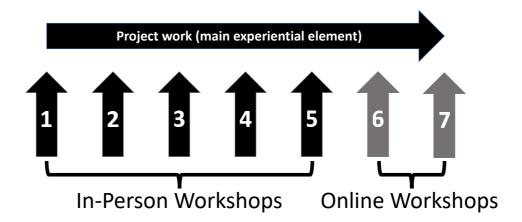
Supplementary Figure 1



Supplementary Figure 1: Next Generation Leaders Programme structure. Five workshops (black) were conducted in person, with two workshops (grey) moved online during the Covid-19 pandemic. The team project continued throughout the course, as a longitudinal experiential component.

Supplementary Table 1

Programme Methods and Co	Programme Methods and Content mapped to the Primary Colours Model								
Programme Methods	Primary Colours Task								
Guest Speakers (Fireside Chats)	Inspire								
Taught Content	Focus								
Leadership Project Work	Enable, Reinforce, Learn								
Programme Content	Primary Colours Domain								
Leadership Theory	All domains								
Medical Leadership	All domains								
Building Better Teams: the	Teamworking, Relationships								
fundamentals of team dynamics									
Stakeholder Analysis (Influence	Creating Alignment								
Mapping)									
Building Sustainable Change	Planning and Organising								
Conflict Styles	Relationships								
Managing Conflict/Mediation	Relationships, Creating Alignment								
Making Better Decisions	Planning and Organising								
Influencing	Setting Strategic Direction, Creating Alignment								
Negotiation	Creating Alignment, Teamworking, Relationships								
Bullying and Harassment: how to	Teamworking, Relationships								
recognise & manage it									
Healthcare Leadership, Innovation	Strategy, Planning and Organising, Delivering								
and Finance	Results								
Partnership Working	Delivering Results								

Supplementary Table 1: Mapping of the programme methods and content to the primary colours model. Programme methods describe the overarching types of content within the programme. Programme content examines titled taught content of the programme.

Questionnaire Design

Primary Colour Questionnaire

The Primary Colours Questionnaire (PCQ) was developed based on Pendleton and Furnham's Primary Colours model [1]. The Primary Colours model is rooted in distributed leadership theory and consists of six leadership domains (from the overlap of strategic, interpersonal and operational domains) and five leadership tasks. During the development of the PCQ, descriptors for each of the domains and tasks were adapted into single-item questions and rated on a 10-point Likert scale, as shown in Supplementary Material 3.

The PCQ was reviewed for clarity by a leadership expert and a layperson and revised to increase question clarity and face validity. The questionnaire was then piloted in the first cohort of the Emerging Leaders Programme. Results from this pilot aligned with a multimethods evaluation (to be published in a further paper). As there are no established questionnaires which evaluate the PCQ outcomes, it was not possible to assess criterion or concurrent validity.

The Medical Leadership Competency Framework Self-Assessment

The Medical Leadership Competency Framework Self-Assessment (MLCFQ) was developed alongside with MLCF and published by the NHS Leadership Academy [2]. This self assessment tool was initially intended for individuals to reflect on which areas of the framework they should develop further. The original self-assessment used a traffic-light rating rather than a Likert scale. To increase the discriminative power of the self-assessment, we matched each question with a 7-point Likert scale, as shown in Supplementary Material 4.

References

- Pendleton D, Furnham A. *Leadership : all you need to know*. Second edi. Basingstoke: : Palgrave Macmillan 2016.
- 2 NHS Leadership Academy. Medical Leadership Competency Framework: Self assessment tool. 2012.



Medical Leadership Competency Framework Self-Assessment

Page 1: Medical Leadership Competency Framework

Domain 1

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I reflect on how my own values and principles influence my behaviour and impact on others.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I seek feedback from others on my strengths and limitations and modify my behaviour accordingly.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	

I remain calm and focused under pressure.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I plan my workload and deliver on my commitments to consistently high standards demonstrating flexibility to service requirements.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I actively seek opportunities to learn and develop.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I apply my learning to practical work.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	O	0	0
BEFORE the programme	0	0	0	0	O	0	0

I act in an open, honest and inclusive manner - respecting other people's culture, beliefs and abilities.

|--|

AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I speak out when I see that ethics or values are being compromised.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

Page 2: Medical Leadership Competency Framework

Domain 2

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I identify opportunities where working collaboratively with others will bring added value to patient care.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I share information and resources across networks.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I communicate clearly and effectively with others.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I listen to and take into account the needs and feelings of others.

