

# **Fostering Leadership and Innovation in UK Healthcare: Insights from the NHS Clinical Entrepreneur Programme and Application of Clinical Leadership Models.**

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# Fostering Leadership and Innovation in UK Healthcare: Insights from the NHS Clinical Entrepreneur Programme and Application of Clinical Leadership Models.

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## Abstract

This research paper explores the role of the NHS Clinical Entrepreneur Programme (CEP) in promoting leadership and innovation within the UK healthcare system and examines how clinical leadership models can be applied to the CEP. By investigating the programme's objectives, structure, and impact, the paper highlights how the CEP aligns with the global strategy on digital health 2020-2025. The research draws upon academic literature, programme evaluations, and case studies to demonstrate the CEP's effectiveness in retaining talented professionals, changing innovation culture, encouraging collaboration, and addressing healthcare challenges. The paper also discusses the potential hurdles and challenges in achieving leadership within the context of available leadership theories and models.

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## Original Manuscript

**Title**

Fostering Leadership and Innovation in UK Healthcare: Insights from the NHS Clinical Entrepreneur Programme and Application of Clinical Leadership Models.

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**Abstract**

This research paper explores the role of the NHS Clinical Entrepreneur Programme (CEP) in promoting leadership and innovation within the UK healthcare system and examines how clinical leadership models can be applied to the CEP. By investigating the programme's objectives, structure, and impact, the paper highlights how the CEP aligns with the global strategy on digital health 2020-2025. The research draws upon academic literature, programme evaluations, and case studies to demonstrate the CEP's effectiveness in retaining talented professionals, changing innovation culture, encouraging collaboration, and addressing healthcare challenges. The paper also discusses the potential hurdles and challenges in achieving leadership within the context of available leadership theories and models.

**Introduction**

The NHS Clinical Entrepreneur Programme (CEP) in the UK was established in 2016 to support clinicians in developing and implementing innovative solutions to healthcare challenges while remaining within the NHS. As healthcare systems worldwide face increasing pressures to improve quality, accessibility, and sustainability, fostering leadership and innovation has become a critical priority for healthcare systems in developed countries. This research paper aims to examine the role of the CEP in promoting leadership and innovation within the UK healthcare system, how it aligns with the global strategy on digital health, the potential hurdles and challenges in achieving leadership within the context of available leadership theories and models, and how clinical leadership models can be applied to the CEP to enhance leadership development.

Digital health solutions are experiencing rapid growth and are at the forefront of health innovation (Holland Brown 2023). In the context of this dynamic landscape, social responsibility emerges as a critical consideration. Businesses, new innovations, and their supply chains can have a significant impact on society and surrounding ecosystems. Some unethical practices such as child labour, toxic waste dumping, and below-living wages have been uncovered in supply chains connected to NHS organisations (Trueba, Bhutta, and Shahvisi 2021). Embracing social responsibility offers a multitude of benefits to innovations and businesses. It can provide a competitive edge and enhance the reputation of a product or company, strengthening its brand image and positioning it favourably in the market (Singh and Maheswaran 2024). Socially responsible initiatives enable companies to actively engage with their communities and potential customers, fostering strong relationships and building trust (Holland Brown 2023).

A recent study has identified 8 major social barriers to digitisation in supply chain management: (1) work circumstances, (2) risk aversion, (3) change resistance, (4) fragility and perception, (5) legacy and culture (6) lack of employee incentives (7) privacy and security issues (8) employment disruptions (Singh and Maheswaran 2024). The results indicate that work-related circumstances and employment disruptions are the most prominent social barriers (Singh and Maheswaran 2024).

The CEP is the largest healthcare workforce initiative of its kind (Holland Brown 2023). It is operated by the Accelerated Access Collaborative (AAC) of National Health Service (NHS) England (Holland Brown 2023). However, there is controversies with regards to delivering an entrepreneurship educational program and training within the framework of creating and

fostering entrepreneurship skills. Within undergraduates in business a recent study revealed that students receiving an entrepreneurship educational program showed lower satisfaction than those studying for other business degrees, indicating a potential impact of unique pedagogies (Rogers-Draycott et al. 2024).

While CEP takes a commendable step forward by holding entrepreneurs accountable for adopting a socially responsible approach, the question remains: is this enough without comprehensive training and education in entrepreneurship? Innovation in digital healthcare requires a solid foundation built on socially responsible principles, which can be encapsulated by the acronym BASE (Holland Brown 2023). BASE emphasises the importance of considering the “Benefit” to society, “Advocacy” for and accountability to patient groups or communities, “Social purpose” including “Sustainability” across the supply chain, and “Ethical” leadership by Empowering, Educating, and Enabling others (Holland Brown 2023).

