlight sessions, set up by CH2, have been a helpful route for developing connections between the two cohorts. Subsequently, regular meet ups with both cohorts have been arranged, held on a Friday afternoon every other month.



**Figure 3B: Peer-to-peer networking and learning. Survey results from the question: ‘To what extent do you agree with the following statements?’. Source: Programme end survey, CH2**

We asked participants to provide feedback on the facilitation of peer-to-peer learning. Feedback was resoundingly positive, with a few comments about the difficulty in forming connections virtually, and the importance of bringing the cohort together at the start of the programme. We have included two responses on peer-to-peer learning below:

- *I learnt a lot from my peers and was impressed by how much we bonded as a group despite being online for pretty much the whole programme. Some really inspiring people on the course - I have learnt something even just through observing them, appreciating their thinking process, the way they approached problems we were discussing, the way they would phrase a question - I feel privileged for having worked with them over two years. I have involved some (from both FLIER cohorts) in my project, it really feels like a strong and enthusiastic community.*
- *This was limited by the fact that the group have never met as an entire cohort in person. It was successful, as we established smaller groups for peer learning outside the official programme, and the quarterly sessions also made space for this and constantly mixed the groups which was beneficial*

### 3.4 Cross-sector project

In the second year of the FLIER programme, participants are asked to deliver a cross-sector project, where they apply acquired strategic and higher-level operational skills to a work-based project while being supported by colleagues, a coach and a mentor.

Qualitative feedback highlighted that the majority of participants were satisfied with how their project had progressed. Three respondents to the survey found it harder to progress due to personal circumstances, or due to recent role changes. Overall, however, participants from CH2 have been more positive about their progress with the project than participants from CH1 were at the time of the previous evaluation.

One participant felt that the project might not fit as well with individuals working in sectors outside of Academia, and provided the following feedback:

- *I think this might benefit from some development, particularly if the programme is going to be opened up to government officials and policymakers. The current approach felt very tailored towards academia, where a side project is something which is an established part of the territory. For people in other sectors, it's a little different, and for civil servants and officials it doesn't fit quite as well.*

This participant felt that it was hard to make a fixed project work within ever-shifting focuses in government, and would have only been able to make it work if they had worked on something separate and unrelated to their work.



We have summarised two projects as case studies below.

### **Cross-sector project: Case study 1**

**Project topic:** *Development and evaluation of a large-scale intervention to increase active transport*

**Did you make any changes and were you able to revise the project accordingly?** *My project needed to pivot from the original project due to changes in circumstances with the funder, but the final project is better/more exciting than the original one.*

**How do you think the project will be beneficial to you and your organisation?** *It enabled building of new partnerships with local government and third sector organisation, and the result is likely to have tangible impact for health/sustainability. I have gained hugely in my skills with leading a large cross-sector initiative*

### **Cross-sector project: Case study 2**

**Project topic:** *Creating a platform to inspire biomedical engineers and biotech professionals to develop 'soft skills' and consider patient experience in their practice and research*

**Are you satisfied with your progress to date?** *Yes, so far managed to fundraise to create the platform and brought some great people on-board, really keen to develop it further and grow it*

**How do you think the project will be beneficial to you and your organisation?** *The project is a great opportunity for me to develop something I conceived 100% and put a lot of myself into, and take it forward as a leader and making connections with a range of different potential partners. If the project is as successful as I hope and intend it to be, my organisation will benefit in terms of reputation*

**Has collaboration been possible through virtual means?** *Whilst I prefer working in person, I feel I have adapted and appreciated the benefits (logistical, mostly) of working virtually. A blended approach may work very well (better?) than in person only. I think we all appreciated the exceptional reasons that led to reworking the programme and making pretty much 100% online except for 1-2 workshops. I feel that we managed to collaborate, and I think collaborations can be developed virtually, though the ease of chatting over a cup of coffee or a glass of wine is irreplaceable*

# 4. Enablers

## 4.1 Introduction

Enablers represent the key building blocks and attributes that participants develop whilst on the FLIER Programme, which will enable them to become successful leaders and create long-term impact in the future. In the evaluation framework, four enablers were identified:

- **Knowledge** comprises both the sector knowledge required to work and lead across different sectors (e.g. culture, incentives, and key issues), and the operational knowledge required to successfully lead complex teams, departments, and organisations (e.g. strategy, business models and financial management).
- **Skills and competencies** represent the hard and soft skills deemed important to become a successful leader that can work and lead across multiple sectors and disciplines. Examples include confidence, communication, collaboration, flexibility, self-awareness, and the ability to deal with ambiguity.
- **Mindsets** represents a personal state of mind and attitude which would enable an individual to work more effectively across different sectors. As we are unable to directly measure these mental states, we have identified proxy indicators and behaviours that we will use to ascertain the participants' mindsets. Examples include their emphasis and commitment to working/operating across boundaries, desire to create and take opportunities, and ambition and willingness to tackle significant challenges.
- **Networks** refers to an individual's networks, both within their own sector and across different sectors. It also captures their level of connections with different institutions and with other programme participants (referred to as the 'Cohort effect'). Networks are a key enabler as they allow individuals to make the connections required to achieve their aims and are particularly important when it comes to working across sectors.

## 4.2 Method

A comprehensive evaluation of enablers was provided in the second interim report. While the focus of this report lies on impacts, a summary of enabler results from CH2 is presented in this section.

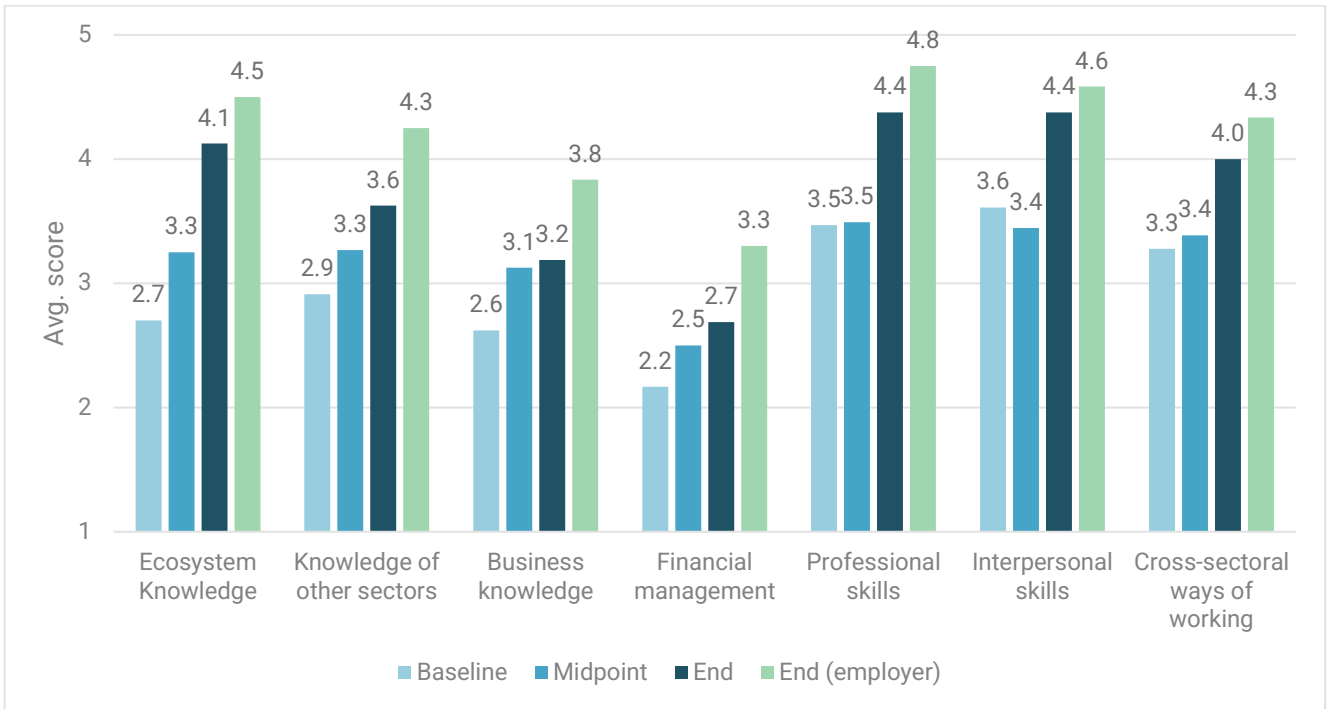
We simplified data collection on enablers in this evaluation to allow for additional data to be collected on impacts, without increasing the overall burden on participants. We replaced detailed metrics with higher-level, summarised indicators, and asked participants to rate their ability in broader skill categories, rather than in individual skills. We tried to minimise skewing of results by providing clear definitions of each high-level indicator in terms of the more detailed metrics.

Employers of participants were asked to fill out a survey to rate the participant's ability and progress. This provided an external perspective and comparison to the participant's subjective responses.

## 4.3 Results: knowledge, skills & mindsets

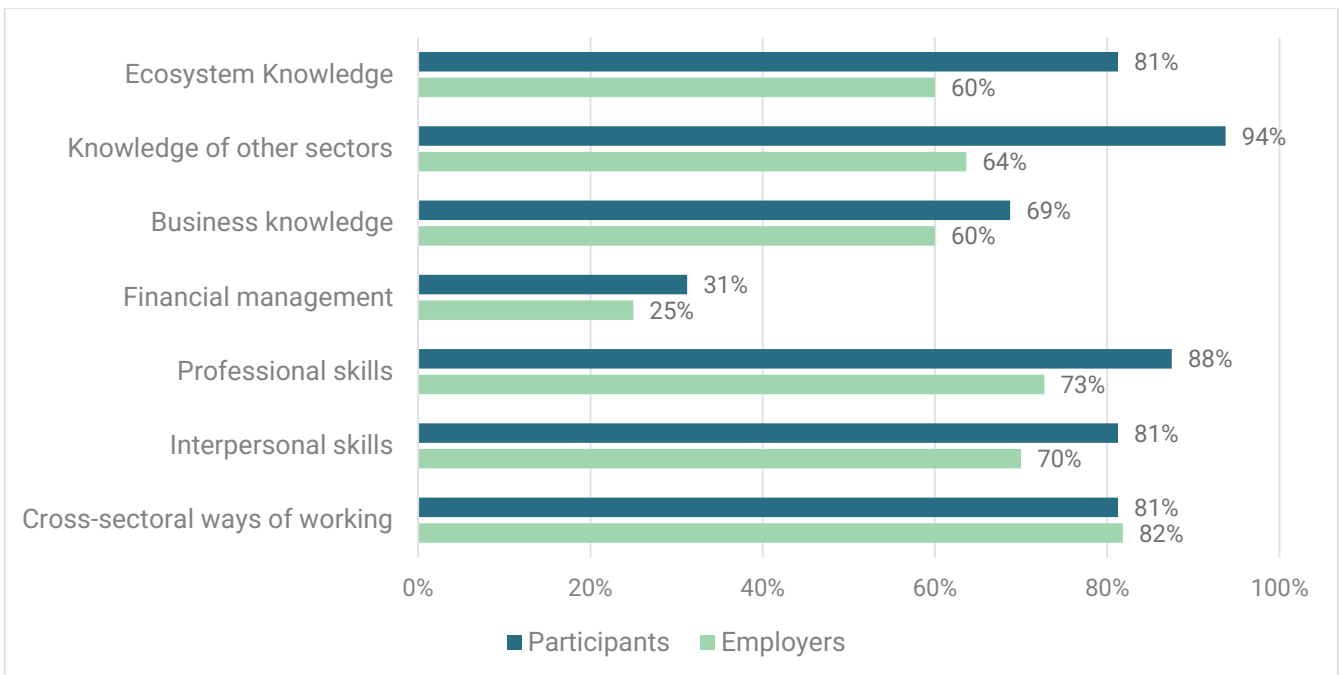
Results across 7 high-level areas of knowledge, skills and mindsets are shown in **Figure 4A**. This figure shows the average score over time across the cohort, weighting the scores on a linear scale of 1 to 5, as 'very poor' = 1, 'poor' = 2, 'moderate' = 3, 'high' = 4 and 'very high' = 5. Results from baseline, midpoint and programme end participant surveys are shown, as well as results from the programme end employer survey.

Participants' self-perception of their skills, knowledge and mindset has significantly increased over the programme, across all areas measured. In particular, 'Ecosystem knowledge', 'Professional skills', 'Interpersonal skills', and 'Cross-sectoral ways of working' saw large increases between baseline and programme end. 'Business knowledge' and 'Financial management' saw smaller increases, and participants felt overall less confident about their ability in these areas at programme end.



**Figure 4A: Progress of CH2 participants in areas related to knowledge, skills and mindsets.** The graph shows the average score (on a 5-point Likert scale) across respondents, and the change of this metric over time. Source: Results from CH2 participant surveys at baseline, midpoint, and programme end, as well as CH2 employer surveys at programme end.

We also asked participants whether they felt that the FLIER programme had contributed to their progress in developing specific knowledge, skills and mindsets. We measured the percentage of the cohort that felt that the FLIER programme had contributed 'to a large extent' or 'to a very large extent' to their abilities. Results are shown in Figure 4B below.



**Figure 4B: The attribution of changes in knowledge, skills and mindsets to the programme.** The figure shows the proportion that responded 'to a large extent' or 'to a very large extent' to the question 'To what extent do

*you think you have/the participant has improved in the following areas as a result of your participation in the FLIER programme?'. Source: participant and employer programme end surveys, CH2*

With the exception of financial management, participants and employers both felt that the programme had been highly beneficial to their abilities. Employers were slightly less positive than participants, particularly in ecosystem knowledge and knowledge of other sectors, which may be because these are harder to assess from an external perspective.

Financial management was an area where the cohort felt that the programme had not been as beneficial. These results were largely correlated with the engagement with the finance training. As shown in the previous section, a large proportion were unable to attend the training, and some did not feel that the training was as relevant to them. Individuals that had indicated being less satisfied with the finance training, or had not been able to attend, also did not feel that they had improved in financial management as a result of the programme.

While a variety of activities may have contributed to achieving outcomes in the other areas, increased abilities in financial management were very much contingent on the participation in the finance training, and lack of engagement has therefore resulted in less positive results in this area.

We also asked participants to describe how the programme impacted their overall personal development. Selected comments are shown below:

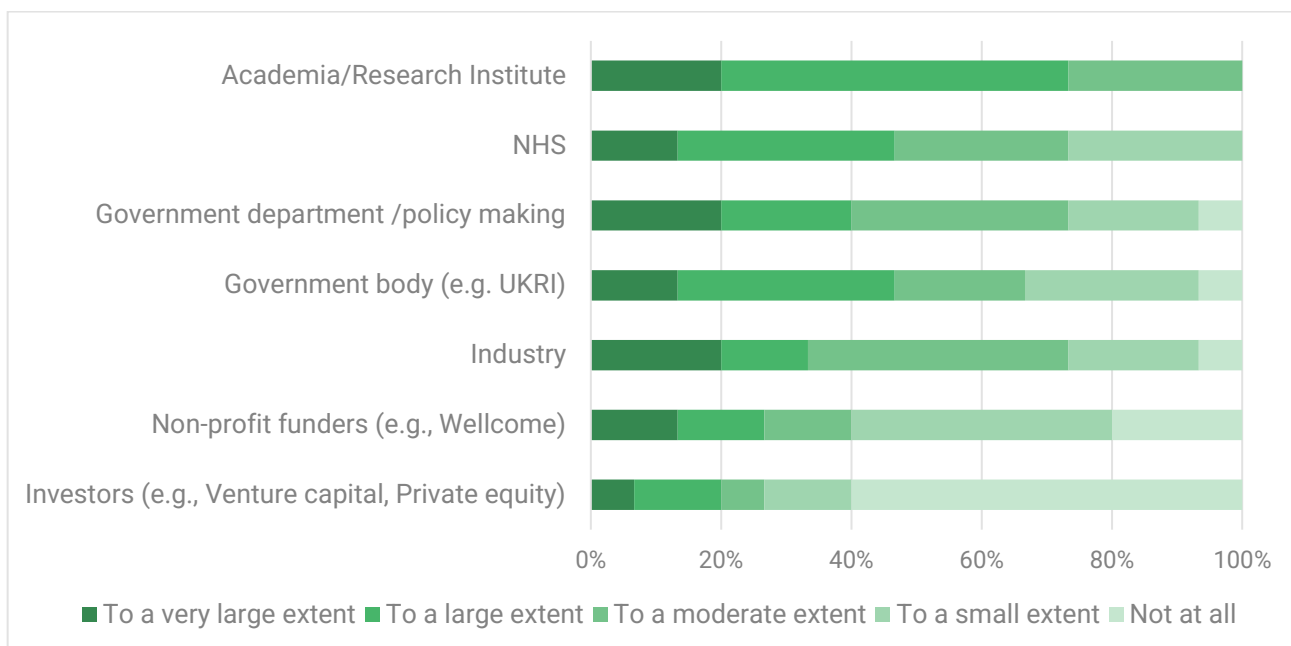
- *Self-awareness, massively increased confidence, understanding of different leadership styles, and my style. Huge increase in knowledge of the sector and how parts fit together, ability to lead a diverse team and influence those where I have no line management.*
- *General skills of engaging at higher levels with high performing people has been key. I have felt that I have developed a better understanding of myself and therefore have been able to engage better with the aspects of my role that involve working with others. However, I have also obtained a network of peer mentors which is incredibly valuable.*
- *It's hard to put this into words but the skills I have learned have facilitated a change in terms of confidence and mindset so that I am much more comfortable in a leadership role and much more confident in terms of the contribution that I can bring to interdisciplinary teams.*
- *The programme has had a huge effect on me. I realise that by the end of the two years, I'm much more comfortable in my thinking being more like the 'leader' aspects discussed at the very beginning, rather than as an 'expert'. CH2 participant (interview)*

#### 4.4 Results: networks

A more detailed approach was taken to network analysis, with the aim of understanding whether participants from different sectors had equal successes in forming networks in other sectors.

