Mining Hidden Gems
a report on PSEL

Practical Skills in Education, Training and Leadership Programme

IN ASSOCIATION WITH:

NHS Leadership Academy

AHCS Academy for Healthcare Science

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The NHS constitution states that it will 'work at the limits of science'. Healthcare Scientists are key enablers, delivering over 80% of NHS diagnostics across 52 specialisms. Leadership development of Healthcare Scientists is important in ensuring this workforce is equipped to engage with the wider system and has the opportunity and tools to deliver at the 'limits of science'.

Practical Skills in Education, Training and Leadership (PSEL) is a leadership development programme that has been developed by an expert faculty and evolved over the course of the last three years. PSEL has taken over 200 healthcare scientists on a leadership journey, most of whom had never worked with other scientific professions or in an experiential way.

This report is the first step in developing a body of evidence about the impact of leadership development on the HCS workforce. Mining Hidden Gems draws from a combination of PSEL evaluations demonstrating improvement in knowledge and skills in leadership and educational topics, and providing evidence of the impact of the programme on the workforce.

I would like to thank the amazing Faculty: Anne Benson, Sue Nash, Kathleen O' Sullivan and Kevin Wyke – all led by Dr Sue Fergy, for their insight and for sharing my passion in delivering this programme across the country. Thank you also to the Leadership Academy, HEE and the Academy for Healthcare Science who continue to support HCS and their leadership development. Also, thanks to Ela Bardan who has supported the PSEL programme and this report.

Finally, a huge thank you to the Healthcare Scientists for stepping way out of their comfort zone and sharing their trust in the PSEL programme, we are watching your careers with interest!

Ruth Thomsen

Contents

Executive Summary

Leadership in healthcare science

Technology is driving significant changes to the way that scientific and diagnostic services need to be delivered, now and in the future. The forthcoming Long Term Plan for the NHS and the 2024 vision for healthcare science will demand a versatile and empowered healthcare science workforce, capable of leading change and working in new and innovative ways. As experts in systems thinking and natural innovators, healthcare scientists are key to facilitating earlier diagnoses and improved self-management of conditions. If we are to move the NHS from what can now be described as a 'disease service', to a 'prevention service', developing the leadership capability and capacity of all healthcare scientists is key to enabling the transformation of scientific and diagnostic services.

Background

The Practical Skills in Education and Leadership (PSEL) is a four-day interactive, experiential programme designed to equip and empower healthcare scientists with the relevant leadership knowledge and skills, so that they play their full role in the system. In addition, healthcare scientists (HCS) who join the programme become part of a PSEL alumni network which promotes peer support and the sharing of good practice. Funded by the Leadership Academy, this 2018 nationwide programme integrates theory and practice, equipping scientists with up to 30 different tools to develop their leadership capacity; these include coaching techniques, support teaching, development of self-awareness through Myers-Briggs, and an understanding of the broader landscape, structures and direction of policy. The PSEL programme has been running for three years and has benefited more than 200 healthcare scientists from eight different regions of England, Figure 1.

Key findings

The key findings in this report contribute to the first national evaluation of leadership and educational needs for the healthcare science workforce. Pre and post questionnaires from participants and written perspectives from each of the employers and facilitators were used, amongst other methods, to evaluate the effectiveness and impact of the programme. The results show that PSEL has met, if not exceeded, its original goals, with the most marked positive shifts being in the knowledge gained in various leadership and educational topics, but also with an understanding of how to apply this knowledge to improve practice:

- **Developing knowledge on various leadership and educational topics** – the results from the pre and post questionnaires demonstrate a compelling positive shift in knowledge of the interpersonal skills required for leadership, with 48% and 47% of attendees stating that they were either 'knowledgeable' or 'very knowledgeable' after the programme, compared with 31% and 1% before PSEL. Prior to PSEL the majority were either 'not knowledgeable' (14%) or 'somewhat knowledgeable' (54%). Further analysis in section 2.3.1.
- **Developing practice** – the results from the pre and post questionnaires highlight a significant positive change in developing practice for the future, with 54% and 27% of participants stating that they were either 'knowledgeable' or 'very knowledgeable' after the programme, compared with 12% and 1% respectively. Prior to PSEL the majority were either 'not knowledgeable' (28%) or 'somewhat knowledgeable' (59%). Further analysis in section 2.3.4.
- **Impact** – qualitative evidence indicates that participants implemented their skills and knowledge in several ways including taking on new responsibilities, applying for new roles and maximising their effectiveness in current roles. Some healthcare scientists who have attended the programme have been inspired to put themselves forward to present at conferences and have applied for (and been awarded) prestigious fellowships.

It is clear that this programme has had a positive effect on individual participants – and also, in many cases, on their teams or departments.

RECOMMENDATIONS

- To maintain PSEL momentum, an advanced programme should be offered to nurture the green shoots of confident, proactive HCS leadership informed by the programme.

- The development of a 2024 healthcare science strategy should address how the healthcare science profession will be equipped with the necessary leadership skills to meet the ambitions within the Long Term Plan. This includes setting out how the leadership gap will be addressed at a regional level.