This research offers the proposal that to truly embed the BASE principles into the core of digital healthcare innovations, entrepreneurs need more than just accountability. They require comprehensive training and education that equips them with the knowledge, skills, and mindset to navigate the complex landscape of social responsibility.

### **The challenges of innovating in the NHS**

Historically, innovation within the NHS has faced numerous challenges, including resistance to change, concerns about increased workload, and professional barriers. A report identified the following 5 barriers that are slowing or hindering the adoption of innovation within the NHS (Kelly and Young 2017). The first barrier is pressures involving front-line clinical leadership engagement. Second barrier is the need for pathway redesign, resource allocation and clinical capacity. The third barrier is funding allocations. Fourth barrier is the public expectation. The fifth barrier is failure and challenges that can arise from the adoption stages of innovation within the NHS. Clinical entrepreneurs often encounter barriers such as role constraints, limited resources, and lack of senior support (Kelly and Young 2017). These challenges can lead to a sense of dissociation from professional identity and a temptation to leave the NHS to pursue innovative ventures independently.

The NHS is a reserve of unlimited human resources, with countless staff members possessing brilliant ideas to enhance the system and transform the patient experience. To fully harness the power of these ideas and bring about meaningful change, it is imperative that a culture that nurtures innovation and empowers both staff and patients to actively participate in the innovation process is encouraged. This requires a new generation of healthcare leaders.

Fortunately, many of the essential building blocks for a more innovative culture are already present within the NHS. These foundational elements serve as a solid starting point from which the organisation can further develop and refine its approach to innovation. By leveraging these existing assets and implementing targeted initiatives to promote innovation, the clinical leadership can accelerate the pace of positive change and deliver better outcomes for both staff and patients alike.

### **The role of the CEP in retaining talent and fostering innovation**

The CEP addresses these challenges above by providing a supportive framework for clinical entrepreneurs to develop their ideas while maintaining their connection to the NHS (Holland Brown 2023). The CEP seems to be an effective way for healthcare organisations to attract and retain talented professionals while benefiting from their innovative contributions. By offering training, mentorship, and resources, the CEP helps mitigate the barriers faced by clinical entrepreneurs, thereby reducing the risk of a “brain drain” from the NHS and turn it into a “brain gain” (Young 2018).

However, voices within the NHS CEP framework have raised concerns that the innovation

in the English NHS is “too focused on individual ideation and invention and commercialisation relying on a fast-paced world of start-ups, incubators, accelerators, and courageous entrepreneurs” (Williams 2023). It seems that the “approach to innovation in the NHS today lacks key behavioural and organisational components that are vital for long term benefit” (Williams 2023). The fundamental aspect of innovative practices should enable the NHS staff to “benefit from the ambition and optimism that innovations can offer” (Williams 2023).

To drive successful innovation in healthcare, healthcare leaders must adopt a holistic approach that goes beyond merely investing in the development of new technologies. As the saying goes, it is essential to “fund the changes, not just the tech” (Williams 2023). This means allocating resources not only to the initial creation of innovative products but also to the critical process of making these innovations more useful and widely adoptable within the healthcare system.

Investing in the sustained adoption and scale-up of innovations is crucial to realising their full potential and ensuring that they deliver meaningful benefits to patients and healthcare providers alike. This requires providing staff with the necessary resources, training, and support to effectively integrate new technologies and practices into their daily work. By empowering healthcare professionals to embrace and champion innovation, leaders can create a culture that values continuous improvement and adapts to the evolving needs of the healthcare landscape.

Moreover, fostering opportunities for the exchange of ideas and support among healthcare professionals is essential to driving innovation forward. By creating platforms and networks that enable the sharing of best practices, lessons learned, and collaborative problem-solving, healthcare leaders can accelerate the spread of successful innovations and build a community of change agents across the health service.

To achieve these goals, the health service can look to other initiatives that have successfully implemented similar approaches. By studying and adapting the strategies employed by these exemplars, healthcare leaders can gain valuable insights into effective methods for funding, supporting, and scaling innovation within their own organizations. Through a combination of targeted investment, staff empowerment, and knowledge sharing, the healthcare system can unlock the full potential of innovation to transform patient care and drive meaningful improvements in health outcomes.