	1	2	3	4	5	6	7	
--	---	---	---	---	---	---	---	--

AFTER the programme	0	0	O	0	O	0	0
BEFORE the programme	0	0	0	0	0	0	0

I actively seek contributions and views from others.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I am comfortable managing conflicts of interests or differences of opinion.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I put myself forward to lead teams, whilst always ensuring I involve the right people at the right time.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I acknowledge and appreciate the efforts of others within the team and respect the team's decision.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

Page 3: Medical Leadership Competency Framework

Domain 3

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I use feedback from patients, service users and colleagues when developing plans.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I assess the available options in terms of benefits and risks.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I deliver safe and effective services within the allocated resource.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I take action when resources are not being used efficiently and effectively.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0

BEFORE the programme	0	0	0	0	0	0	0

I support team members in developing their roles and responsibilities.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I provide others with clear purpose and direction.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I analyse information from a range of sources about performance.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	O	0	0
BEFORE the programme	0	0	0	0	0	0	0

I take action to improve performance.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

Page 4: Medical Leadership Competency Framework

Domain 4

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I take action when I notice shortfalls in patient safety.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I review practice to improve patient safety and minimise risk.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I use feedback from patients, carers and service users to contribute to improvements in service delivery.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I work with others to constructively evaluate our services.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I put forward ideas to improve the quality of services.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I encourage debate about new ideas with a wide range of people.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I articulate the need for change and its impact on people and services.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I focus myself and motivate others to ensure change happens.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

Page 5: Medical Leadership Competency Framework

Domain 5

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I identify the drivers of change (e.g. political, social, technical, economic, organisational, professional environment).

	1	2	3	4	5	6	7
AFTER the programme	O	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I anticipate future challenges that will create the need for change and communicate these to others.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I use data and information to suggest improvements to services.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I influence others to use knowledge and evidence to achieve best practice.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I consult with key people and groups when making decisions taking into account the values and priorities of the service.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I actively engage in formal and informal decision-making processes about the future of services.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I take responsibility for embedding new approaches into working practices.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I evaluate the impact of changes on patients and service delivery.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0

Page 6: Medical Leadership Competency Framework

Domain 6

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I actively engage with others (including patients and public) to determine the direction of the organisation.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I take into account the full range of factors that will impact upon the future of health and care services.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I look for opportunities to engage in debate about the future of healthcare.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I influence key decision makers who determine future government policy that impacts the NHS and its services.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I communicate the vision with enthusiasm and clarity.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I take time to build critical support for the vision.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	O
BEFORE the programme	0	0	0	0	0	0	0

I show confidence, commitment and passion for the vision in my day to day actions.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I challenge behaviours, symbols & rituals which are not consistent with the vision.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

Page 7: Medical Leadership Competency Framework

Domain 7

Please rate how strongly you agree or disagree with the following statements from 1=strongly disagree to 7=strongly agree

I draw on relevant thinking and best practice to inform strategy development.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I use an understanding of the history and culture of the organisation to create a realistic strategy.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I engage with a wide range of stakeholders when formulating strategic plans.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I mitigate uncertainties and risks associated with strategic choices.

	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

AFTER the programme	0	0	0	0	O	0	0
BEFORE the programme	0	0	0	0	0	0	0

I ensure strategic plans are translated into workable operational plans.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	

I establish clear accountabilities for delivery of all elements of the strategy.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I help others to overcome obstacles and challenges in delivering the strategy.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0

I monitor progress of the strategic outcomes and make adjustments where necessary.