We asked to what extent participants were able to form networks in different sectors as a result of the programme. Results are shown in **Figure 4C**. We found that participants were able to make strong networks in Academia, NHS, Government department/policy making, however less so in the Non-profit Funders, and Investors sectors. Participants may have had less exposure in these spaces, however one participant commented:

- *[In answer to the question 'to what extent has my network with investors strengthened,] I put "Not at all" but I think the correct answer would be "Not yet" - FLIER has given me the confidence to consider approaching investors for a project and consider suitable strategies, so while the network has not necessarily strengthened, yet, I have now the confidence to try and strengthen that aspect.*



**Figure 4C: Improvements in networks in different sectors. Responses to the question: 'To what extent do you feel your networks in the following sectors have strengthened as a result of the FLIER programme?'. Source: programme end survey, CH2**

We asked participants to indicate which sector they currently work in, and aggregated results in **Figure 4c** by sector (participants could indicate to work in multiple sectors). We averaged scores by weighting responses on a linear scale from 1 to 5, with 'not at all' = 1, 'to a small extent' = 2, etc. Results are shown in **Figure 4D**.

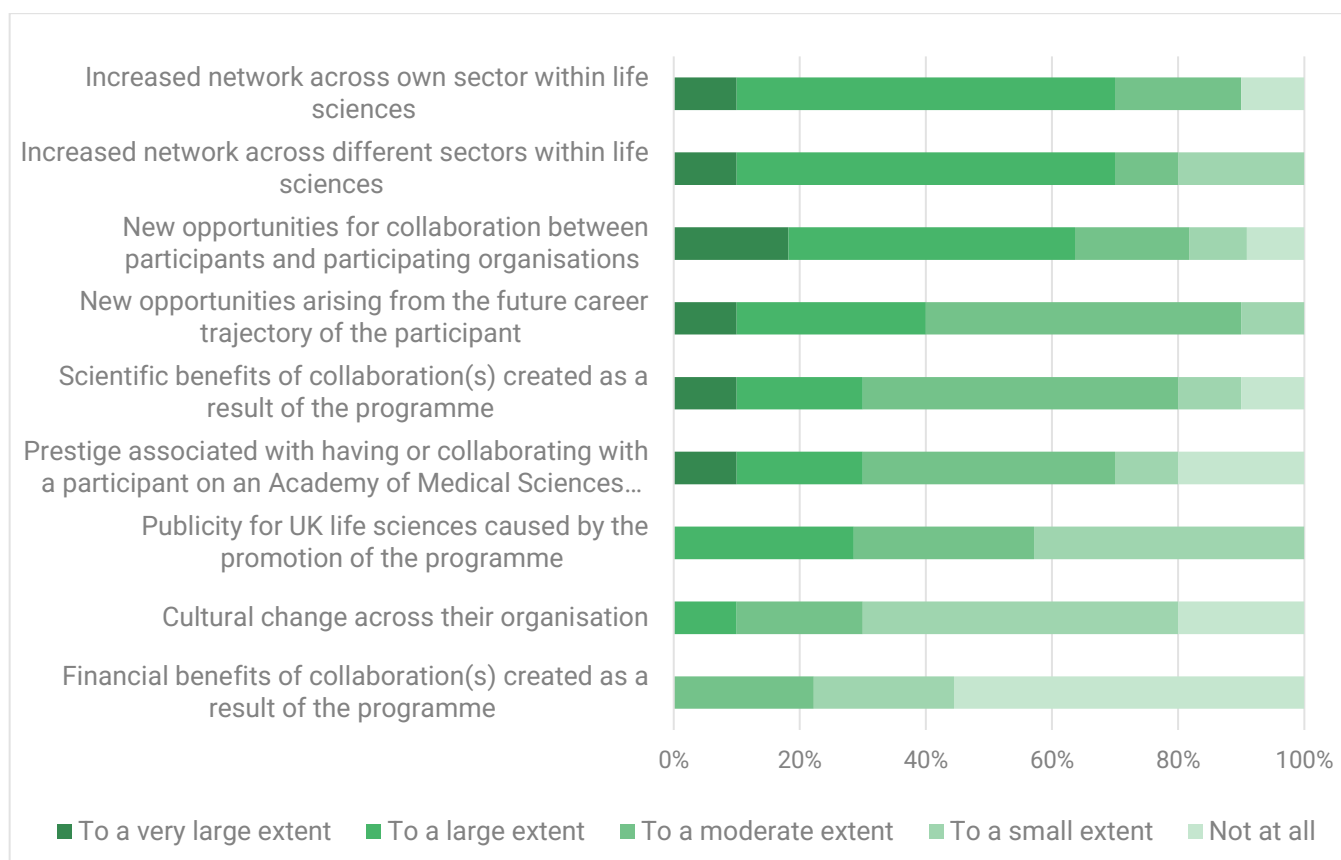
Improvement to sector networks	Participant Sectors			Total
	NHS	Academia	Other	
NHS	3.1	3.3	3.0	3.3
Academia/Research Institute	3.7	4.1	3.7	3.9
Government department /policy making	3.4	3.3	2.3	3.3
Government body (e.g. UKRI)	3.4	3.3	2.0	3.2
Industry	3.3	3.3	2.7	3.2
Non-profit funders (e.g., Wellcome)	2.4	2.8	2.0	2.6
Investors (e.g., Venture capital, Private equity)	1.9	2.2	2.0	1.9
<b>Number of participants</b>	<b>7</b>	<b>12</b>	<b>3</b>	<b>16</b>

**Figure 4D: Improvements in networks in different sectors, by participant sector. Responses to the same question as in Figure 4C, aggregated by the sector that the participant works in, and averaged (using a 5-point Likert scale). Participants could indicate to work in multiple sectors (the total in this table is therefore higher than the total number of responses). Other includes Government (1 response) and Industry (2 responses) sectors. From: programme end survey, CH2**

There was uneven representation across sectors, with the majority of respondents working in either NHS or Academia, making comparisons across sectors more difficult. Participants from all sectors felt that their networks in Academia improved. Participants from outside NHS and Academia were somewhat less positive about improvements to networks in other sectors. This could be due to participants from Industry and Government having stronger networks at the start of the programme, and therefore seeing less progress. This analysis will provide more insight for future cohorts if the programme were to expand to more sectors.

## 4.5 Benefits to employers

We asked employers to what extent their organisation has benefited from working with a FLIER participant. Results are shown in **Figure 4E**.



**Figure 4E: Benefits to the participant's organisation. Answers to the question: 'To what extent has your organisation benefited from working with a participant on the FLIER programme in the following areas?'. Source: Employer programme end survey, CH2**

Increased networks within the same sector as well as across different sectors were mentioned as the top benefits, followed by opportunities for collaboration with other organisations. This was further emphasised in qualitative feedback. The majority of employers mentioned networks between participants as one of the primary outcomes, which will result in knowledge exchanges, and collaborations. Employers also spoke to the improved leadership of participants, who have developed skills in innovation, collaboration and mentoring. We include selected comments below.

### ***'How do you think the FLIER programme benefits your organisation and the sector?'***

- *I think both the NHS and especially universities can sometimes have cultures that make true collaboration challenging. Taking more junior colleagues onto this program to adopt different thinking and behaviours that are more collaborative will benefit the populations we serve.*
- *Programmes such as FLIER develop effective leaders. The leader's success, vision and innovation driven by the FLIER participant will benefit the institution (i.e., colleagues, staff and students) and sector – through their innovation and through mentoring researchers/scientists/clinicians. Ultimately, the health sector will benefit- improving patient's lives, management of disease, potential therapies and cures developed.*
- *By promoting knowledge exchange between academia and health professionals (by fostering improved understanding of each sector's contributions to scientific knowledge and to improved patient outcomes) to the benefit of both parties.*

# 5. Impacts

## 5.1 Introduction

The image and definition of a successful leader is subjective and likely to vary depending on the specific situation and goal. What is generally accepted, however, is that society's ability to tackle the most complex health challenges requires a type of leadership that is connected, collaborative and able to work across multiple sectors and disciplines.

Impact refers to the longer-term change created as a result of the programme, both directly for participants and indirectly for their surrounding environments. In this evaluation, we have sought to measure perceptions of impact, as well as tangible outcomes such as career progression, funding and collaborations.

## 5.2 Method

It was recognised that the impact that the FLIER programme may have on individuals would be highly variable, given that they work in different sectors, and that participants would have unique measures of success. We therefore measured impacts through a range of indicators, including academic awards, career progression, collaboration, and funding secured. Participants from both cohorts were asked in surveys to indicate which impacts they had achieved in the last 3 years (2 years for CH2), and then to rate to what extent this had been as a result of the FLIER programme. Participants from CH1 were then also asked to provide further details on the impacts achieved in surveys as well as by sharing recent CVs. Impacts were also explored in detail in interviews.

Survey results are presented in section 5.3, where we examine impacts across the cohort. In section 5.4, profiles of selected individuals from CH1 have been compiled, to illustrate their achievements and the role that the programme played in these.

We have also made an attempt at collating results across the cohort, including quantifying the amount of funding secured and the number of authored publications. While it should be noted that the information provided by participants may be incomplete, this analysis should provide an indication of the overall impacts of the programme.

In addition, the experiences, progress and achievements of five participants from the first cohort are described in the impact case studies in appendices 4 & 5.

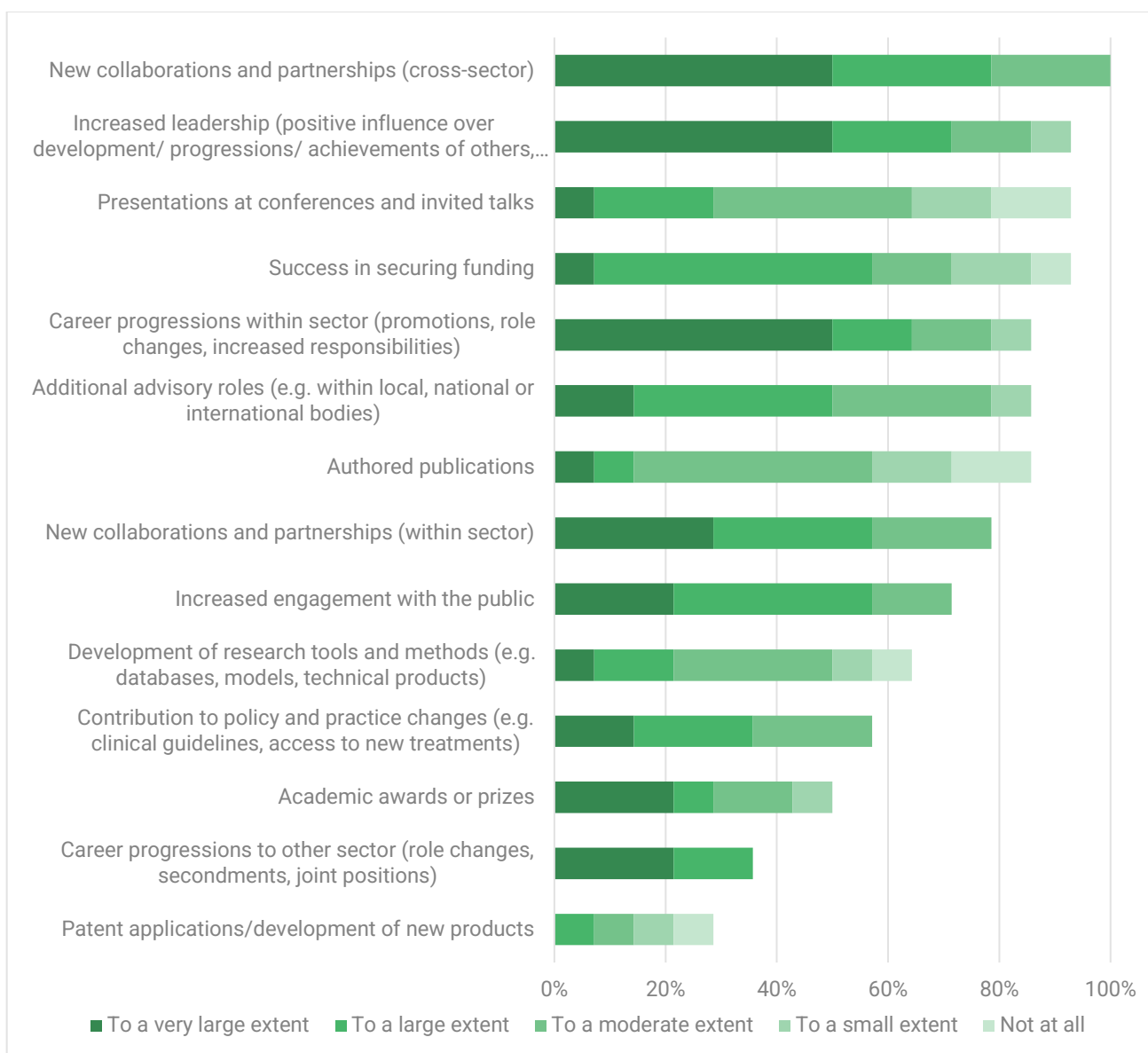
## 5.3 Survey results

The graphs in **Figure 5A** and **Figure 5B** present the results from survey questions on impacts, from CH1 and CH2 respectively. In the graphs, the total length of the columns represents the proportion of respondents that indicated that they had achievements in this area. The colours represent to what extent respondents attribute their impacts to the programme; the darker the colour, the stronger the attribution.

The findings show that participants in CH1 have achieved impacts in a large number of areas, and have strongly attributed their impacts to the programme. In CH1, we see that the impacts of new cross-sector collaborations and partnerships, increased leadership, and career progressions within sectors were achieved by a large proportion of the cohort, and strongly attributed to the programme. 79% of all respondents strongly attribute their achievements in new cross-sector collaborations and partnerships to the FLIER programme, and 71% do so for the impact of increased leadership. Presentations, authored publications and funding secured were also widely achieved, however less attributed to the programme. The impacts of 'patent applications/development of new products' and 'career progressions to other sectors' were the least achieved, which is in part due to the nature of these impacts.

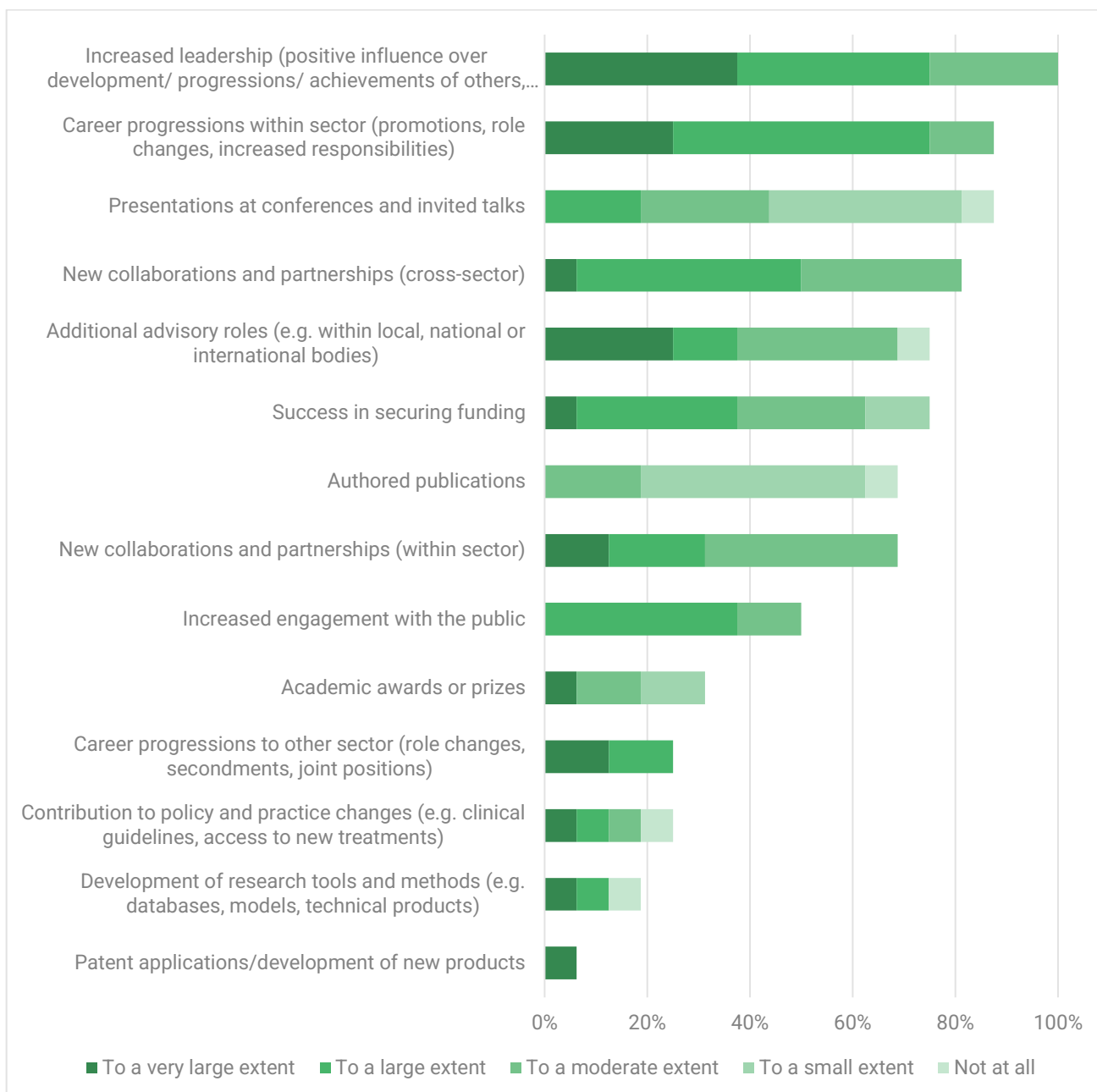
As expected, the proportions that had achieved impacts for CH2 were somewhat smaller than in CH1, and somewhat less attributed to the programme overall. The results however indicate that the programme has been highly impactful for this cohort as well. Similarly, to CH1, increased leadership, career progressions

within the sector, and new cross-sector collaborations and partnerships were the highest achieved and attributed impacts.