In light of the challenges faced by clinical leaders in adopting innovation within the NHS, it is crucial to examine the CEP's ability to foster a socially responsible entrepreneurial ethos among its participants. The CEP must not only focus on developing innovative products and services but also on equipping clinical entrepreneurs with the knowledge, skills, and mindset necessary to drive meaningful, sustainable change within the healthcare system.

To achieve this, the CEP should prioritise comprehensive training and education that emphasises the broader benefits of innovation beyond personal gain. While the allure of fame or financial rewards may motivate some individuals to pursue entrepreneurship, it is essential to cultivate a deeper understanding of the potential for innovation to transform patient care, improve health outcomes, and create value for the NHS as a whole.

By instilling a sense of social responsibility and a commitment to the long-term success of the NHS, the CEP can help clinical entrepreneurs view their innovations as a way to enhance the healthcare system rather than as a personal “bail out” or a “sale in” opportunity. This shift in mindset is crucial to ensuring that innovations are developed and implemented with the primary goal of benefiting patients and the NHS, rather than serving as a stepping stone for individuals to “retire” from clinical practice if innovations are financially rewarding.

Furthermore, the CEP must actively work to counter the perception that the NHS is a

fallback option for failed entrepreneurial ventures. Instead, the program should foster a culture that values the unique insights and experiences of clinicians and encourages them to apply their expertise to drive innovation from within the NHS. By providing clinical entrepreneurs with the support, resources, and networks necessary to navigate the complex landscape of healthcare innovation, the CEP can help them build successful, sustainable ventures that align with the values and goals of the NHS.

### **Changing innovation culture in the NHS**

The CEP has contributed to a shift in the NHS's culture towards embracing and supporting innovation. As the number of CEP alumni grows, with many taking on leadership roles related to innovation, transformation, and clinical improvement, the programme is helping to create an environment more conducive to the adoption and scaling of innovative solutions within the NHS (Young 2018). This cultural shift aligns with the global strategy's emphasis on strengthening health systems through the application of digital health technologies (Cascini et al. 2023).

The UK healthcare system offers a diverse range of support options for innovators seeking to develop and implement new ideas and technologies. However, the current landscape of innovation support is characterized by a significant degree of fragmentation and redundancy (Arora et al. 2021). While the availability of numerous support pathways demonstrates a commitment to fostering innovation within the healthcare sector, the lack of coordination and streamlining among these initiatives can lead to inefficiencies and confusion for innovators. The presence of overlapping or duplicative support services can make it challenging for innovators to navigate the complex web of resources and identify the most appropriate assistance for their specific needs. This fragmentation and redundancy can result in a suboptimal allocation of resources, as multiple organisations or programs may be working towards similar goals without effectively collaborating or sharing best practices. Additionally, innovators may find themselves expending valuable time and energy in navigating the various support options, potentially diverting their focus from the critical task of developing and refining their innovations.

The Accelerated Access Collaborative (AAC), established in May 2019, is the umbrella body across the UK health innovation ecosystem (Arora et al. 2021). The AAC runs and coordinates a number of programmes across the UK innovation ecosystem including the CEP (Arora et al. 2021).

The CEP provides a comprehensive suite of support services designed to help healthcare professionals transform their innovative ideas into tangible products and thriving businesses that ultimately benefit NHS patients. At the core of the programme lies a three-pronged approach: expert mentoring, exclusive networking opportunities, and tailored training.

Through one-on-one mentoring sessions with experienced entrepreneurs and industry leaders, participants receive invaluable guidance and support in navigating the complexities of the innovation process. These mentors offer personalised advice, helping clinical entrepreneurs refine their ideas, overcome obstacles, and make informed decisions as they work towards bringing their innovations to market.

In addition to mentoring, the CEP facilitates exclusive networking events that connect participants with a diverse range of stakeholders, including potential collaborators, investors, and key decision-makers within the healthcare sector. These networking opportunities enable clinical entrepreneurs to forge valuable relationships, exchange ideas, and gain insights into the latest trends and best practices in healthcare innovation.

To equip participants with the necessary skills and knowledge to succeed as entrepreneurs, the CEP offers a bespoke training curriculum that covers all essential aspects of setting up and running a small business. This comprehensive training programme includes modules on attracting investors, applying for funding, and ensuring appropriate corporate



governance. However this program is delivered in a commercialisation mentality perspective with a “dragon’s den” setting and a “big pitch” staged presentations to attract investors.