	1	2	3	4	5	6	7
AFTER the programme	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0



Primary Colours Questionnaire

Page 1: Primary Colours Questionnaire: Domains of Leadership

Setting Strategic Direction

	How would you rate your knowledge of trust strategy? From 1 (very poor) to 10 (excellent)										
	1	2	3	4	5	6	7	8	9	10	
AFTER the programme	0	0	0	0	0	0	0	0	0	0	
BEFORE the programme	0	0	0	0	0	0	0	0	0	0	

Creating Alignment

	How would you rate your commitment to the trust's aims? From 1 (very poor) to 10 (excellent)										
	1	2	3	4	5	6	7	8	9	10	
AFTER the programme	0	0	0	0	0	0	0	0	0	0	
BEFORE the programme	0	0	0	0	0	0	0	0	0	0	

Building and sustaining relationships - Hospital Managers

		How would you rate your relationship with hospital managers ? From 1 (very poor) to 10 (excellent)											
	1	1 2 3 4 5 6 7 8 9 10											
AFTER the programme	0	0	0	0	0	0	0	0	0	0			
BEFORE the programme	0	0	0	0	0	0	0	0	0	C			

Building and sustaining relationships - Hospital Doctors

	How	How would you rate your relationship with hospital doctors ? From 1 (very poor) to 10 (excellent)											
	1	1 (very poor) to 10 (excellent) 1 2 3 4 5 6 7 8 9 10											
AFTER the programme	0	0	0	0	0	0	0	0	0	0			
BEFORE the programme	0	0	0	0	0	0	0	0	0	0			

Team working

	How	How would you rate your ability to increase discretionary effort in a team? From 1 (very poor) to 10 (excellent)											
	1	1 2 3 4 5 6 7 8 9 10											
AFTER the programme	0	0	0	0	0	0	0	0	0	0			
BEFORE the programme	O	0	0	0	0	0	0	0	0	C			

Planning and organising

	How	How would you rate your ability to break down work into objectives and tasks? From 1 (very poor) to 10 (excellent)											
	1	1 2 3 4 5 6 7 8 9 10											
AFTER the programme	0	0	0	0	0	0	0	0	0	0			
BEFORE the programme	0	0	0	0	0	0	0	0	0	0			

Delivering Results

	Hov	How would you rate your ability to generate valid and measurable outputs for projects? From 1 (very poor) to 10 (excellent)											
	1	1 2 3 4 5 6 7 8 9 10											
AFTER the programme	0	0	0	0	0	0	0	0	0	0			
BEFORE the programme	C	0	0	0	0	0	0	0	0	0			

Page 2: Primary Colours Questionnaire: Tasks of Leadership

Inspire: motivating people to buy in to change

	How would you rate your ability to inspire others? From 1 (very poor) to 10 (excellent)											
	1	2	3	4	5	6	7	8	9	10		
AFTER the programme	0	0	0	0	0	0	0	0	0	O		
BEFORE the programme	0	0	0	0	O	0	0	0	0	O		

Focus: knowing where to place effort for maximum benefit

	How would you rate your ability to focus others? From 1 (very poor) to 10 (excellent)										
	1	2	3	4	5	6	7	8	9	10	
AFTER the programme	0	0	0	0	0	0	0	0	0	0	
BEFORE the programme	0	0	0	0	0	0	0	0	0	O	

Enable: equipping people to handle the discretion they are given, and supporting their actions

	How	How would you rate your ability to enable others? From 1 (very poor) to 10 (excellent)										
	1	2	3	4	5	6	7	8	9	10		
AFTER the programme	0	0	0	0	0	0	0	0	0	O		

BEFORE the					
programme					

Reinforce: ensuring that good performance is rewarded, those who are struggling are helped, and persistent poor performance is appropriately addressed

	How would you rate your ability to reinforce performance in others? From 1 (very poor) to 10 (excellent)									
	1	2	3	4	5	6	7	8	9	10
AFTER the programme	0	0	0	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0	0	0	0

Learn: showing commitment to learning and development, and fostering a learning environment

	How would you rate your ability to help others learn? From 1 (very poor) to 10 (excellent)									
	1	2	3	4	5	6	7	8	9	10
AFTER the programme	0	0	0	0	0	0	0	0	0	0
BEFORE the programme	0	0	0	0	0	0	0	0	0	0