**Figure 5A: Impact results, CH1.** Responses to the questions: *‘Please indicate which of the following impacts you have achieved’* and *‘Please indicate to what extent you think that the FLIER programme contributed to you achieving them’*. The length of the column represents the % of respondents achieving this impact, the colours represent to what extent respondents attribute their impacts to the programme. From: Follow-up survey, CH1



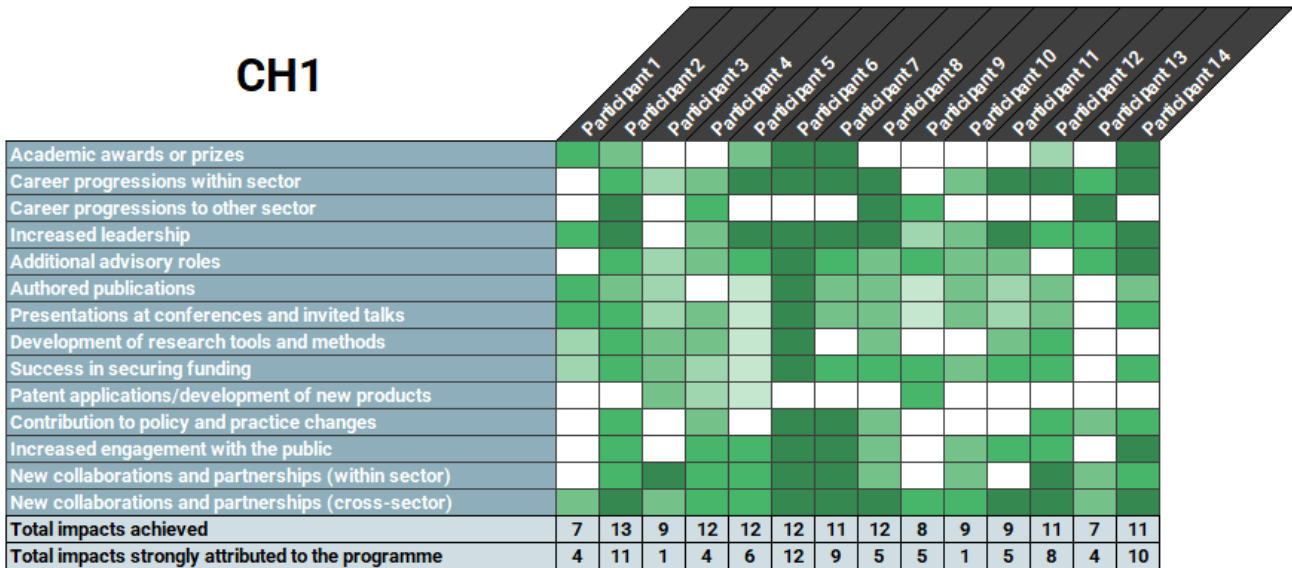


**Figure 5B: Impact results, CH2.** Responses to the questions: *'Please indicate which of the following impacts you have achieved'* and *'Please indicate to what extent you think that the FLIER programme contributed to you achieving them'*. The length of the column represents the % of respondents achieving this impact, the colours represent to what extent respondents attribute their impacts to the programme. From: Follow-up survey, CH2

We calculated the number of impacts that each participant had achieved, and the number of impacts that the participants had largely attributed to the programme. Results are displayed in **Figure 5C** and **Figure 5D**.

We find that 100% of respondents in CH1 strongly attributed at least 1 impact to the programme, which means that participants feel that the programme has had a positive long-term impact on their careers. We also see that for all participants, the impacts achieved have been multi-faceted – all participants in CH1 indicated achieving 7 or more impacts, and all participants in CH2 indicated achieving 4 or more impacts. The overall number of achieved impacts, as well as the number attributed to the programme is somewhat lower in CH2 than in CH1, as expected.

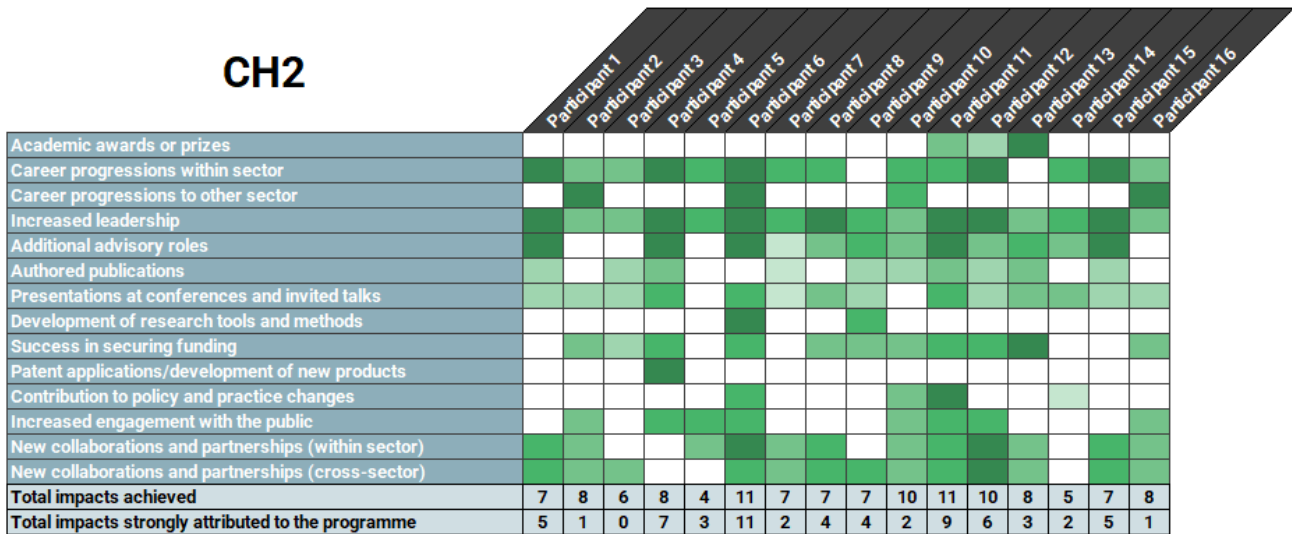
# CH1



■ To a very large extent ■ To a large extent ■ To a moderate extent ■ To a small extent ■ Not at all

Figure 5C: Full results of impacts, CH1. The shading in the grid indicates to what extent participants attributed achievements to the programme. Blank squares indicate that the impact was not achieved. 'Strongly attributed' is defined as those attributed their achievements 'to a large extent' or 'to a very large extent' to the programme. as From: CH1 follow-up survey

# CH2



■ To a very large extent ■ To a large extent ■ To a moderate extent ■ To a small extent ■ Not at all

Figure 5D: Full results of impacts, CH2. The shading in the grid indicates to what extent participants attributed achievements to the programme. Blank squares indicate that the impact was not achieved. 'Strongly attributed' is defined as those attributed their achievements 'to a large extent' or 'to a very large extent' to the programme. From: CH2 programme end survey

## 5.4 Participant profiles

This section contains seven profiles of participants from CH1. Each profile provides a summary of their key achievements from the past 3 years, and explains the role that the FLIER programme has played in their achievements. Profiles were selected based on the level of detail in the available data, which included survey responses, CVs, interviews, and publicly available information. While the achievements listed may not be exhaustive, the participant profiles in this section provide a strong indication of the impacts that the programme has had on this cohort.

## Prof Peter Bannister (see also CH1 impact case studies)

Peter Bannister is currently working for a digital health company as the vice president of Life Sciences. He is also Honorary Chair at the University of Birmingham Institute of Applied Health Research and Healthcare Sector Chair of the Institution of Engineering and Technology. He found the network to be the most important aspect of the programme which has helped him both personally and professionally to build confidence and set clear goals that have opened up new opportunities. He has both benefited from and helped other participants in the programme on projects and work.

During the FLIER programme he:

- **Met his current business partner through the FLIER programme with whom he is currently setting up a new medical technology company.**
- Completed an **Executive MBA**
- Was promoted to **Chief Customer Success Officer** at Mirada Medical in Feb 2020, and became **VP at Ada Health GmbH** starting from Oct 2021
- Received an **Honorary Chair at the University of Birmingham Institute of Applied Health Research** in 2021 and was appointed as **Chair of the NIHR Artificial Intelligence and Racial and Ethnic Inequalities in Health and Care Panel** in 2019. He was also appointed co-chair of the **Alumni Programme Steering Group at the Academy of Medical Sciences** for 2020 and 2021. He credits the FLIER programme to a large extent for these career progressions and achievements.
- Became **leadership programme lead for the HDRUK-Turing Wellcome PhD Programme** in Health Data Science.

## Prof Alastair Denniston (see also CH1 impact case studies)

Alastair is currently an Honorary Professor at the University of Birmingham as well as a consultant ophthalmologist where he leads a research team of 15 people. He found the **FLIER programme gave him exposure to different sectors**, which helped him to navigate his goals and challenges in the workplace. He attributes his appointment to the UK Government's Regulatory Horizons Council 2020 and his cross-sector work with Google and Roche particularly to the programme. He also said he received more public exposure since the start of the programme, which helped him gain more confidence in both leadership and cross-sector working. During his participation in the FLIER programme he:

- Set up **INSIGHT**, the HDRUK Health Data Research Hub for Eye Health, from his cross-sector project. It was founded in 2019 through a significant pump-priming grant from the Industrial Strategy Challenge Fund (ISCF) as part of the Digital Innovation Hub strategy.
- Was appointed the **Executive Director of INSIGHT** and the **Deputy Chair of the WHO Group on Evaluation of AI Health Technology**.
- Appointed to become the next **Midlands Regional Director of HDRUK** (commencing 2023).
- Became a member of the **UK Government's Regulatory Horizons Council** in 2020
- **Increased his research group to 15 people** (2021) with some of his junior researchers achieving international recognition in the field of AI evaluation and regulation (2021), including Nature Medicine awards.
- Became **advisor to several national and international bodies** including the Medicines and Healthcare products Regulatory Agency (MHRA), National Institute for Health and Care Excellence (NICE) and the UK National Screening Committee (NSC).
- **Authored 60 papers in the last 2 years** including BMJ, Nature Medicine and Lancet Digital Health.
- Was appointed **Chair for the COVID Research Facilitation Group for University Hospitals Birmingham**, overseeing all study prioritisation/approvals at this Trust. The Trust was one of the highest recruiters to COVID studies of all NHS Trusts in the UK.
- **Led INSIGHT to become the world's largest ophthalmic database** with 22 million anonymised images and linked clinical data.
- **Secured £17m of funding for research.**

## Dr Niina Kolehmainen

Niina Kolehmainen is a Reader in Allied Child Health at Newcastle University. She is also a Director of the new, interdisciplinary Centre for Children and Youth, a university-wide research centre, as well as providing active leadership on cross-sector training and education in the NIHR Academic Health Sciences Centre at Newcastle. She says that FLIER helped her **broaden the ways in which she works with others, resulting in a much more effective influence and improved leadership.**

She credits the programme for:

- **Allowing her more opportunities in cross-sector and cross-disciplinary leadership**, e.g. workstream lead for new "Children at the NIHR Innovation Observatory" stream - with a national reach; Increasing influence regionally to bring cross-sector initiatives together and drive collaborative effort.
- Being promoted to **Faculty Theme Lead for Reproduction, Development and Child Health** (Nov. 2019) and **Reader in Allied Child Health** (Aug. 2020) at Newcastle University.
- Receiving **12 funding awards since 2019 with cross-sector partners**, many with individuals she had never worked with before.

## Prof Jennifer Logue

Jennifer Logue was promoted to Associate Dean for Research for the Faculty of Health and Medicine at Lancaster University, in 2020 and Professor of Metabolic Medicine in 2021. She attributes these successes in part to the FLIER programme citing that the **programme helped build her confidence and managerial skills that prepared her for senior roles.** She also said that the programme encouraged her to use a different mindset to approach problems which has allowed her to grow professionally.

Since joining in the programme Jennifer has:

- Been appointed **Deputy Clinical Director of the NIHR North West Coast Clinical Research Network.** This new role involves working closely with senior leadership, and since the new team started, it has gone from the bottom of all the CRN league tables to being in the top 50%.
- Been successful in several large NIHR grants as Chief and Co-Investigator. She also has several under review at the final stage, **including a large £5m Health Determinants Research Collaboration between Blackpool Council, NHS Trust and Lancaster University.**
- **Developed expertise in helping local authorities develop evidence-based practice and research.** An NIHR grant allowed her to work with Blackpool Council to explore the barriers to research on council work that affects the wider determinants of health, including how they interact with academia, their contracted commercial partners, the NHS and the NIHR. That work then informed the NIHR Public Health Research call from Health Determinant Research Collaborations. She attributes the successes of these new collaborations and partnerships to the FLIER programme.

## Emlyn Samuel

Emlyn Samuel started a new role as Head of R&D Policy at GSK in January 2022. Previously, he was Director of Policy at Cancer Research UK, leading a team of 44. He says that the programme really helped him reflect on his values and what was most important for the next step in his career. Having clarity on these areas of focus helped guide his decision-making on career moves, which he felt benefitted his career in the long term. The programme allowed him to gain confidence and leadership skills to take on higher roles and lead a large team. It also helped him navigate his career switching from the public sector to industry. During his participation in the FLIER programme he:

- Stepped up into the **Director of Policy role at Cancer Research UK**, taking on responsibility for a newly formed function. He **credits FLIER with helping him have the confidence and skills to take on the role** and lead the team through a lot of change while fostering a high-performing function.
- Was asked by AMRC to **chair a cross-medical research charity advisory group** on clinical research.

- Played a crucial role in **securing £20m for medical research charities** from Government to support early career researchers funding when charity income was severely impacted by the pandemic.
- Helped coordinate communications, intelligence/evidence gathering and policy development to **support cancer patients and research through the pandemic** - including articulating the impact COVID-19 had on cancer services to raise awareness with key decision-makers and ensure cancer services remained a priority.

### Prof Charlotte Summers (see also CH1 impact case studies)

Charlotte Summers was promoted to Professor of Intensive Care Medicine at the University of Cambridge in 2021. She is also the Co-Lead of the Perioperative, Acute, Critical Care and Emergency Medicine (PACE) Section in the Department of Medicine, and Director of Clinical Academic Training, University of Cambridge School of Clinical Medicine and Honorary Consultant in Intensive Care Medicine, Cambridge University Hospitals NHS Foundation Trust. During her participation in the FLIER programme, she won several prizes and was awarded millions of pounds worth of funding. She attributes many of her successes 'to a very large extent' to her participation in the programme.

Some of her most notable achievements include:

- Winning the **Pilkington Prize 2020** (University of Cambridge), and **Wired Magazine Changemaker 2021**.
- Being promoted to **Professor of Intensive Care Medicine** and **Director of Clinical Academic Training** as well as to **Head of Section at University Cambridge School of Clinical Medicine**.
- **Carrying out National and International advisory roles during the COVID pandemic** regarding clinical management and research landscape for COVID/pandemics (UK, German Federal Ministry, and EU).
- **Advising the Cabinet Office / DHSC Ventilator Challenge Programme**.
- Securing renewed funding for the MRC-GSK EMINENT programme grant, **worth around £1.2 million** and a large NIHR award to support the national HEAL-COVID clinical trial, **worth around £4.3 million**.
- Contributing to multiple policy documents in the UK, as well as UK and international clinical treatment guidelines. Also contributed to NICE/NHSE commissioning panels.
- **Increasing engagement with the public** through appearances on Radio 4, articles in the Guardian and Wired Magazine.
- Creating new collaborations and partnerships with therapeutic trials for COVID, including **HEAL-COVID (NHS-HEI-commercial)**.

### Dr Paul Wicks (see also CH1 impact case studies)

Paul Wicks is an independent consultant at Wicks Digital Health. **The programme allowed him to see the bigger picture in his field of work and connect with others across sectors.** His mentor supported and encouraged him a great deal, helping him become more confident in his leadership skills as well as providing him with a network of people to turn to. He also found job opportunities both for himself and other participants in the group through the connections he made from the programme. Since joining the FLIER programme Paul has:

- Started his **own successful business as an independent consultant**.
- Completed an Executive MBA.
- Worked with a stroke rehab company in the US. **Paul felt that the FLIER programme helped him with cross-sector work**, in particular supporting him to branch out into medical devices.
- **Joined Scientific Advisory Boards of multiple companies**, and mentored a charity. In particular, Paul joined the Scientific Advisory Board of The Wellcome Trust's Mental Health Priority Area (overseeing spend of £400m over 10 years).
- **With help from his mentor, Paul developed a grant application to Innovate UK requesting funding of £400k** to transform the space for those affected by inherited MND.
- **Been a collaborator on the HEAL-COVID clinical trial**, led by Charlotte Summers, which he attributes wholly to his participation in the FLIER programme.

- **Published around 20 articles and publications, many around AI and data including one with Alastair Denniston (another FLIER participant).**

## 5.5 Quantified impacts

In this section, aggregated results of funding received, publications, and career progressions are presented from CH1. Full tables detailing funding and career progressions can be found in Appendix 3.

### Funding

CH1 FLIER participants based in academia have reported significant success in attracting grant funding from a wide range of sources. Of the nine participants from academia in CH1, five participants reported securing grant income totalling £35.1m since joining the programme. 51% of this grant income (£17.7m) was secured by FLIER participants as Principal Investigators, with the remaining 49% (£17.3m) with participants as Co-Investigators. 42% of funding (£14.6m) was awarded by the NIHR.

71% of survey respondents from CH1 had indicated that the programme had contributed (to a very large, large or moderate extent) to future funding successes, underlining the important contribution of FLIER towards participants' ability to secure future funding (figure 5A). Notable funding successes include £10.4m towards INSIGHT, the HDRUK Health Data Research Hub for Eye Health, established by Prof Alastair Denniston, and £4.4m from NIHR towards the HEAL-COVID study.

### Publications

CH1 participants responding to the survey reported publishing over 100 authored papers since joining FLIER. 57% of survey respondents from CH1 indicated that the programme had contributed (to a very large, large or moderate extent) to their authored publications (figure 5A). Papers have been published in a wide range of journals, including BMJ, Nature and Lancet family journals.

### Career progressions

Out of 16 participants in CH1, 12 (75%) were promoted to a more senior position within their organisation. Several participants also took on additional roles on external advisory bodies. Two participants from CH1 moved to senior roles in other organisations, with one moving from charity to industry. One participant established themselves as an independent consultant quite soon after joining FLIER. Four participants in Academia from CH1 were promoted to Professor and one participant received an Honorary Chair.