Through workshops, seminars, and case studies, clinical entrepreneurs learn how to effectively pitch their ideas to potential investors, navigating the intricacies of the funding landscape and securing the financial resources needed to bring their innovations to fruition. The curriculum also places a strong emphasis on corporate governance, ensuring that participants are well-versed in the legal and ethical considerations involved in running a successful and compliant business.

Therefore, has the CEP since its inception managed to change the culture of innovation within the NHS? The CEP has created an impact on innovation within clinicians since its inception in 2016. The CEP has contributed to a notable shift in attitudes and practices surrounding healthcare innovation, however these shifts are not measured or translated to a culture change.

While the Clinical Entrepreneur Programme (CEP) has made efforts to support and empower healthcare professionals in pursuing entrepreneurial ventures alongside their clinical roles, it is important to recognize that the programme has not yet fully succeeded in normalising entrepreneurship within the NHS. The traditional notion that innovation is a distraction from clinical duties persists, and this can be largely attributed to the current state of clinical leadership positions within the NHS frameworks.

To better understand the extent to which innovation is prioritized within the NHS, it is crucial to examine the number of clinical leads on innovation currently in place, as well as their job descriptions, targets, and time allocations. Without enough dedicated clinical innovation leads, each with clearly defined roles and adequate time to focus on driving innovation, it will be challenging to embed a culture of entrepreneurship within the organisation. Furthermore, the lack of awareness and engagement from medical schools within universities regarding the CEP highlights another critical gap in fostering a culture of innovation. It is essential to assess whether clinical leads exist within universities to bridge the divide between clinical practice and innovative practices across the various university pillars. By establishing strong links between academia and the CEP, future healthcare professionals can be exposed to entrepreneurial thinking early in their careers, helping to normalise innovation as an integral part of their professional development.

Another key factor influencing the adoption of innovation within the NHS is the current state of intellectual property rights agreements between different organizations. It is important to examine the benefits and incentives for innovation at both the local hub and national levels. If the rewards for innovation are not clearly defined or equitably distributed, it may discourage healthcare professionals from engaging in entrepreneurial activities, as they may feel that their efforts will not be recognised or appropriately valued. To address these challenges and truly normalise entrepreneurship within the NHS, several steps should be considered:

- 1) Increase the number of dedicated clinical innovation leads within the NHS, ensuring that they have clear job descriptions, targets, and adequate time allocations to focus on driving innovation.
- 2) Engage with medical schools and universities to raise awareness of the CEP and establish clinical leads within these institutions to bridge the gap between clinical practice and innovative practices.
- 3) Review and clarify intellectual property rights agreements between different organisations, ensuring that the benefits and incentives for innovation are clearly defined and equitably distributed at both the local hub and national levels.
- 4) Provide ongoing training and support for clinical leaders to help them champion

innovation within their teams and organisations, fostering a culture that values and encourages entrepreneurial thinking.

- 5) Celebrate and showcase successful examples of clinical entrepreneurship within the NHS, highlighting the impact of innovation on patient care and demonstrating the compatibility of entrepreneurship with clinical excellence.

### **Encouraging collaboration and addressing healthcare challenges**

"In sports, winning is obviously more gratifying than losing" (Bosch and Mansell 2015). However, when it comes to fostering a culture of innovation within the NHS, this mindset can be counterproductive. Instead of focusing on the binary outcomes of "winning" or "losing," the AAC should prioritise building strong interprofessional relationships and empowering innovative clinical leaders to create a collaborative environment that encourages experimentation, learning, and continuous improvement with accountability and reflection.

The CEP does foster a community of innovators where clinical entrepreneurs can share their experiences, learn from each other, and collaborate. This knowledge sharing and collaboration are essential for the development and scaling of successful innovations (Bosch and Mansell 2015). Moreover, clinical entrepreneurs on the CEP are driven by a deep commitment to addressing challenges they have encountered within the NHS (Holland Brown 2023). By developing innovative solutions to these challenges, innovators contribute to improving the quality, accessibility, and sustainability of healthcare services, aligning with the global strategy's vision of improving health for everyone and everywhere (Cascini et al. 2023).

However, the CEP needs to move away from the competitive culture often associated with sports and commercial business practices. The CEP can then cultivate a team-driven approach that emphasizes shared purpose and collective effort. In this context, success is not measured solely by individual achievements or the commercial success of the project, but rather by the overall progress made towards improving patient care and transforming healthcare delivery.

Innovative clinical leaders play a crucial role in fostering this collaborative culture. By bringing together diverse teams of healthcare professionals, academics, and industry partners, these leaders can create an environment that values open communication, knowledge sharing, and mutual support. In this setting, obstacles are viewed as opportunities for growth and learning, rather than as setbacks or failures.

Furthermore, by redefining success in terms of the collective effort and progress made, rather than focusing on individual "wins" or "losses," the NHS can create a more resilient and adaptable innovation ecosystem. This approach acknowledges that innovation is an iterative process, often requiring multiple attempts and refinements before a successful outcome is achieved. By celebrating the lessons learned and the incremental improvements made along the way, the NHS can maintain momentum and motivation, even in the face of challenges or setbacks.

To support this shift in mindset, the NHS must invest in the development of innovative clinical leaders who possess the skills and attributes necessary to foster a collaborative, team-driven culture. This includes providing training in leadership, communication, and change management, as well as creating opportunities for these leaders to connect with peers, share best practices, and learn from one another's experiences. By emphasising interprofessional relationships, empowering innovative clinical leaders, and redefining success in terms of collective effort and progress, the NHS can create a culture that supports continuous improvement and drives meaningful change in healthcare delivery. This approach will ultimately lead to better outcomes for patients, staff, and the healthcare

system as a whole.

### **Leadership in healthcare and the role of the CEP in retaining talent and fostering innovation**

Achieving effective leadership within the NHS and the CEP is not without its challenges. One of the primary hurdles is the complex and hierarchical nature of the healthcare system, that can hinder the adoption of new leadership managerial, and team led approaches (Ghiasipour et al. 2017; Fernandopulle 2021). Additionally, the diverse range of leadership theories and models available, such as transformational leadership, servant leadership, and adaptive leadership, can create confusion and difficulty in identifying the most appropriate approach for a given context (Allen et al. 2016; Smith, Montagno, and Kuzmenko 2004; Trastek, Hamilton, and Niles 2014).

"Effective leadership of healthcare professionals is critical for strengthening quality and integration of care" (Sfantou et al. 2017). Although the CEP may currently adopt a leadership model that prioritises both the quality of care and the integration of innovative solutions into the healthcare system, adopting a hybrid approach that incorporates elements from transformational, servant, and adaptive leadership models may be the most recommended to develop healthcare leaders that can transform the innovation culture (Sfantou et al. 2017). Given the complex nature of healthcare innovation and the need for CEP participants to navigate change, inspire others, and serve the needs of patients and the NHS, a flexible and multifaceted leadership approach is required.

Effective leadership is a crucial factor in driving the progress and increasing the productivity of healthcare organisations. The complex and dynamic nature of the healthcare sector demands a diverse range of leadership styles to ensure optimal performance and continuous improvement. Healthcare organisations must rely on competent leaders who possess the ability to think innovatively and adapt to evolving challenges (Hargett et al. 2017). The impact of effective leadership extends beyond organisational efficiency, as it directly influences the quality of patient care, safety, and cost-effectiveness (Al-Thawabiya et al. 2023).

Transformational leadership is a powerful approach that enables leaders to stimulate, inspire, and motivate employees to embrace innovation and drive change, ultimately facilitating growth and shaping the organisation's future success (Robbins and Davidhizar 2020; Thomas 2024). This leadership style is exemplified by leaders who set a strong example at the organisational level, fostering a culture of creativity, empowerment, and continuous improvement.

At the core of transformational leadership lies the ability to create a compelling vision for the future and effectively communicate this vision to employees. By articulating a clear and inspiring purpose, transformational leaders can galvanise their teams to work towards a common goal, fostering a sense of unity and shared commitment to success. Transformational leadership is particularly relevant to the CEP, as clinical entrepreneurs must be able to inspire and motivate others to embrace change and work towards a shared vision of improved healthcare delivery. By employing the four factors of transformational leadership – idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration – CEP leaders can foster a culture of innovation and empower their teams to develop creative solutions to healthcare challenges.

On the other hand, adaptive leadership recognises that systemic change is a gradual process that requires experimentation, refinement, and a willingness to tolerate discomfort. To achieve transformational change, leaders must mobilise their systems to encourage engagement and progress while managing the stress and losses associated with the change process.

Adaptive leadership is therefore a highly relevant approach for participants in CEP as they

navigate the complex and dynamic landscape of healthcare innovation. This leadership style is particularly well-suited to addressing the unique challenges faced by clinical entrepreneurs, as it emphasises the importance of adapting to changing circumstances, learning from experience, and mobilising others to tackle tough problems (Fagerdal et al. 2022).