Of the 18 participants in CH2, 13 (72%) have been promoted to a more senior position within their organisation and two participants have moved to senior roles in other organisations. Four participants in Academia from CH2 have been promoted to Professor since joining the programme.

11 (out of 16) participants from CH1 and 13 (out of 18) participants from CH2 felt that FLIER had accelerated their career progression considerably (to a large, or very large extent). Several examples of accelerated career progression are described in the case studies.

## 6. Interviews with Participants

### 6.1 Introduction

This section describes key findings from interviews with ten participants from CH1 and CH2. Five participants from each cohort were interviewed during January and February 2022. The aim of the interviews was to obtain insights on participants' experiences of the programme, and how they had benefited from it.

Written case studies from all the interviews can be found in Appendices 4 and 5. The CH1 case studies are attributed and describe the impact that FLIER has had on participants, one year from finishing the programme. The CH2 case studies are unattributed and include more content on participants' experiences of the programme. Unattributed comments from all participants have also been incorporated into the summary below.

### 6.2 Summary of key findings

#### Views of the programme

All interviewees from both cohorts were overwhelmingly positive about their experience of the FLIER programme and how they had benefited from participating:

- *I'm so grateful to the Academy for putting on FLIER. It's the single most transformative thing I've done in my entire working career. – CH1 participant*
- *It's been transformational. I think others in the programme have said it's been life changing. It's basically the best thing I've ever done workwise. – CH1 participant*
- *It's caused a change in direction in what I do and increased my confidence to try things – CH2 participant*
- *FLIER has been the single, best professional activity that I've been involved with, and I would like to thank everybody involved – CH2 participant*

Participants described a wide range of motivations for joining FLIER, with the main reasons being to support learning and development, and to meet peers from different sectors. Whilst numerous leadership programmes exist, FLIER was considered to be unique because of its focus on the medical life sciences in the UK.

- *It was trying to do something different by bringing together people from different sectors, which I thought would take me well outside of my comfort zone – CH2 participant*
- *[Prior to joining FLIER], I felt like a round peg in a square hole, was pretty uncertain about the future and how I could make any of it work. – CH1 participant*
- *It understands the current life sciences ecosystem and how we're all meant to work together, but none of us know how to – CH2 participant*

#### Leadership training and personal development

The leadership training provided in the first year was praised widely, particularly in its approach to combine theory with time for discussion and practical application in groups. Several participants referred to FLIER's help in overcoming 'imposter syndrome', boosting confidence to take on new opportunities, tackle challenges and voice opinion.

- *[FLIER] provided me with confidence, perspective and encouragement to collaborate across sectors – CH1 participant*
- *FLIER skilled us with the right tools and a good understanding of the concept as well I – CH2 participant*

The programme also helped participants to develop their influencing style, with several examples provided where positive results had been achieved when working with colleagues:

- *Rather than a 'decide and convince' model of leadership, I've learned that you can co-construct the vision as a leader, whilst shouldering the responsibilities – CH2 participant*
- *By knowing colleagues' leadership styles, I can use the most effective ways to make things happen – CH2 participant*

## **Mentoring**

Participants who had identified a mentor explained that their sessions had been helpful. However, three participants commented that the process of identifying a mentor through the Academy's directory of Fellows was challenging. The directory contains a very long list of people (over 1,000) with limited information about their interests and involvement with the Academy. Some Fellows had been approached but a match had not been made because they had been too busy or the match wasn't thought to be appropriate.

In the future, it might be helpful to develop a smaller group of Fellows who have already committed to being a mentor, and for further support to be provided to help find a match.

## **Coaching**

Participants felt that the coaching had been extremely helpful for building confidence, discussing specific issues and supporting personal development. Two participants changed their coach during the programme, for different reasons, and were positive about the outcome. One participant explained that meeting with two different coaches during the programme was very helpful, indicating that more opportunities to change coach may be beneficial. Another participant suggested that it would be better to separate out the coaching from the people delivering the leadership development programme. Their rationale was that it may not be the right relationship for the person who's overseeing your leadership development to also be the person with whom you have your confidential coaching.

Several participants have continued with coaching, in different forms, after completing the programme. One participant continued with the same coach, with their own funding, as this helped the *"constant and continuous application of the learning"*. Another participant thought that they would restart coaching in the future. Several CH2 participants have been meeting in pairs or small groups of three to provide and receive peer-to-peer coaching. Whilst finding the coaching sessions very useful, one participant felt that they could be held less frequently, such as quarterly, although they acknowledged that the frequency will depend on individual needs.

Interviewees from CH2 had differing views about the group coaching in the first year, which was replaced with the quarterly workshops in the second year. One participant preferred the quarterly workshops, feeling that they had more focus and value, aided by the preparation required beforehand. The group coaching relied on an attendee having an issue to put forward, which was the preferred format for another participant, who liked the opportunity to receive diverse opinions and suggestions from the group on how to tackle a real issue an attendee was struggling with.

## **Immersion events**

Participants from cohort 1 were highly positive about the immersion visits that took place during the first year. Being in those environments, in person, provided participants with valuable learning plus the opportunity to form new relationships.

- *The FLIER immersion days were great, such as being able to spend a day at the Department of Health to hear what they do and how it works. That visit provided important insights that helped me during the pandemic, and will do so for the rest of my career. – CH1 participant*

When held virtually, the immersions were considered to be less helpful, primarily because they limited face-to-face interactions. One participant felt that, when in the virtual format, the more positive aspects of organisational experiences were presented, with less opportunity to hear about things that didn't work. Moving back to holding immersion visits in person was strongly encouraged. One participant from cohort 1 also stressed the importance of providing enough advance notice of events to help participants plan attendance.



## Finance training

The finance training was considered to be valuable and the person teaching is excellent. In general, participants felt that it would have been better to have held this training earlier on in the programme. A few participants had been unable to attend the finance training due to other commitments and were unaware that recordings were available to watch. Nevertheless, identifying the time to watch these was challenging. On a related point, one participant commented that it would be good to watch again the video recorded by Sir Patrick Vallance, which was viewed at the end-of-year event in 2021.

## Networks

One of the most distinctive aspects of FLIER is its goal to expose participants to different parts of the life sciences sector. This is enabled through the programme of speakers, other participants in FLIER, the immersion days with different organisations, and wider networking through contacts made. Inevitably, networking was severely curtailed during 2020 and 2021 due to restrictions in place due to the COVID-19 pandemic, which had the most impact on participants in cohort 2.

## Career impact

Several examples were provided where participants felt that FLIER had accelerated their career progression. Of the ten participants interviewed, eight had secured a more senior position and/or received increased responsibilities within the same organisation. Two participants had changed organisations since joining FLIER, one of whom had set up as an independent consultant. Two participants had been promoted to Professor within their academic institution and one had received an Honorary Chair. Further academic promotions included Senior Clinical Lecturer to Reader and Senior Research Fellow to Senior Lecturer.

- *If I think back to three years ago, it's crazy to see that I'm doing all of these things now. I'm a Professor, I have a new role and I've just signed off on an MBA - that wasn't me three years ago – CH1 participant*
- *My role has changed massively since joining FLIER, when I was a probationary university lecturer. Now I have tenure and I've been promoted to be the Professor of Intensive Care Medicine – CH1 participant*
- *I think the short answer is that had I not joined FLIER, I wouldn't be in any of the roles that I am now – CH1 participant*
- *I think that FLIER has probably changed my career direction, and if you multiply that up by all the people on the programme, you'll have a substantial number of people who are doing things slightly different – CH1 participant*

## Peer network and support

The network of participants in the programme is arguably the most valued aspect of FLIER. Interactions have stimulated collaboration across the cohorts and new connections have led to new roles or new ventures – for example two participants are working together to set up a new company.

- *Having this network of people that you trust and who provide very frank advice has been the single most important aspect of the programme – CH2 participant*
- *FLIERs are in touch with each other literally every day - it's a great group to be part of, and we keep supporting each other – CH1 participant*

Numerous examples were provided where participants sought and received advice from others, leading to positive end results. In one case, a participant received valuable advice that helped them in a job interview for a more senior role. The participants' main way of communicating is through their cohort's WhatsApp group, where people post problems, issues, ask for advice or share information.

Despite cohort 2 participants meeting each other in person only twice during the programme, strong connections and peer support have also been formed within this group and with cohort 1. The last year has seen strong connections form between the two cohorts, helped initially through the Spotlight sessions held in 2020. More recently, regular meet-ups with both cohorts are held on a Friday afternoon every other month.

## Cross sector working and projects

Participants highlighted how FLIER had supported cross sector working, in many different ways. Meeting people from different sectors helped them to understand such roles, their motivations, and the challenges they have to navigate. It also helped to understand the reasons behind the frustrations encountered when people from different sectors try to work together.

Developing a network of people who think in a cross sector, collaborative way has created numerous new opportunities, a few of which are provided below:

The [HEAL-COVID](#) study: Charlotte Summers (CH1) recognised the importance of improving longer-term outcomes for patients who have been hospitalised due to COVID-19, but that there was a real gap in tackling this challenge. To address this, Charlotte developed a team to set up the large, national HEAL-COVID study. Early on, fellow FLIER participants Paul Wicks and Elin Haf Davies become involved, bringing valuable experience of patient engagement together with Aparito's digital platform. With substantial funding secured from the NIHR, the study was launched in March 2021.

- *"If it wasn't for FLIER, the HEAL-COVID study would not have been developed, which is a very tangible outcome from the programme*

Alastair Denniston established [INSIGHT](#), the Health Data Research Hub for Eye Health from his cross-sector project, and it forms part of Health Data Research UK's hub network in the UK. INSIGHT was supported by multi-million-pound pump-priming funding through the Industrial Strategy Challenge Fund and is now moving to be self-sustaining. The Hub was set up with six partners: two from the NHS, one academic, one charity, and two from industry - Google Health and Roche.

A participant from CH2 secured two grants as an outcome of their cross-sector project: funding for a Daphne Jackson Fellowship, a scheme that supports individuals returning to work after a career break and funding for an MRC Industrial CASE studentship.

One participant from CH2 felt that the cross-sector project element could be strengthened, to really push all participants outside of their comfort zone and boundaries. This could include a greater focus on the projects' outcomes and impact. However, it was also noted that this cohort had experienced significant challenges from the pandemic, with some participants not progressing as far with their projects as they would have liked.

## Participant diversity and inclusion within FLIER

Several participants commented on the lack of ethnic diversity within the first cohort, and that this had improved for cohort 2. One participant noted that assembling a really representative and diverse cohort is challenging, questioning whether positive discrimination should be considered. Several participants mentioned their hope that cohort 3 would be more diverse than the previous two.

Overall, it was felt that there was good participant diversity through representation from different sectors and disciplines. A few suggestions were made where increased diversity would be helpful:

- People from the design sector and healthcare operations - such perspectives are important for improving healthcare systems.
- Investors from venture capital or private equity - there was considerable discussion about innovation, so having the people who are going to pay and take the risk would be important.
- Ensuring that there are future opportunities for nurses to join FLIER, and that this is stated in the application / eligibility materials.

One participant from cohort 2 felt that more time could have been allocated to the thought leadership session on diversity and inclusion, particularly by taking the discussion at the end beyond recognising the problem to actually thinking about practical steps to address this issue. Since the FLIER participants are now getting into more senior positions, they felt that it was important to devote more time to such topics towards influencing change.

## Engagement with the Academy

Two participants from cohort 1 were co-opted onto the Academy's Council for two years, representing Emerging Leaders. They also led the development of *HIVE*, the Academy's new alumni programme. Participants have also joined other Academy activities, including the FLIER Task Force, which is overseeing the programme's development and recruitment of the third cohort, and the Academy's Working Group on developing a new scheme to support cross sector working.

Participants fed back positive experiences from their engagement with the Academy:

- *For someone at my stage of career, I've benefited hugely from engaging with the Academy. It helps with profile and with networks. Speaking on behalf of the Academy makes a difference - people take you more seriously*
- *Such exposure has been hugely beneficial, building my confidence to interact with people at that level, providing me with a better understanding of how the system works and what the different drivers are, and it's grown my network*

Two participants commented on future engagement with the Academy. On starting FLIER, participants recognised the importance of their roles in delivering aspects of the UK Life Sciences Strategy. Furthermore, the Academy has been working hard to come up with tangible, meaningful initiatives where people like the FLIERs can get involved in developing and delivering the Academy's strategy. The participants were hopeful that there would be more opportunities for them to help deliver some of these ambitious programmes of work, but that it might help to have more clarity on what their ongoing role with the Academy might be, and how they can best engage. This could include thinking more about the lifecycle of a FLIER in relation to working with and moving through the Academy.

## The Academy, its strategy and diversity

Two participants felt that a real challenge for the Academy is how to change its model to best include people at different stages in their career pathways. The FLIERs are all advocates of progressing non-traditional, inclusive, multidisciplinary approaches to medical science. However, they have the perception that within some of the Fellowship there's a level of discomfort about changing the model of how the Academy works. Whilst aspiring to be a Modern Academy, challenges exist for people at earlier stages in their career pathways to engage with an Academy that also works in a traditional way. As such, these cultural differences between the FLIER ethos and some of the more traditional aspects of the Academy's Fellowship could affect levels of engagement.

It was felt that this is part of a broader conversation about equality and the diverse representation of people in the sciences. If FLIER is seen as a pilot programme for reforming, or modernising, the Academy, it would be important for this to join up with other parts of the Academy.

# 7. Future Areas for Consideration

## 7.1 Programme activities

Through interviews and survey responses, we received feedback on a number of programme elements, and on programmatic changes made between the first and second cohort. We have summarised takeaways below with suggestions for further consideration.

### Peer network and support

The most valued aspect of FLIER has been the peer support and engagement developed through the network of participants. The last year saw more inter-cohort connections between the two cohorts, helped initially through the Spotlight sessions starting in 2020. CH1 participants set up regular meetups on a Friday afternoon every other month, once they had completed the FLIER programme. CH2 participants joined once they had also completed FLIER. Consideration should be given on how best to facilitate interactions between subsequent cohorts and FLIER alumni.

### Coaching

Providing participants with the opportunity to change coach midway through the programme may be helpful. Furthermore, having separate individuals delivering the leadership development programme and conducting the coaching should be considered.

For some individuals, less frequent coaching sessions could be considered. Overall, the frequency of coaching may depend on individual needs.

Participants from CH2 expressed differing preferences for the group coaching in the first year, which was replaced with the quarterly workshops in the second year. These reflect individual preferences for the different formats – the more structured quarterly workshops compared with group coaching, which relied on attendees having an issue to put forward.

### Mentoring

A small number of participants explained that it had been challenging to identify a mentor, and some Fellows who were approached declined to be a mentor because they had been too busy. It might be helpful to develop a smaller group of Fellows who have already committed to being a mentor for FLIER, and for further support to be provided by the Academy to help find a match, or further information on Fellows' experiences and interests to be provided.

### Finance training

Several participants had been unable to attend the finance training due to other commitments and did not take up the opportunity to view the recordings. Including the finance training during in person workshops would boost participation, or re-scheduling the recordings for a group of participants to view together online could also be considered.

### Cross sector working and projects

One participant from CH2 felt that the cross-sector project element could be strengthened, to really push all participants outside of their comfort zone and boundaries. This could include a greater focus on the projects' outcomes and impact.

## 7.2 Equality, diversity and inclusion

Developing an inclusive and diverse culture within medical sciences, research and innovation has recently become a key focus area for funders and institutions. The FLIER programme could play a significant role in

this space, by developing leaders who are aware of the issues, and have influence over policies and inclusive practices. Going forward, improved practices in equality, diversity and inclusion could be regarded as a key impact of the programme. This would require recruiting more diverse cohorts (interviewees mentioned the lack of diversity, particularly in CH1), and designing activities that would address issues and create awareness.

Metrics related to this area could be integrated in the evaluation framework. This would involve measuring participants' diversity (this has been done through AMS's overall diversity monitoring, but not as part of the evaluation), changes in mindsets, and the impacts that participants have on organisational culture in the longer term.

### 7.3 Scope of programme

We received suggestions on widening the boundaries of the programme, in terms of the professional background of participants, and exposure to different sectors. This was also reflected in the measured outcomes related to improved networks, where we saw improvements in networks within academia and industry, however less so with funders and investors. For example, participants commented the following:

- *Links to other organisation working on social innovation, like Nesta, or tech giants who are working on healthcare (Google; Microsoft) would also be extremely valuable.*
- *My other suggestion would be to widen the boundaries of the sector and provide some more training/ shadowing/ discussions into start-ups/ investment world on one extreme and government bodies /policy organisation on the other.*

The following suggestions for increasing participant diversity could be considered:

1. Including people from the design sector and healthcare operations - such perspectives are important for improving healthcare systems.
2. Including investors from venture capital or private equity - there was considerable discussion about innovation, so having the people who are going to pay and take the risk would be important.
3. Ensuring that there are future opportunities for Allied Health Professionals, including nurses, to join FLIER, and that this is stated in the application / eligibility materials.

### 7.4 Future engagement with the Academy and UK Life Sciences strategy / priorities

Opportunities for further engagement with the Academy have been welcomed, such as joining the Academy's Council to represent Emerging Leaders, contributing to policy activities or developing HIVE, the Academy's new alumni programme. There exists strong willingness from participants for further engagement with the Academy. However, some clarity was sought on what their ongoing role with the Academy might be, and how they can best engage. This could include thinking more about the lifecycle of a FLIER in relation to working with and moving through the Academy. The new alumni programme, HIVE, may be an important route to engaging with the Academy, as well as others in the organisation's network.

The FLIERs are all advocates of progressing non-traditional, inclusive, multidisciplinary approaches to medical science. More consideration could be given to how they can effectively influence change in the future as they progress to more senior positions.