Servant leadership is equally important for strengthening the quality of care, as it emphasises the importance of putting the needs of patients and healthcare professionals first (Abdulai 2023). Servant leadership is a leadership philosophy that prioritises serving others, focusing on the growth and well-being of individuals and communities (Demeke, van Engen, and Markos 2024). In the healthcare sector, servant leadership has gained increasing attention as a valuable approach to improving patient care, fostering a positive work environment, and driving organisational success (Demeke, van Engen, and Markos 2024).

Studies have consistently shown that servant leadership has a positive relationship with a wide range of desirable individual and organisational outcomes in the healthcare sector (Trastek, Hamilton, and Niles 2014; Eva et al. 2019; Rashid and Ilkhanizadeh 2022). At the individual level, servant leadership has been linked to increased job satisfaction, work engagement, and organisational commitment among healthcare professionals (Rashid and Ilkhanizadeh 2022). It has also been associated with reduced burnout and turnover intentions, highlighting its potential to support the well-being and retention of healthcare workers (Eva et al. 2019). CEP participants who embody the characteristics of servant leadership, such as empathy, healing, and a commitment to the growth of people, can foster a patient-centred approach to care and create an environment that supports the well-being and development of healthcare professionals.

Innovative leadership is a critical skill set for driving change, fostering creativity, and achieving success in various sectors, including healthcare (Neher et al. 2023; Alanazi 2022; van den Hoed et al. 2022). Innovative leadership styles would possess several attributes that promote innovation and resilience such as visionary thinking; being adaptable and flexible, possess a collaborative mindset; able to empower and support and to continuously learn and improve. An innovative leader would think strategically to problem solve and respond to complex situations and challenges. In addition to being an influencer through excellent communication capacity, an innovative leader is resilient and possess emotional intelligence in order to empathise and respond to the needs and concerns of their teams, patients, and stakeholders, and be able to build strong, trust-based relationships that foster collaboration and engagement.

CEP participants who embody the principles of transformational leadership can inspire their teams to work towards a shared vision of improved patient outcomes and system efficiency. By embracing the tenets of servant leadership, they can create a patient-centred culture that values the well-being and development of healthcare professionals. Moreover, by applying the principles of adaptive leadership, CEP participants can successfully navigate the complexities of integrating innovative solutions into the healthcare system, ensuring their effective adoption and scalability. By adopting innovative leadership styles such as driving meaningful change, fostering a culture of creativity and collaboration, navigating complex challenges, engaging and empowering stakeholders, and continuously learning and improving, CEP future leaders can significantly contribute to the transformation of the healthcare sector, ultimately benefiting patients, healthcare professionals, and the broader community.

Therefore, adopting a hybrid approach that incorporates elements of these leadership styles can be highly effective in strengthening the quality and integration of care. CEP participants who embody the principles of transformational leadership can inspire their

teams to work towards a shared vision of improved patient outcomes and system efficiency. By embracing the tenets of servant leadership, future health leaders can create a patient-centred culture that values the well-being and development of healthcare professionals. Moreover, by applying the principles of adaptive leadership, CEP participants can successfully navigate the complexities of integrating innovative solutions into the healthcare system, ensuring their effective adoption and scalability. By adopting innovative leadership styles, CEP participants have the potential to significantly accelerate the pace and impact of innovation within the healthcare sector. By combining their clinical expertise with the skills and attributes of innovative leaders, CEP participants can drive meaningful change, improve patient outcomes, and contribute to the creation of a more responsive, effective, and sustainable healthcare system.

### Conclusion

The NHS CEP plays a crucial role in promoting leadership and innovation within the UK healthcare system. By adopting hybrid leadership styles, the CEP can more effectively develop the leadership capabilities of clinical entrepreneurs, enabling them to drive digital health adoption and innovation within the NHS.

However, achieving effective leadership and embedding the BASE principles into the core of digital healthcare innovations require more than just accountability. Clinical entrepreneurs need comprehensive training and education that equips them with the knowledge, skills, and mindset to navigate the complex landscape of social responsibility.

Despite the challenges and hurdles inherent in achieving effective leadership within the complex and hierarchical healthcare system, the CEP's success demonstrates the potential for similar programmes to cultivate leadership and drive digital health adoption in other healthcare systems worldwide.

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