## 8. Conclusions

This evaluation took place at the end of the third year of the FLIER programme, which has been running as a pilot from 2019 to 2021, with two cohorts of participants. The aim of the programme has been to develop participants' leadership capabilities, equipping them with the skills, knowledge, mindset, and networks to be effective cross-sector leaders. For this report, we focussed the evaluation on measuring longer term impacts through a variety of data collection methods. The results are highly positive for both cohorts in terms of experience, benefits gained and outcomes realised. Impacts of the programme were particularly pronounced in the areas of new cross-sector collaborations and partnerships, career progressions and increased leadership.

Despite ongoing disruptions due to Covid, programme participants rated the overall programme very highly - on average an incredibly positive 4.8 out of 5. Participants mostly provided positive feedback across all activities included in the programme. We have summarised suggestions for improvements to programmatic elements in this report, including on mentoring, the finance training and the cross-sector project. Participants particularly valued the opportunity for peer-to-peer networking, support and learning, and even though the pandemic created difficulties in forming connections virtually, we found that the programme has been successful in creating a close-knit group of like-minded individuals, that share learnings across sectors.

In this evaluation report, we provided an overview of shorter-term outcomes achieved by the second cohort in different areas of knowledge, skills and mindsets. After the first year of the programme, we found that cohort 2 had not made the same progress in these areas as cohort 1 had done. We hypothesised that the pandemic had challenged participants' self-confidence which may have counteracted the positive effects of the programme. Now, at programme end, the results were very positive: We saw increases in participants' self-perception of knowledge, skills and mindsets, which they largely attributed to the FLIER programme. We found that participants were able to make strong networks in Academia, NHS, and Government, however less so with Funders and Investors, which could be due to the lack of FLIER participants from these backgrounds, as well as getting limited exposure to these sectors through programme activities. Employers listed the improved networks of the participant as one of the primary benefits of the FLIER programme for their organisation. We mention widening the scope of the programme as a key consideration going forward, to help make the programme truly cross-sector.

We measured impacts by asking participants to describe their achievements over the past years, and explain how the programme helped them achieve these. The strongest impacts of the programme were evidenced in the areas of new cross-sector collaborations, demonstrating the important role that the programme plays in facilitating these collaborations. There were some significant successes for the first cohort, including Charlotte Summers' [HEAL-COVID](#) study which involved fellow FLIER participants Paul Wicks and Elin Haf Davies, and Alastair Denniston's [INSIGHT](#) project.

Career progression and improved leadership were achieved by many participants, and strongly attributed to the programme. Participants felt that the programme had helped them to gain confidence, develop key leadership skills and given them clarity on their career trajectory and goals.

The impacts of the programme have been multi-faceted, and the full impact that the programme has had on participants is only fully appreciated when looking at the achievements of every individual on the programme. We therefore collated 'profiles' for selected participants to show achievements and the role of the FLIER programme in achieving these.

We have provided areas of future consideration in this report, which may help to further strengthen the programme. In addition to suggesting improvements to individual programme elements, we believe that the FLIER programme has huge potential to drive cultural change across innovation, research, and industry. As such, influencing improvements to equality, diversity, and inclusion could be a key impact of the programme, whilst also playing an important role in participant selection and in designing programme activities. With clear

evidence of positive impacts, there is also an opportunity to widen the scope of the programme, in terms of participant sectors, to increase exposure to other sectors during the programme, making it truly cross-sector.

Finally, most participants expressed the desire to continue their relationship with the Academy of Medical Sciences. The new alumni programme, HIVE, will be an important route to engaging former participants with the Academy, as well as others in the organisation's network.

Next year, a similar impact study will be carried out for the second cohort, to help further strengthen the evidence base for the impacts of the programme. In addition, due to the extension of the pilot to a third cohort, a full evaluation will be conducted for this cohort. We will review the evaluation framework and adapt it in line with programmatic changes and lessons learnt, develop and conduct baseline and follow-up surveys, and produce subsequent evaluation reports.

# Appendices



# Appendix 1: Contributors to the Evaluation

We would like to thank the following individuals who have provided ongoing support for the delivery of the evaluation and participated in early stakeholder interviews and meetings to help inform the development of the FLIER evaluation framework.

## Academy of Medical Sciences Staff

- Helen Denyer, Programme Manager (from January 2020)
- Alex Straw, Programme Officer (from May 2021)
- Dr Rachel Macdonald, Head of Programmes
- Dr Suzanne Candy, Director of Biomedical Grants and Policy
- Selom Sunu, Programme Officer (until May 2021)
- Helen Jones, Programme Manager (until December 2019)
- Dr Elizabeth Benedikz, Programme Manager (until January 2020)

## FLIER Taskforce

### Current members

- Professor Paul Stewart FMedSci (Interim Chair), Professor of Medicine and Health Policy Adviser to the Vice Chancellor, University of Leeds
- Dr Ian Abbs, Chief Executive and Chief Medical Director, Guy's and St Thomas' NHS Foundation Trust
- Dr Niina Kolehmainen, Reader in Allied Child Health, Newcastle University
- Dr Melanie Lee FMedSci, Chief Executive Officer, LifeArc
- Professor Lorna Marson, Professor of Transplant Surgery and Honorary Consultant Transplant Surgeon, University of Edinburgh
- Professor Jane Norman FMedSci, Dean for the Faculty of Health Sciences, University of Bristol
- Professor Duncan Richards, Climax Professor of Clinical Therapeutics, University of Oxford
- Professor Katherine Sleeman, Laing Galazka Chair in Palliative Care and NIHR Clinician Scientist, King's College London
- Professor Ijeoma Uchegbu FMedSci, Professor of Pharmaceutical Nanoscience, University College London

### Previous members

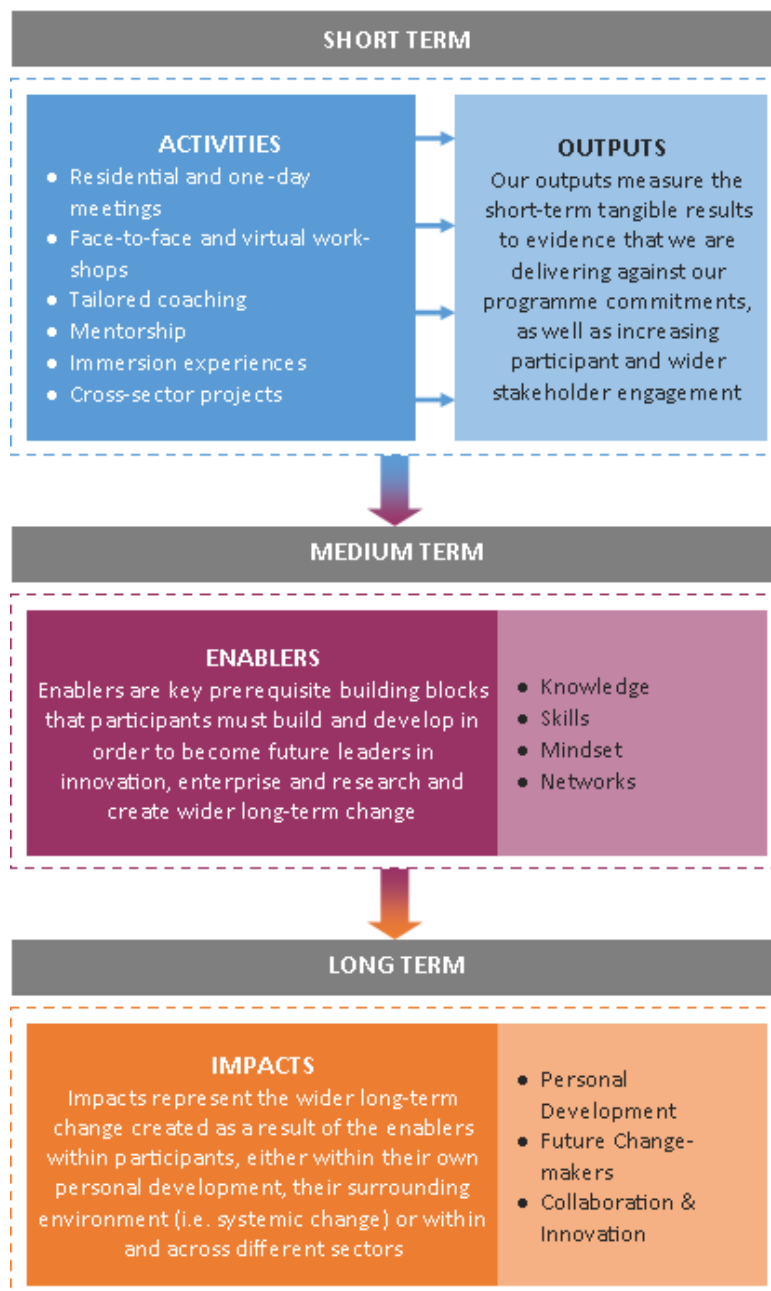
- Professor Martin Humphries FMedSci, Professor of Biochemistry, University of Manchester (Taskforce - Chair)
- Professor David Adams FMedSci, Professor of Hepatology, Pro-Vice-Chancellor, Head of College of Medical and Dental Sciences and Dean of Medicine, Director of NIHR Birmingham Biomedical Research Unit, University of Birmingham (Taskforce)
- Dr Bruno Holthof, Chief Executive Officer, Oxford University Hospitals (Taskforce)
- Professor Jackie Hunter FMedSci, Board Director, BenevolentAI (Taskforce)
- Dr Christopher Yau, Professor of Artificial Intelligence, University of Manchester (Taskforce)

### Other contributors

- Dr Lee-Ann Coleman, Consultant and Trainer at Spiral Training Solutions
- Dr Lisa Cotterill, Chief Executive Officer, NIHR Academy
- Professor Sir Robert Lechler FMedSci, Senior Vice President/Provost (Health) and Emeritus Professor of King's Health Partners Academic Health Sciences Centre
- Dr Fiona Marshall FMedSci, Chief Scientific Officer and co-founder of Heptares Therapeutics
- Dr Malcolm Skingle CBE DSc PhD FBPhS RTTP, Director Academic Liaison, GSK

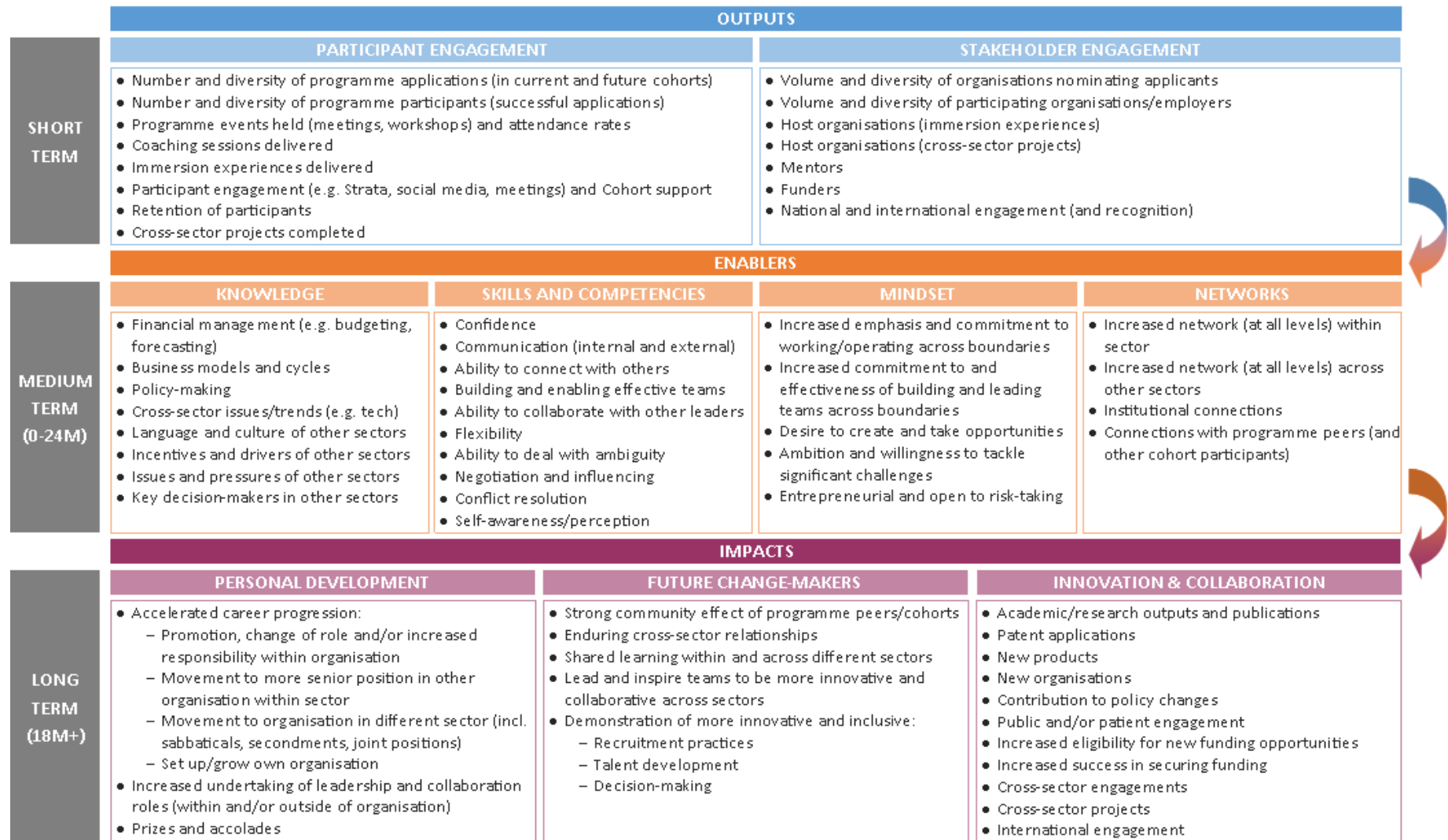
- Professor Paul Stewart MD FRCP FMedSci, Executive Dean & Professor of Medicine, University of Leeds
- Dr Louise Wood CBE, Director of Science, Research & Evidence, DHSC

## Appendix 2: Evaluation Methodology



**Fig 2A – High-level summary of the FLIER evaluation framework**

**ACADEMY OF MEDICAL SCIENCES FLIER PROGRAMME**  
**EVALUATION FRAMEWORK— 'JOURNEY OF CHANGE'**



**Fig 2B – Detailed overview of the FLIER evaluation framework**

# Appendix 3: Funding & Career Progressions

## Funding achieved, CH1

Name	Amount	Description	Data Source	Funding source	Lead/Co-Investigator
Alastair Denniston	£10,400,000	INSIGHT arose from AD's cross sector project	Survey	HDRUK	PI
	£2,257,157	Therapies for Long COVID in non-hospitalised individuals: From symptoms, patient-reported outcomes and immunology to targeted therapies	ORCID	NIHR	Co-Investigator
	£1,586,456	OpticAI Coherence Tomography Angiography for the Detection of Neovascular Age-related Macular Degeneration: a Comprehensive Diagnostic Accuracy Study - the ATHENA study	ORCID	NIHR	Co-Investigator
	£2,519,906	Adalimumab vs placebo as add-on to Standard Therapy for autoimmune Uveitis: Tolerability, Effectiveness and cost-effectiveness. The ASTUTE pragmatic randomized controlled trial.	ORCID	NIHR	Co-Investigator
	£1,062,828	Tele-Ophthalmology-Enabled and Artificial Intelligence-ready referral pathway for community optometry referrals of retinal disease (HERMES)	ORCID	NIHR	Co-Investigator
	£170,000	Quantitative Imaging and Artificial Intelligence in Birdshot Chorioretinopathy	ORCID	Fight for Sight	PI
Richard Mellanby	£746,468	Development of a high-throughput pipeline to identify causal variants and its demonstration in pig muscle	Gateway to Research	BBSRC	PI
	£749,032	High Resolution Mass Spectrometry to enhance hormonal profiling across the lifespan.	Gateway to Research	BBSRC	Co-Investigator
Jennifer Logue	£784,281	Mapping and Identifying Quality and Inequality in Prehabilitation for Cancer Surgery: Evidence for Improvement	CV	NIHR	Co-Investigator
	£1,547,585	A coproduced mixed method evaluation of the NHS England low calorie diet implementation pilot. From NIHR	ORCID	NIHR	Co-Investigator
	£44,046	Barriers to health research at Blackpool Council - developing potential solutions using consensus methodology	ORCID	NIHR	PI
	£298,039	Preoperative weight management to improve outcomes of cardiac surgery	CV	BHF	Co-Investigator

		in adults with obesity (SLIMCARD): A multicentre feasibility trial			
	£505,026	Behavioural Weight Management: Components of Effectiveness (BE:COME)	ORCID	NIHR	PI
Niina Kolehmainen	£10,000	Starting2Move: a campaign to promote early life movement and activity.	ORCID	Chartered Society of Physiotherapy Charitable Trust	PI
	£99,268	Understanding early life determinants and mechanisms to preventing life course multimorbidity	ORCID	MRC	PI
	£6,482	Self-care interventions for children (0-14 years) who have had treatment for a brain tumour	ORCID	Newcastle upon Tyne Hospitals NHS Foundation Trust	PI
	£23,673	Improving the quality and value of enhanced developmental surveillance and support for preterm infants and their families	ORCID	NIHR	Co-Investigator
	£47,457	ICA Pre-doctoral Clinical Academic Fellowship	ORCID	NIHR	Co-Investigator
	£20,365	Improving life-course health through transdiagnostic, cross-sector child health routine outcomes: a pump-priming project to develop an ambitious programme of research and implementation.	ORCID	Newcastle Hospitals Charity	PI
	£249,149	Improving the quality and value of enhanced developmental surveillance and support for preterm infants and their families	ORCID	NIHR	PI
	£10,500	Self-care outcomes in childhood oncology	ORCID	NIHR	Co-Investigator
	Charlotte Summers	£1,200,000	renewed the MRC-GSK programme grant (EMINENT)	Survey	MRC / GSK
£4,372,474		NIHR award to support national clinical trial (HEAL-COVID)	Survey, CV	NIHR	PI
£264,325		Medical Research Council Clinical Research Training Fellowship for Dr Joseph Hutton (Co-Primary supervisor with Dr Naomi McGovern, Dept of Pathology)	Survey	MRC	Co-Investigator
£271,931		Wellcome Trust Clinical Research Training Fellowship for Dr Tony Ng (Primary supervisor)	Survey	Wellcome Trust	Co-Investigator
£5,700,000		MRC Rapid Response Call "COVID-19:ISARIC Coronavirus	Survey	MRC	Co-Investigator

		Clinical Characterisation Consortium (ISARIC-4C)“ (Co-I)			
<b>TOTAL</b>	<b>£35,065,844</b>				

## Career Progressions, CH1

Name	Role at start of programme	Current role	Career progression achieved
Peter Bannister	Executive Chairman, Healthcare, The Institution of Engineering and Technology)	Vice President Life Sciences, Ada Health GmbH and Healthcare Sector Executive Chair, Institution of Engineering and Technology	Y, new org & additional roles
Elin Haf Davies	CEO, Aparito	CEO, Aparito, Chair at Metabolic Support UK, Research Fellow, CASMI	Y, same org & additional roles
Alastair Denniston	Consultant Ophthalmologist, Professor & Research Lead for Digital Healthcare	Consultant Ophthalmologist, University Hospitals Birmingham NHSFT; Honorary Professor, University of Birmingham. Regional Director HDRUK 2021; Executive Director INSIGHT; Deputy Chair WHO Group on Evaluation of AI Health Technologies; Member of the UK Government's Regulatory Horizons Council 2020	Y, same org & additional roles
Chris Gale	Clinical Senior Lecturer in Neonatal Medicine, Imperial College London)	Reader in Neonatal Medicine, Imperial College London and Consultant Neonatologist, Chelsea and Westminster NHS Foundation Trust	Y, same org
Niina Kolehmainen	Senior Clinical Lecturer, Newcastle University)	Reader in Allied Child Health, Theme Lead Reproduction, Development and Child Health, Newcastle University	Y, same org
Jennifer Logue	Clinical Reader in Metabolic Medicine, University of Glasgow)	Associate Dean for Research Faculty of Health and Medicine, Professor of Metabolic Medicine, Lancaster University	Y, new org (professorship)
Richard Mellanby	Head of Companion Animal Sciences, University of Edinburgh)	Professor of Comparative Medicine, University of Edinburgh	Y, same org (professorship)
Kinan Muhammed	Academic Clinical Lecturer and Medical Doctor	Clinical Lecturer in Neurology, University of Oxford; CMO Cumulus Neuroscience	Y, new org & additional roles
Victor Neduva	Group Leader, GlaxoSmithKline)	Senior Principal Scientist, MSD and Honorary Lecturer, Imperial College London	Y, new org
Chelsea Roche	Senior Legal Counsel and Assistant Company Secretary, LifeArc)	General Counsel and Company Secretary, Blue Earth Diagnostics	Y, new org
Emlyn Samuel	Head of Policy Development, Cancer Research UK	Head, R&D Policy (GSK) (previously: Director of Policy, CRUK)	Y, new org (& same org previously)
Rebecca Sims	Research Fellow, Cardiff University	Senior Research Fellow, Cardiff University	Y, same org

Katherine Sleeman	NIHR Clinician Scientist, King's College London)	Laing Galazka Chair in Palliative Care, NIHR Clinician Scientist, King's College London	Y, additional roles
Charlotte Summers	University Lecturer / Honorary Consultant in Critical Care Medicine, University of Cambridge School of Clinical Medicine)	Professor of Intensive Care Medicine and Director of Clinical Academic Training, University of Cambridge	Y, same org (professorship)
Marc Vendrell	Principal Investigator, University of Edinburgh	Personal Chair of Translational Chemistry and Biomedical Imaging, University of Edinburgh	Y, same org
Paul Wicks	Vice President of Innovation, PatientsLikeMe UK)	Independent Consultant, Wicks Digital Health	Y, new org. (own company)

## Career Progressions, CH2

Name	Role at start of programme	Current role	Career progression achieved
Parveen Ali	Senior Lecturer, University of Sheffield)	Professor of Nursing, Health Sciences School, University of Sheffield	Y, same org
Rasha Al-Lamee	Senior Clinical Research Fellow, Imperial College London)	Clinical Senior Lecturer, Imperial College London	Y, same org
Cat Ball	Senior Policy Manager, Association of Medical Research Charities	Assistant Director, Research & Innovation, Scottish Funding Council	Y, new org
Giovanni Biglino	Senior Lecturer in Biostatistics, University of Bristol, Honorary Clinical Senior Lecturer at Imperial College London	Senior Lecturer in Biostatistics, University of Bristol, Honorary Clinical Senior Lecturer at Imperial College London	N
Tim Chico	Professor of Cardiovascular Medicine and Consultant Cardiologist, University of Sheffield	Associate Director British Heart Foundation Data Science Centre	Y, new org.
Muireann Coen	Associate Director of Oncology Safety, AstraZeneca)	Director of Oncology Discovery Safety Science, AstraZeneca	Y, same org
Elizabeth Coulthard	Associate Professor in Dementia Neurology, University of Bristol	Associate Professor in Dementia Neurology, University of Bristol	N
Michael Crichton	Assistant Professor in Biomedical Engineering, Heriot-Watt University)	Associate Professor in Biomedical Engineering, Heriot-Watt University	Y, same org
Davide Danovi	Director, Cell Phenotyping Group / Senior Research Fellow, King's College London)	Head of Cellular Phenotyping, bit.bio / Senior Lecturer, King's College London	Y, same org
Jason Gill	British Academy Senior Research Fellowship	Professor of Cardiometabolic Health, University of Glasgow	Y, same org (professorship) (& additional roles)
Grainne Gorman	Senior Clinical Lecturer, Newcastle University	Director of the Wellcome Centre for Mitochondrial Research, Professor of Neurology, Newcastle University	Y, same org (professorship)
Ilaria Mirabile	Transformation Lead (Innovation, Treatment and Care), NHS Headquarters)	Head of Programmes, Accelerated Access Collaborative, NHS England and NHS Improvement	Y, same org



James Pickett	Head of Research, Alzheimer's Society)	Hub Development Manager, HDR UK	Y, new org
Alison Pilnick	Professor of Language, Medicine and Society, University of Nottingham	Professor of Language, Medicine and Society, University of Nottingham	N
Elizabeth Sapey	Reader in Acute and Respiratory Medicine, University of Birmingham	Professor in Acute and Respiratory Medicine, University of Birmingham	Y, professorship
Reecha Sofat	Associate Professor, University College London)	Professor, Head of the Department of Pharmacology and Therapeutics, University of Liverpool	Y, professorship
Julia Wilson	Associate Director, Wellcome Sanger Institute	Associate Director, Wellcome Sanger Institute	N
Paul Wright	Principle Scientist, LifeArc	Senior Principal Scientist, LifeArc	Y, within org

# Appendix 4: Interview case studies, CH1

## Dr Paul Wicks

### Consultant, Wicks Digital Health

#### **What attracted you to the FLIER programme?**

I saw several opportunities through joining FLIER. I've always been interested in learning and development, and I was seeking mentorship to help in my role. I really liked the idea of meeting peers who had done interesting and challenging work across different sectors. I was also keen to meet and collaborate with medically trained people from the NHS, particularly clinician scientists.

When I applied to join FLIER, I was Vice President of Innovation at *PatientsLikeMe*, a digital health company that had received substantial investment from China and was growing rapidly. There were some very significant challenges in my role, and I thought that FLIER would help me to overcome these and deliver objectives. However, just after hearing that I'd been accepted to join FLIER, the US government blocked the investment in our large programme, and soon I went from running \$100 million of research projects in seven countries, to preparing for unemployment.

#### **How has the FLIER programme supported you in your role and your personal development?**

I think that FLIER has really helped me to see the big picture of Life Sciences in the UK, right from the start through a presentation from Sir John Bell, meeting key people in the field and having a mentor. This has provided me with confidence, perspective and encouragement to collaborate across sectors, and allowed me to tie things together for the different organisations I work with.

FLIER has contributed to my development in many different ways. One of the pivotal parts for me was the exercise we did about figuring out what you want, using a card sort exercise. These cards are still on my wall and they say "Independence, Time / Freedom, Being expert, Place of work". FLIER has changed my "motherboard code" in a way that other programmes haven't.

FLIER has allowed me to define leadership in my own way. I am comfortable with my decision not to manage people, and my leadership is expressed in other ways, through scientific publications, editorials, the work that I do, who I work with, who I don't work with, what I charge money and what I don't charge money for - my leadership is through my work.

I have been very grateful for the mentorship and approached one of the speakers to be a mentor early in the programme. We have had a number of good sessions together where I brought some really hard questions that I could not ask anywhere else.

#### **Overall, how would you describe the impact that the FLIER programme has had on your career?**

FLIER has given me the support and the confidence to be an independent consultant in digital health. I've been doing this for three years now and have a successful, sustainable business. I also have a team to contact anytime I want - 16 smart people on my smartphone that most people don't have access to.

I've become more involved in advising venture capitalists and private equity groups about the changes going on in health and medicine. I help companies wire into the system in a way that's robust, sensible, validated and equitable whilst promoting the UK as a port of call. I think that is definitely attributable to FLIER.

Our visit to the Wellcome Trust gave me an incredibly helpful overview of how a large non-governmental organisation thinks about challenges like mental health. Following the visit, I joined their Mental Health Scientific Advisory Board, which was been advising on a £400 million investment into mental health over the next 10 years.

#### **Can you give any examples of a significant cross-sector activity that you have been involved in?**

One of my areas of expertise is running clinical trials over the internet. Fellow participant Charlotte Summers got in touch about developing an approach to obtain information from patients with COVID for a grant that

she was putting together. As an independent person, I felt uniquely able to contribute to the design of this study and we also brought in another FLIER participant, Elin Haf Davies from Aparito, to provide the digital infrastructure for the [HEAL-COVID study](#).

I felt very accountable and responsible for the two elements of the study that I was in charge of - the patient outcome questionnaires and the patient involvement - making sure that the patients' voices were incorporated, heard and that we weren't excluding anybody. It was exhilarating working on the study - we did two years of work in two months. And at the time, we were all locked up at home and death counts were fairly grim. If it wasn't for FLIER, the HEAL-COVID study would not have been developed, which is a very tangible outcome from the programme.

#### **How has FLIER helped to expand your network?**

There have been lots of little sparks of collaboration across the cohorts, introductions to other people and I do think that the network will be sustained. I've done a couple of deals for clients through the network where I've made connections that have led to substantial new projects. I've also connected one of the FLIERs to a new job – they now work for one of my clients.

I run the bi-monthly support check in for both cohorts of FLIER, where we get together and have a chat about what's going on, or sometimes people bring a problem that they want to workshop with other people.

FLIER was everything I hoped it would be and more. If I could send an email to myself three years in the past, I would just say, "go for it - make use of all the time and soak up the experiences" and I think I mostly did.

### **Prof Alastair Denniston**

**Honorary Professor, University of Birmingham; Consultant Ophthalmologist, University Hospitals Birmingham NHSFT; Director of INSIGHT; Member, Regulatory Horizons Council to the UK Government**

#### **Has your role changed since you joined FLIER, and if so, how?**

I continue to lead a cross-campus research team at the University of Birmingham and University Hospitals Birmingham (UHB) but this has grown considerably, and has increasing impact. The research I lead is increasingly embedded within the NHS. I have been appointed Clinical Lead for Research and Innovation in Digital Healthcare for University Hospitals Birmingham, where I support the development of strategy to unlock the opportunity for patient benefit from data and digital healthcare.

I have taken on several additional responsibilities since joining FLIER. I'm Director of [INSIGHT](#), the HDRUK Health Data Research Hub for Eye Health, which was founded in 2019 through a significant pump-priming grant from the Industrial Strategy Challenge Fund (ISCF) as part of the Digital Innovation Hub strategy. INSIGHT is focused on the application of eye imaging data to sight-threatening disease and its application to wider health, the new science of 'oculomics'.

In 2020 I was appointed to the UK Government's new [Regulatory Horizon's Council](#) (RHC) which provides independent advice to the UK Government as to how regulatory reform can support innovation. This role engages with civil servants, government ministers and regulators such as the MHRA. I've really enjoyed this role and I probably wouldn't have applied for it without the skills and confidence gained from FLIER. It's quite a senior and influential role in terms of policy development and feels like an area where I can use my skills well to create positive impact. In 2021 I led the RHC [Independent Report on Medical Devices](#), and am currently leading a separate report on AI Health Technologies.

I've taken on new advisory roles in the last year, providing specialist advice on AI health technology to the MHRA and NICE. I think that's an area where I've personally been able to make quite significant impact through research that informs policy, and bringing together cross-sector, cross-disciplinary networks of people who can support the development, evaluation and implementation of AI health technologies which are effective, safe and ethical.

#### **What aspects of FLIER have you found most valuable?**

I'm always very positive about the FLIER programme for a number of reasons, and it continues to impact me now three years on. I found the early focus on 'the growth zone' to be really helpful for personal development, and encouraging me to be willing to step outside of my comfortable, safe zone. The formal leadership training involved taught material and its practical application through the workshops, which was also very helpful. Working in small groups alongside individual reflection helped embed learning for the real world.

The peer support through the cohort has been important. It's great to have other people who understand the types of challenge and pressure that we are under and can really sympathise. Our WhatsApp group remains very active, helping on work related issues, exploring opportunities and providing peer support.

FLIER has also given me exposure to different parts of the life science sector, and this is what makes it distinct from other leadership courses. It's the exposure to individuals, the networking and the immersion days with different organisations. The days I was able to attend were always interesting - I can still picture them clearly in my head, even now, a couple of years on.

Meeting people from different sectors – and especially getting to know other FLIERs from different sectors - has been a really important way to understand roles in other sectors, peoples' motivations and the challenges they have to navigate. It also helps to understand the frustrations they encounter with people in other sectors, and why they may find it hard to work with somebody like me who sits mainly in the NHS or in academia. FLIER has helped to improve this understanding and overcome misconceptions about working with industry, for example. The level of trust, the sense of opportunity and excitement for cross sector collaboration is something that really came through our two years of working together.

**Overall, how would you describe the impact that the FLIER programme has had on your career?**

I think FLIER has accelerated my career progression, providing me with the confidence to go for various senior roles. Just being selected for FLIER was a real confidence boost, which was followed by encouragement from within the programme. It's helped me to understand the growth zone and pushing yourself to go for things - if you want to grow, you're always going to be applying yourself a bit higher than you're comfortable with. Looking at my own career, my dream type job 5-10 years from now would be in a senior leadership role with a large philanthropic life sciences organisation that has a clear strategic path to patient benefit. That's not something I would have said three years ago.

I lead a number of different teams, which include some really fantastic emerging leaders. I've seen some team members go from being a PhD student to becoming a Principal Investigator in their own right. I've very much put into practice within that team the skills I've learned through FLIER - they know all about the programme and I've passed on a lot of learning to them.

**Can you give any examples of a significant cross-sector activity that you have developed since taking part in the FLIER programme?**

INSIGHT, the Health Data Research Hub for Eye Health, was developed from my cross sector project, and forms part of Health Data Research UK's hub network in the UK. INSIGHT was supported by multi-million pound pump-priming funding through the ISCF, but is now moving to being self-sustaining. The Hub was set up with six partners: two from the NHS, one academic, one charity and two from industry - Google Health and Roche. It continues to be a source of great learning and an ongoing example of my work across sectors. It's all about enabling others to access data in a safe way to research for patient benefit, and we receive applicants from every sector - big pharma, big tech, SMEs, charities, universities and the NHS.

**Since joining FLIER, have you been involved with the Academy in any other ways?**

Not too long after joining FLIER, I benefited from participating in an AMS-led roundtable discussion on AI health technologies. This face-to-face meeting was a significant step for me in getting to know many UK leaders in this area, many of whom I have gone on to work with on a regular basis. I was proud to be on the AMS report as one of the contributors, and this helped establish my credibility in this area.

I'm so grateful to the Academy for putting on FLIER. It's the single most transformative thing I've done in my entire working career.

## Prof Peter Bannister

**Vice President of Life Sciences at Ada Health, Honorary Chair at the University of Birmingham Institute of Applied Health Research and Institution of Engineering and Technology Healthcare Sector Chair**

### **Has your role changed in the last year, and if so, how?**

In October 2021 I joined ADA health, a digital health company, as Vice President of Life Sciences. I continue to help the National Institute of Health Research (NIHR) with a number of funding panels and was invited to be Vice Chair of the Small Business Research Initiative (SBRI) Healthcare programme. In the last year, I have also chaired a panel for a one off call on the use of artificial intelligence to address racial and ethnic inequalities in healthcare, on behalf of NHSX and the Health Foundation. I've continued in my roles with the Institution of Engineering and Technology and as leadership programme lead for the HDRUK-Turing Wellcome PhD Programme in Health Data Science.

### **How has the FLIER programme contributed to these changes, and to your personal development?**

The initial introduction to the company I'm working for now was made through another member of the FLIER programme. I've also been working with a participant from the second FLIER cohort to set up a company, for a new medical technology, which is building some momentum now. As time passes, it's definitely the FLIER network that's having the most sustained impact. Certainly, the community that arose from the cohorts is an important part of me personally and professionally. FLIERs are in touch with each other literally every day - it's a great group to be part of, and we keep supporting each other.

Joining a structured training programme was, in part, an impetus for me to do an MBA last year, because I still had an appetite for learning and developing further skills that weren't necessarily part of the FLIER syllabus. The coaching has been extremely helpful on a day-to-day practical level as well as helping me to understand approaches to manage myself.

The immersion visits in the first year were excellent. For example, the exposure we had to the Department of Health was amazing, as were insights to some of the University Hospital ecosystems. Actually being in those environments in person provides a completely different learning experience and helps to form new relationships. We've done a brilliant job trying to replicate what we can on Zoom, but we all know it's not the same as meeting in person. Getting back to those face-to-face interactions that we were able to have in the first year is to be strongly encouraged.

### **Overall, how would you describe the impact that the FLIER programme has had on your career?**

The programme has undeniably built confidence and realistic ambition. If I think back to three years ago, it's crazy to see that I'm doing all of these things now. I'm a Professor, I have a new role and I've just signed off on an MBA - that wasn't me three years ago. So in terms of the individual impact it has had on me over the three years, we all say to each other that "the single best decision we ever made was applying to the FLIER programme".

### **How has FLIER helped to expand your network, particularly beyond your own sector?**

I've called on almost all members of my cohort to help me with my professional work, and several in cohort two. I've also contributed to several participants' cross-sector projects, across both cohorts. A lasting benefit for me, through the connections I've made, is my affiliation as an Honorary Chair at the University of Birmingham. This position spans the industry - academia gulf comfortably, specifically in the area of regulatory science and innovation. That's absolutely something I would not have got without FLIER, through having that exposure.

### **Since joining FLIER, have you been involved with the Academy in any other ways?**

I have been co-opted onto the Academy's Council for two years, representing Emerging Leaders, and this finished in December 2021. This has been the most enduring connection with the Academy over the last year. It's been really illuminating and enjoyable, being involved not just in council sessions, but some of the strategy and policy breakout sessions, and external meetings with government representatives. Such exposure has

been hugely beneficial, building my confidence to interact with people at that level, providing me with a better understanding of how the system works and what the different drivers are, and it's grown my network.

Through this role, I've been involved in discussions about the Academy's future strategy. At the start of FLIER, I got the clear impression that we were going to emerge from this programme and be set to work on aspects of delivering the UK Life Sciences Strategy. The Academy team has been working hard to come up with some tangible, meaningful initiatives where people like the FLIERs can get involved in developing and delivering the Academy's new strategy. I'm hopeful that there will be more opportunities for people like the FLIERs to help deliver some of these ambitious programmes of work.

## Prof Charlotte Summers

**Professor of Intensive Care Medicine at the University of Cambridge. She is also Director of Clinical Academic Training at the University's Clinical School and Honorary Consultant in Intensive Care Medicine at Cambridge University Hospitals NHS Foundation Trust.**

### **What attracted you to the FLIER programme?**

When I saw the advert for FLIER, it was like a light bulb came on and I thought, 'that's what I need'. I was at a stage in my career where I was doing several different things, some of which I enjoyed, but others less so. I also felt like a round peg in a square hole, was pretty uncertain about the future and how I could make any of it work.

### **Has your role changed since you joined FLIER and if so, how did FLIER contribute?**

My role has changed massively since joining FLIER, when I was a probationary University Lecturer. Now I have passed my probationary period and been promoted to be the Professor of Intensive Care Medicine. My whole research programme has always been about acute lung injury - what happens to your lungs when they get inflamed and stop working properly, which has always involved respiratory pandemics. Suddenly, in 2020, my work became very prominent, and I ended up sitting in some high-level meetings about how we were going to tackle the COVID-19 pandemic, advising the Cabinet Office about ventilators and a whole host of other things that I had never done before. Amazingly, even though I was not aware of it at the time, FLIER was preparing me for handling all of the stuff that suddenly got thrown at me during 2020 and 2021!

### **How has the FLIER programme contributed to your personal development?**

A lot of the focus of FLIER was around cross sector working and bringing the skills of everybody to bear on what you're trying to achieve. It emphasised the importance of clarity of purpose: why we're doing things before considering the 'what' and the 'how'. This was very relevant, since suddenly, I was working with the MHRA, civil servants, ministers and industrialists, trying to get everybody to deliver what was needed in a rapid fashion - ventilators, oxygen, drug therapies, even managing a hospital's capacity for intensive care beds. Motivating people to do things they don't want to do, or don't think they can do, has been one of the toughest things over the last couple of years.

The FLIER immersion days were great, such as being able to spend a day at the Department of Health to hear what they do and how it works. That visit provided important insights that helped me during the pandemic, and will do so for the rest of my career. The individual coaching also helped me to build my confidence. Talking through how to handle various situations and how to build teams made me feel like I had the skills to achieve what I was aiming to.

### **Can you give any examples of a significant cross-sector activity that you have developed since taking part in the FLIER programme?**

Everyone knew that the post hospital phase of COVID was a problem by summer 2020, but people felt that it was too hard to address from the perspective of interventional clinical trials. I felt that taking a risk and doing something was better than not trying at all. To address this issue, I'm leading a large, national trial called [HEAL-COVID](#), which is aiming to improve the longer-term outcomes for patients who have been hospitalised due to COVID-19. At the start, I sketched out the trial on one side of A4, before speaking with fellow FLIER participants Paul Wicks and Elin Haf Davies. Respectively, they brought valuable experience of patient engagement/involvement and Aparito's digital platform. Both Paul and Elin Haf have highly relevant

backgrounds and became important members of the trial team. The study wouldn't be doable without either of them.

**Overall, how would you describe the impact of the FLIER programme on your career?**

It's been transformational. I think others in the programme have said it's been life changing. It's basically the best thing I've ever done workwise. It's definitely accelerated my career progression. And probably given me broader horizons than I had before. Opening doors for people isn't the same as them feeling able to walk through them, which I feel more able to do now. The leadership training helped me to think about what it is that I want to do, how I'm going to communicate, and do it. It made me braver than I'd been before. I suspect that I wouldn't ever have stood up and said that we need to do the HEAL-COVID trial without FLIER.

**How has FLIER helped to expand your network?**

Through FLIER, I've met some of the right people and been in some of the right rooms in the therapeutic space. This has led me to being one of the people deciding what drugs get tested in national clinical trials. This wouldn't have happened without the people I met via FLIER. The other FLIERS in my cohort have been amazing. We have all worked collectively to provide contacts, understanding the challenges we were each having, and to support each other through the two years. It's a network that I didn't have before.

**Since joining FLIER, have you been involved with the Academy in any other ways?**

I sat on the Academy's Council for two years, along with Peter Bannister, also from cohort 1. We also led the development of *HIVE*, the Academy's new alumni programme. The Academy staff have been great, involving us in many activities and asking our opinion about a whole range of different issues. I helped with their work on clinical academic training, and I spoke at their 2021 FORUM Sir Colin Dollery Lecture about the UK's scientific contribution to tackling the pandemic. I was also asked to help with the pandemic report on 'Preparing for a challenging winter 2020-21' and joined Anne Johnson and other speakers to share the report in a series of briefings.

I would like to say thank you to the people at the Academy, and particularly Martin Humphries, who conceived FLIER. It was a tremendous risk to invest in the programme, and even to see if it was possible. We're proud FLIERS and I hope very much that they're proud of us all and what we've done.

## Dr Niina Kolehmainen

**Reader in Allied Child Health, Population Health Sciences Institute, Faculty of Medical Sciences, Newcastle University**

**What attracted you to the FLIER programme?**

Whilst I've done some leadership development before, I was looking for a programme that would help me think of my career in a slightly different way. When the FLIER programme came up, it just had all the things I was looking for, particularly the diversity of people that might be on the course. It was trying to do something different by bringing together people from different sectors, which I thought would take me well outside of my comfort zone.

**Has your role changed since you joined FLIER and if so, how?**

When I applied to FLIER I was a senior clinical lecturer and since then I've been promoted to Reader, which has brought some new responsibilities. My background is in allied health research, and now I'm a Faculty Theme Lead for research covering topics across biological life sciences, translational and clinical medicine, and population health. Working through a matrix leadership, much of this role is about influencing and working with senior people, trying to encourage more collaboration.

I'm also a Director of our new Centre for Children and Youth, a university-wide Research Centre that I've pushed for with a couple of colleagues from other Faculties. I'm Deputy Chair for the Education and Training committee of the relatively new NIHR Academic Health Sciences Centre, a cross sector partnership with the NHS, University, City Council, and the Academic Health Sciences Network.

**How has the FLIER programme contributed to these changes?**



I think the short answer is that had I not joined FLIER, I wouldn't be in any of the roles that I am now. I'm not sure that I would even be in academia anymore. I had got to that mid-career space and was struggling to progress the things that I felt were important, struggling to feel that I was able to influence things and struggling to be heard. FLIER has helped me to really develop my skills and my perspectives to collaborative working, influencing, leadership and how to work with other people.

My work and what I'm trying to do has always been about influencing others indirectly, rather than being their manager. That kind of influencing can be quite challenging, and it's probably not the norm in many organisations. FLIER has helped me understand how to view a situation and what my options are about trying to influence it. That has translated to effective leadership, which has been noticed by my seniors and colleagues, which has led into some of these leadership positions.

#### **How has the FLIER programme contributed to your personal development?**

I think that I've always been quite willing to take on significant challenges or new opportunities, however I think that FLIER has influenced how I go about this. Rather than a 'decide and convince' model of leadership, I've learned that you can co-construct the vision as a leader, whilst shouldering the responsibilities. It's more about ensuring that the team stays together and trying to find ways for the team's thinking and action to move forward.

The last year has not been easy, especially because of the pandemic. You encounter the same issues and challenges over and over again. However, I've been able to draw on learning from FLIER in many ways. I decided to continue with the coaching, which I think has made a big difference for me because it's the constant and continuous application of the learning that is important.

The first part of FLIER was about really understanding what co-constructive leadership means and looks like. The last 12 months, with the extra coaching, has been about continuing to do that, even when it feels quite difficult at times. Staying in touch with the FLIER network has helped to sustain my faith in the value of pursuing a collaborative way of working. FLIER has helped me to appreciate that if you're trying to really shift some big fundamental things, it takes time and persistence.

#### **Overall, how would you describe the impact that the FLIER programme has had on your career?**

Before FLIER, I couldn't quite see where I was going. Whilst I think I'm still broadly on the same trajectory, I can now see a lot of doors opening in front of me again. I was already quite interested in, and was doing, cross sector working, but I saw this as an added extra. Now, it's my default position. In the type of applied work that I'm doing, it only has any real value if it is relevant to the world outside of my research, so the starting point needs to involve a cross sector team.

#### **Can you give any examples of a significant cross-sector activity that you have developed since taking part in the FLIER programme?**

An experience in the last year has been co-constructing an exciting research plan in partnership with a large charity. However, our proposal was criticised heavily when considered by a funding panel. Whilst funders want to support collaborative team science, many funding panels are not supportive, because they want to see projects focussing on one single problem led by one Principal Investigator. We've been discussing these challenges of the funding landscape within the FLIER network and with the Academy, explaining that the system isn't quite there for supporting collaborative team science.

#### **How has FLIER helped to expand your network?**

I still have strong engagement with the other participants from FLIER and the two cohorts meet once a month. Being in FLIER is like having a pass for contacting people across traditional science or discipline boundaries. By creating something in common, it creates new opportunities through a new network of people who think in a cross sector, collaborative way.

#### **Since joining FLIER, have you been involved with the Academy in any other ways?**

I've joined the FLIER Task Force, which is overseeing the programme's development and recruitment of the third cohort of participants. I've also given a talk for the Academy's [PILLAR](#) programme. Engaging with the Academy has been a big source of enriching one's thinking and activities. I've always had a very positive perception of the Academy and their activities. They tend to be positively challenging, and quite thought



provoking. They encourage debate and discussion, and there's a tolerance for diversity of views that I don't see as much in other contexts.

# Appendix 5: Interview case studies, CH2

## CH2A – Cohort 2 participant

### **What attracted you to the FLIER programme?**

FLIER's emphasis on working and moving across traditional boundaries was very attractive to me. It was bespoke to the medical life sciences, being very much about understanding industry, academia and the NHS. FLIER just seemed so tailored to what work is like at the minute - of the need to speak to somebody in a different sector and influence them to do things. It understands the current life sciences ecosystem and how we're all meant to work together, but none of us know how to.

### **How has your experience on the programme been?**

Everything on the programme has been valuable, so it's hard to pick a specific part. The sessions where we came together as a cohort were a particular highlight for me, where we shared experiences and broke up into small groups. We'd be given a topic to discuss, and we'd all come at it from different angles, with different perspectives from different life experiences.

The thought leadership sessions were also good, and very interesting, although there was less opportunity for debate and discussion. I enjoyed the quarterly workshops a bit more than the group coaching that was provided in the first year. The workshops had a bit more focus and theme, with preparation required beforehand. It just felt like there was more value, whereas the group coaching relied more on somebody having an issue to put forward.

Due to circumstances arising from the pandemic, the immersions were held virtually. They were still useful, but it's not the same as being there in person. My cross-sector project changed, due to the pandemic restrictions, which also led to my role changing. FLIER did help me to progress the new project, which established a process that has now become routine in my organisation. The experience has also helped in my ability to engage with key people from different sectors.

I haven't been able to capitalise on the mentoring yet. I've struggled to narrow it down to people who may be most relevant, and some whom I've approached have been busy. Perhaps in the future it might be helpful to have a group of mentors who have already committed to supporting FLIER, and for the Academy to provide support with navigating their database to help find a match.

### **How has the FLIER programme impacted your personal development in the last year?**

The programme helped greatly in developing my leadership knowledge by reframing what leadership was, away from the concept of the 'alpha male' at the front. They explained how you can lead effectively whether you're quiet or female because it's a wide range of ingredients that make a leader. It's also helped me to look at different people who are leaders and understand how they tick as well. By knowing colleagues' leadership styles, I can use the most effective ways to make things happen. FLIER skilled us with the right tools *and* a good understanding of the concept as well.

FLIER has also helped to change my mindset about tackling significant challenges. For example, when influencing particular issues, I have realised that sometimes logic and facts just won't work, and the issue needs to be approached completely differently. I feel that I've become better skilled to adapt my approach, navigating towards a working solution, with good relationships coming out of it.

The coaching has also helped me to develop my approach to influencing. It's helped me to be more at ease with challenging colleagues' decisions, without making them feel uncomfortable. FLIER has helped me to realise that it's better to challenge certain decisions, and to do this by understanding others' leadership styles and motivations.

### **How would you describe the impact the FLIER programme has had on your career?**

In 2021, I took on a bigger role within the same organisation, with additional responsibilities. Taking on this role is definitely an outcome of FLIER, because it gave me the right language and levers to be persuasive, bringing more cohesion and joining the dots between the different activities.

FLIER's also given me the confidence to know that I definitely want to be in a position of leadership, and that I can do it. It's made me rethink what my future role might be, plot out more what I want to do and move towards this. It's also given me the skills to present myself and to articulate what I can do and how I do things.

FLIER has changed completely my view towards cross sector collaboration. It has helped me to progress a recent opportunity to bring together groups from different sectors – academia, industry, NHS and government – to develop a common strategy. You need a common theme, convening power, and some money to make it happen. FLIER has changed how I approach this and I'm actually using it, which is even better.

#### **How has FLIER helped expand your network?**

Having a participant in the cohort with a background in the social sciences has been really interesting. This perspective has challenged some of our assumptions on specific issues, taking us into that society and ethics space. In my day job, it's made me think about having more expertise from that space for thought leadership about the ethical and societal implications of what we do.

I've formed a strong peer support network with participants in our cohort. Our main way of communicating is through the WhatsApp group, where people post problems, or issues, or ask for advice, or share things. Sometimes we've all come together on an emergency Zoom call if somebody's got a big problem. Early on, we randomly divided ourselves into mini-groups of three people. We still meet and do peer-to-peer coaching in our small groups. Now that the programme's ended, I'm sure that this network will remain valuable in the future.

## **CH2B – Cohort 2 participant**

#### **What activities in FLIER have you found most valuable?**

During the second year, the most helpful activities have been the interactions with other participants in the programme. There have been numerous examples where participants have sought and received advice from others, leading to positive end results. Having this network of people that you trust and who provide very frank advice has been the single most important aspect of the programme.

The coaching has also been valuable. Once it came to end, we explored whether we could keep it going, but it's much more expensive than we thought. Instead, myself and another FLIER have arranged to mutually coach each other. We have a couple of hours every couple of months, where we do an hour for each person, which has been really helpful.

The thought leadership sessions were good. I think that more time could have been allocated to the session on diversity and inclusion, particularly by taking the discussion at the end beyond recognising the problem to actually thinking about practical steps to address this issue. Since the FLIER participants are now getting into more senior positions, it is important that we devote more time to such topics and to how we can influence change.

The circumstances around my cross sector project changed a bit, requiring different partners to be engaged, but I was able to progress it. This has required working across sector - which is very FLIER - plus applying my learning about networking, forming relationships and trying to align objectives.

I felt that the immersions worked less well, because due to COVID, they were held virtually. If we had been able to attend in person, there would have been lots of side conversations over coffee, to help work out how things really are at that organisation. In the virtual format, the more positive aspects are presented, with less opportunity to hear about the things that didn't work. Furthermore, being able to be there for a day provides the space in between sessions to reflect and think.

#### **How has the FLIER programme impacted your personal development in the last year?**

The programme has had a huge effect on me. I realise that by the end of the two years, I'm much more comfortable in my thinking being more like the 'leader' aspects discussed at the very beginning, rather than as

an 'expert'. By gaining confidence, there are future roles that I'll try for where I can lead and work through others, leveraging other people's expertise rather than necessarily knowing it all myself.

Since starting FLIER, I'm trying things that I wouldn't have attempted before and I'm less concerned about failing. I'm also trying to think a bit more strategically about problems and how systems can work better. I see that my contribution over the next 20 years is going to be a bit different to what it was before. I'm also better at stepping back and looking beyond my domain to think much more about big picture things and what I can do to help make these happen.

In discussions and decision making, I think I'm better at listening and then interjecting in a way to steer a conversation, bringing people on board, and in some cases this is helping to reach a better result than I would have seen otherwise.

In changing aspects of my cross sector project, FLIER helped me to think of a framework to start new interactions and build a disparate team of people working towards a common aim. I've been able to apply that whole way of working and thinking to different circumstances.

#### **How would you describe the impact the FLIER programme has had on your career?**

I think it's been transformative. It's caused a change in direction in what I do and increased my confidence to try things. I'm also prepared to do things that are outside my immediate comfort zone of expertise. FLIER has broadened possibilities about what I could do, and I think I'm more open to other things now.

I think that FLIER has probably changed my career direction, and if you multiply that up by all the people on the programme, you'll have a substantial number of people who are doing things slightly different. And hopefully you'll get to a point where there will be enough of those people for a critical mass to change the system a bit for the better.

#### **How has FLIER helped expand your network?**

In the last year, I've had a number of interactions with participants in cohort one, which have been really helpful, providing guidance and advice. Our meet ups with both cohorts on Friday afternoons has been very helpful. Now that I know people in other sectors, I can ask them to facilitate an introduction to somebody else in that sector, which I didn't have before. I think the potential is there to make new connections and I can see it being used for years to come.

I had a potential consultancy opportunity, which I didn't have experience of before. One of the other participants advised me on how to look at the contract and other issues that I would never have thought about.

FLIER has been the single, best professional activity that I've been involved with and I would like to thank everybody involved.

## **CH2C – Cohort 2 participant**

#### **How has your experience on the FLIER programme been?**

I've found the interactions and networking within the FLIER cohort to be really valuable. Whilst it's been limiting to do this virtually, having the workshop in September 2021 in London was really valuable, meaning we had face to face time towards the end of the programme. We were lucky enough to have our kick-off meeting in person too which really helped as we had all met in person.

The coaching has been really useful, and is something that I would look to restart, maybe in a year's time. I also found the leadership material that we received to be very helpful, providing knowledge and plenty of food for thought. I found a lot of benefit came from just pausing and thinking about my career, what I want and how to achieve it, and prior to FLIER I had never given myself the time to do this.

The group coaching during the first year of FLIER was really good, because you brought to the group an issue you were struggling with and received diverse opinions and suggestions on how to tackle it. We also did a lot of group coaching through our WhatsApp group. If somebody was struggling with something, they put it on

there. And pretty much everybody would respond with their advice and suggestions - it was an amazing amount of feedback, that everybody learned from, even if it wasn't your specific issue.

I missed some items, such as the finance training, due to other commitments. Where possible, it would be helpful to reschedule playbacks of these in our diaries for those who were unable to attend, as this would also enable some interactive discussion of the topic.

A key outcome from my cross sector project has been securing funding for a Daphne Jackson Fellowship, a scheme that supports individuals returning to work after a career break. The fellowship should generate some interesting science, and also impacts personally on somebody getting back into the workplace. The strength of cross sector collaboration was highlighted by the reviewers, which helped the fellowship application to be successful. I've also secured funding for an MRC Industrial CASE studentship, which was also very much an output of FLIER through the focus on cross sector working.

#### **How has the FLIER programme impacted your personal development in the last year?**

The awareness of, and thinking through, various approaches to leadership, has made me more open and ready to listen to others, and really consider their situation. I now recognise and appreciate aspects of leaders that I wouldn't have before. The piece around having a shared mission and a vision really struck a chord with me and I can really see other senior leaders who have that, and the differences it has on the motivation of their group members, and their outputs and impact.

FLIER has definitely boosted my confidence. I'm less anxious about taking on challenges and I've been focusing on how to improve my influencing skills and messaging. I've had some nice examples where I've been able to put that into practice recently through joining various committees. Having increased confidence has led to me being asked to take on these responsibilities where I've been able to influence decisions. These are good examples of responsibilities I've taken on where before FLIER I might have thought that I wouldn't be able to contribute enough. But now I feel really comfortable sitting on those committees and voicing my opinion.

I do a lot of influencing on what plans we put in place for a particular risk and how to mitigate it and I think I've got better at that. Coming from academia, I was on a very steep learning curve, being deep in the data and the detail. I've had to change how I message that to very busy senior leaders, concisely summarising a huge amount of data into a key recommendation. Part of that is just learning by doing, by sitting on these projects and seeing others and realising what's needed. But it's also intertwined with confidence, which I have gained from FLIER.

#### **How would you describe the impact the FLIER programme has had on your career?**

My role involves working in both industry and academia, which brings benefits to both sectors through access to new science, networks and broadening scientific thinking. FLIER has had a huge impact on my career, because it came at just the right time when I had moved into roles in both sectors, but didn't have the support network that FLIER has given me. FLIER has really boosted the importance of this cross sector appointment and how to leverage it to get the best out of it for science and for both employers. The programme has a lasting impact if it influences the direction you go in, retaining commitment to, and building, cross sector collaboration.

#### **How has FLIER helped expand your network?**

It's made me focus more on who to reach out to in the various sectors. For instance, I now work very closely with partnership groups at both employers, which exist to identify partnering opportunities. This has allowed me to tap into funding to support cross sector activities.

FLIER has strengthened my focus on cross sector collaboration. I put myself forward to sit on the Academy's Working Group to develop a new scheme to support cross sector working. This is a really interesting problem to address - it has exposed me to a broader network and I think I'll learn a lot from that experience.

One of the key positives of FLIER is that very strong peer group. Even though we weren't able to see each other face to face as much as was planned, it seems to have worked very well - even via WhatsApp,

remarkably. Within the new FLIER network, I've provided advice to a participant from my cohort who was also keen to work across industry and academia.

## CH2D – Cohort 2 participant

### **What attracted you to join FLIER programme?**

I've always been interested in technology brokerage. For the last ten years, I've been trying to establish myself at the interface between academia and biotech. Before joining FLIER, I didn't really have the words to express the frustrations of not being understood in trying to connect the two sectors and progress translational research. I recall the interview for FLIER being like an epiphany, because finally, people understood what I was trying to say.

### **What activities in FLIER have you found most valuable?**

To me, the programme provides three important areas of support. The first is the peer mentoring, which has been incredible. The big discussions held across the group of participants have been excellent and I'm also very proud that we made connections between the two cohorts. FLIER's leadership course is the best that I've done, which is helped particularly by running it over two years. And access to the Academy's network has been a very important part of the programme.

The thought leadership sessions have been excellent. Using real examples from other people to bring the leadership framework to life has helped to really understand its value. Overall, Cirrus has been fantastic - they have catered for our needs and enabled us to steer the programme where it was most needed.

I found that the coaching sessions in the first year and the quarterly workshops in the second year were both great. In particular, the sessions when we could work together in small groups were all very valuable, because the groups changed, which helped in getting to know everyone.

During the first lockdown, like many others I was trying to cope with a lot of different things at the time, plus I was also transitioning into my new role. During this time, FLIER was like an anchor. The coaching sessions were brilliant in that period.

Overall, I have been able to engage fully in the FLIER programme alongside my work commitments. My cross-sector project has matured significantly, particularly helped by input from a colleague in the first cohort.

### **How has the FLIER programme impacted your personal development in the last year?**

The sheer understanding of what is expertise management and leadership was something that I really didn't have before. For example, you can think that you are the best builder, but you're not going to be an architect, because that is a different role. In particular, it has been good to work with people from other sectors, to coordinate plans and learn together as a whole group.

FLIER has helped me to increase my focus on impact, and I have now a clearer vision about whether engaging in something would be valuable or wasted time. For example, there are a lot of opportunities to build your career and also opportunities to build actual work and you have to do a bit of both. If you focus on just following the career path and not the work, then it becomes quite empty.

During the early months of the pandemic, I took on a risky project that focussed on getting a practical application into the real world. Before FLIER, I would not have jumped at this so confidently, and the experience has turned out to be the real driver for me to work more in industry.

My ability to develop entrepreneurial activities was helped considerably by the finance training, which was outstanding - the lecturer was absolutely brilliant. Furthermore, just seeing how the different roles within the FLIER cohort intersect with industry has been insightful, and in particular one participant has helped me to set up a company.

### **How would you describe the impact the FLIER programme has had on your career?**

FLIER is one of the best things that I've ever done, for sure. The programme offers a route to accessing other people and to obtaining feedback on whether what you're thinking makes sense or not. Being part of FLIER

also provides kudos. The 18 people in my cohort are all really talented - seeing us all move forwards together helps overcome imposter syndrome through group feedback and self-reassurance.

After joining FLIER, I managed to secure a permanent position at my university, establishing myself on an academic career track. I have also secured a senior position in a young start up company that recently received substantial funding. This venture is extremely exciting and something that I'm really proud of.

#### **How has FLIER helped expand your network?**

My network has certainly expanded and I have become more systematic in making new connections. I also think that senior Fellows at the Academy are more reachable now than before I joined FLIER, so that's definitely a big plus. Through the cohort, I am now better informed about roles in the charity sector or data science or nursing for example, which helps me to have conversations with different people in those areas.

During the last year I've made more connections with people in the first cohort, which has been helped by people from both cohorts joining informal catch-ups on Friday afternoons through Zoom. These sessions are completely unstructured, and can involve somebody presenting something, or just having a nice chat where people come and go.

There are many cases where participants have offered advice and support to each other. In my case, I received some really good pieces of advice to help resolve a personnel issue at my work. And in another case, a participant received valuable advice that helped them in a job interview for a more senior role. Overall, this type of group support through mentoring and coaching has been very helpful.

## **CH2E – Cohort 2 participant**

#### **Has your role changed since joining the FLIER programme, and if so, how?**

In the last year, I applied for and was appointed to a more senior position at my organisation. My role and work pattern have changed a lot, as I now have responsibilities across two organisations. Since this is a new role, with no legacy of anyone in the position before, there is quite a lot of work to be done and infrastructure to be developed. I have also taken on the role of Editor in Chief for a major international journal.

#### **What activities in FLIER have you found most valuable?**

FLIER helped a lot when I was applying for my new position. I found the coaching sessions particularly helpful, as they provided the opportunity to reflect. I always left them feeling positive.

The other participants in FLIER have also been very helpful. Whilst we only met once face to face, we gelled together really well in our cohort through the WhatsApp group and online meetings. Members of the group have been very supportive to each other, and they really helped me prepare for the interview. We arranged extra workshops where colleagues asked me questions and challenged me on my responses, like a mock interview. Being in different institutions helps a lot in terms of being able to share your thoughts and being able to talk to each other openly. We've learned a lot from each other.

#### **How has the FLIER programme impacted your personal development in the last year?**

One of the biggest things I learned through the whole FLIER programme, is that people experience the same kind of difficulties, and you're not on your own. It can be quite a lonely place at the level where we work and it has been very helpful to have a group of people who understand your position. It helped me to understand that other people have similar questions and experience imposter syndrome. I also learned the importance of recognising your own abilities and strengths, and being proud of these. This also helps you understand where you stand - what your strengths and limitations are – supporting your learning and development.

I feel that in my career to date there has been a significant emphasis placed on leadership development. Reflection, self-awareness and emotional intelligence have all formed an important part of me and my roles. I think that it is important to empower the people you work with and help them to understand the value of these skills to build confidence in themselves.

When applying to the FLIER programme, one objective for me was to be able to manage imposter syndrome, and that has definitely happened. FLIER has also made me realise that people juggle multiple responsibilities all the time, and that it's okay to relax sometimes and be kind to yourself. The programme has also helped me

to develop my decision-making style, by engaging and involving others more. Overall, I think that I have more confidence and more awareness.

**How would you describe the impact the FLIER programme has had on your career?**

FLIER has been useful in building my confidence to go for things which I probably wouldn't have otherwise. Whilst I wasn't necessarily expecting to be successful in the bigger roles which I applied for, FLIER gave me the confidence to go for it, to take the risk and see what happens. The preparation and support provided through the programme and its participants was definitely helpful.

**How has FLIER helped expand your network?**

The participants in FLIER have all come from various different sectors, which has been very useful, because now I have contacts with quite a lot of other people. I've also learned a lot from participants in the first cohort, by seeing what was happening in their projects. We have the regular slots to meet up on Friday's, which I try to go to sometimes. I think that our peer group will stay in touch in the future and will continue to be useful. I also think it would be helpful to have opportunities that bring people together in person annually.

**How might FLIER be developed or improved?**

Whilst I found the coaching sessions very useful, for me, they could have been held a bit less frequently, such as quarterly instead of monthly. I think that this will depend on individual needs. The programme could provide participants with a wider experience of different management and leadership theories and literature, beyond the one model / concept that was presented. It would also be helpful for the programme to contain more content about pitching, which is an important communication skill for people developing as leaders. Many people who join these kinds of programmes can be quite introverted, and may have struggled to come to the front when the opportunity arises.



# Appendix 6: About Aleron

Aleron is a social impact consultancy. Using robust evidence and creative collaboration, we tailor our support to best suit the needs and purpose of the organisation. Together with our clients, we accelerate innovation and build the capabilities of people, processes and technologies, to target and enable positive impact and lasting change.

Aleron was founded in 2010 to bring a new approach to creating positive and sustainable change around the world. Since then, we have successfully delivered over 500 projects with more than 100 organisations, ranging from start-up impact ventures and corporates through to leading medical research non-profits and multi-million pound foundations. Our team brings a unique blend of expertise, from strategy and finance to advocacy and operations, with a commitment to analytical rigour and generating actionable insight.

## **Our approach**

Everything we do, from strategy development to service design, is informed by evidence and data-driven insight. We work together with our clients to realise their ambitions and build their capacity for sustainable impact.

*Sustainable impact* – We help our clients assess how they can create the greatest value and improve their impact, while building the capacity of the people, processes and technology needed to sustain it.

*Analytical rigour* – Our work is robustly evidence-driven. We approach challenges head-on, gathering and using data to gain unique and innovative insight, helping our clients make smarter decisions while tackling complex issues.

*Coproduction* – We believe in genuine collaboration with our clients, and the partners and audiences that matter to them. With a shared vision and integrated ways of working, we are able to accelerate innovation and create change.

## **Our services**

*Strategy* – We help clients develop organisational and functional strategies. We analyse internal and external challenges and opportunities, and identify the levers to deliver their ambitions.

*Implementation & Change Management* – We work with our clients - from CEOs to frontline staff - and the audiences that matter to them, to successfully implement new programmes and ways of working and build internal capabilities.

*Impact & Performance Management* – We build bespoke frameworks and tools to measure and track impact and performance, facilitating the ongoing management and improvement of operations to maximise impact.

*Social Investment* – We support and facilitate access to social capital by helping organisations to raise social investment, launch social impact bonds and impact funds, and develop start-up incubators.

*Operational & Financial Performance* – From conducting efficiency reviews to designing new services and operating models, we partner with our clients to improve their operational and financial performance.

*People Management & Engagement* – We support our clients to attract, retain and develop their people and teams, creating an engaging environment that maximises individual and collective potential.

*Reporting & Evaluation* – We deliver independent and objective services to evaluate the effectiveness of programmes, activities and pilots, and enable organisations to clearly report on their impact and performance.

*Mergers & Integration* – From identifying and evaluating merger opportunities through to supporting merger integrations, we help our clients to develop and successfully implement their growth strategies.

## **Our clients**

We work and partner with a range of diverse organisations who are unified in their desire to create positive change.



Our team combines the enthusiasm, energy and experience required to deliver true impact for our clients. We come from diverse backgrounds – ranging from NGOs and government through to global consulting firms and banks – and are connected by a shared mission and commitment to making a positive change in society.

To find out more about Aleron, visit our website [here](#).

# Appendix 7: About Freshney Consulting

Freshney Consulting was established in 2013. Led by Dr Norman Freshney, its goals are driven by a genuine desire to enable organisations to harness the potential of medical research for the benefit of public health and society. Freshney Consulting works with a range of medical research organisations – particularly funders – to strengthen their approach, achieving more impact for their beneficiaries. In particular, expertise is provided to develop their research strategy, devise and evaluate funding mechanisms.

Freshney Consulting provides a range of services:

- Develop strategy within medical research fields, identifying research priorities in specific disease or subject areas;
- Evaluate research impact, outcomes and outputs;
- Identify and develop new funding initiatives or research partnerships;
- Identify gaps, resolve challenges and test the feasibility of new initiatives;
- Establish research management governance and advisory structures;
- Translate / communicate research ambitions into strategies to engage public support.

With extensive experience of research management and policy development, Norman has worked in charity, government and academic sectors in the UK and USA. He was Director of Research Management for Breakthrough Breast Cancer (2006-13), at the time, the UK's largest charity dedicated to breast cancer research. In this role, he developed and led an innovative strategy that stimulated collaborative working in translational cancer research, allocating £50m over 5 years towards tangible improvements in diagnosis and treatment. Norman's experience is underpinned by academic research at prestigious research institutions in Cambridge, London and Boston.

Employing a highly collaborative approach, Norman enables clients to develop strategic goals and research priorities, pinpointing key challenges and new opportunities for focussed action. By gathering insight from a wide range of stakeholders - senior scientists, clinicians, policy makers, health professions, funders and patients - he designs strategies and conducts evaluations to identify challenges, set goals and assess progress against these.

Previous and existing clients include:

- The Academy of Medical Sciences ([www.acmedsci.ac.uk](http://www.acmedsci.ac.uk))
  - Scoping Exercise to develop a new cross-sector mobility programme in the biomedical sciences
  - Evaluation of the Springboard Scheme for Biomedical Scientists
  - Scoping Exercise to develop a new Trans-disciplinary Fellowship Scheme to advance public health research
  - Evaluation of the Starter Grants for Clinical Lecturers Scheme
  - Review of the Spring Meeting for Clinician Scientists in Training
  - Evaluation of the INSPIRE programme for Medical, Dental and Veterinary Students
  - Landscape Review for Population and Public Health Research
  - Scoping Exercise for developing a Starter Grants scheme in the Medical Humanities and Medically-Related Social Sciences
  - Review of the Daniel Turnberg UK/Middle East Travel Fellowship Scheme
- The Health Foundation (<https://www.health.org.uk>):
  - User review and evaluation of open call research and improvement programmes
  - Business case for developing a new Visiting Researcher Fellowship Programme
- Great Ormond Street Hospital Charity / Sparks - Review of Research Strategy
- The Institute of Cancer Research ([www.icr.ac.uk](http://www.icr.ac.uk)) - Strategy Review
- The Royal British Legion ([www.britishlegion.org.uk](http://www.britishlegion.org.uk)) - Research Funding Review
- Target Ovarian Cancer ([www.targetovariancancer.org.uk](http://www.targetovariancancer.org.uk)) - Review of Research Strategy
- Anthony Nolan ([www.anthonynolan.org](http://www.anthonynolan.org)) - Review of Research Strategy
- Brain Research Trust ([www.brt.org.uk](http://www.brt.org.uk)) - Review of Research Strategy

- Association of Research Managers and Administrators ([www.arma.ac.uk](http://www.arma.ac.uk)) - Scoping exercise for training and development; Webinar on Research Strategy Development
- Crohn's and Colitis UK - Review of Research Strategy
- Breast Cancer Campaign - Review of National Breast Cancer Tissue Bank