- Leadership development should be considered as part of the review of the healthcare science curricula, currently being carried out by the National School of Healthcare Science.

- As part of continuing professional development, all healthcare scientists should be encouraged to take leadership (and management) training opportunities so that HCS can continue to develop and refresh their skills. This is an essential part of equipping and empowering healthcare scientists to play their full role within the system.

- It is recommended that PSEL becomes a rolling programme available to all scientists working in the NHS.

- A longitudinal study is needed to help assess the impact of PSEL on patient outcomes.

- PSEL alumni should continue the discussion about how they are applying the skills and knowledge obtained on the programme, either through attending regional master class events, or through:

    - self-supported action learning sets,
    - communities of practice,
    - harnessing the expertise of alumni through the Academy for Healthcare Science,
    - accessing opportunities offered through the Leadership Academy and engaging with local Trusts, regional and professional networks.
- The PSEL programme should be extended to healthcare scientists working in Wales, Scotland and Northern Ireland.

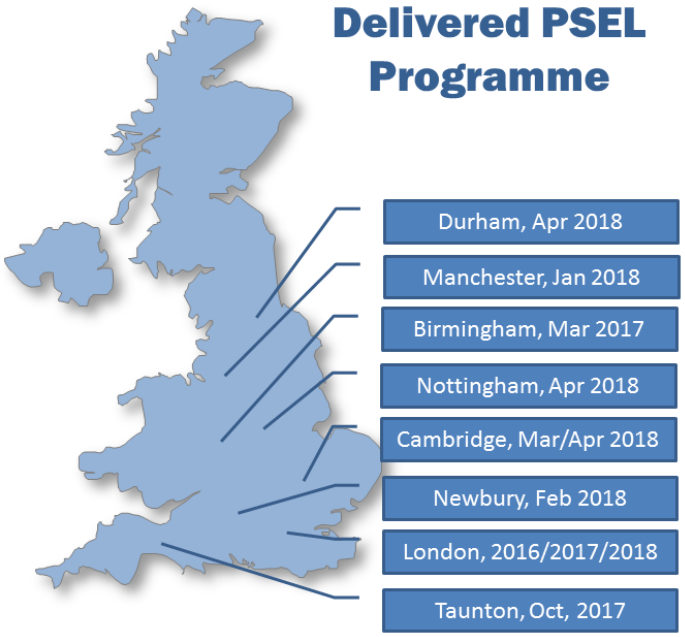


FIGURE 1 – PREVIOUS PSEL DELIVERY DATES AND LOCATIONS ACROSS ENGLAND

1. Introductions

1.1. Healthcare science workforce – understanding leading change, adding value

The HCS workforce comprises 52 specialisms delivering over 80% of diagnostics in the NHS. HCS are at the centre of high-quality, innovative patient care. They make a unique and highly expert contribution not only to diagnostic, therapeutic and rehabilitative services, but also to research, development and improvement. The development and enhancement of the leadership potential of the HCS workforce will have a positive and immediate impact on patient outcomes, capacity and system-wide improvements:

"The healthcare science profession is uniquely placed to harness the UK's world class healthcare research base, improve patient outcomes and assist NHS England in its goal to accelerate innovation." NHS England

Clinical leadership is essential to driving the transformational change required to deliver the Five Year Forward Vision (FYFV) and the Long Term Plan (LTP) across integrated care systems (ICS)/sustainability and transformation partnerships (STPs). FYFV argues that leadership across the system is required and the King's Fund states that distributed leadership is crucial to change culture (NHS England, 2017) (West, et al., 2015).

Historically, clinical leadership in the NHS has been characterised by Medical and Nursing Directors, however, there is a lack of leadership roles for more recently established professional groups such as HCS (Walshe & Smith, 2011), (Veronesi, et al., 2013). West et al. in a study for the King's Fund (West, et al., 2015) state that:

"... enabling collective leadership includes all professional groups to deliver transformation change."

In 2001, the Department of Health (DoH, 2001) stated that:

"NHS Trusts have for too long undervalued or not recognised the role of Healthcare Scientists. It is important that Trusts put this right in the future."

Seventeen years later, there is little evidence to demonstrate that leadership development is offered to or accessed by HCS consistently – regardless of their specialism or geographical area – and there are no formal leadership development requirements within the career framework. HCS simply train in their science with little further investment made in their personal or leadership development; similarly, there are no embedded mechanisms for networking across organisations.

Although the Modernising Scientific Careers initiative reconfigured career pathways for HCS, it is still challenging to embed leadership roles in the career framework (DoH, 2005). Currently, only one region in England has appointed a Lead Healthcare Scientist (LHS): the London region. This leadership gap demonstrates the lack of system drivers needed to engage the workforce and lever support for leadership development for this group. In response to this leadership gap, the CSO office published a letter requesting all Medical Directors 'to identify a Lead Healthcare Scientist as a critical priority' (NHS England, 2016); however, there is still a great deal of work to do in this area and the lack of regional representation at this senior level remains a challenge.

1.2. PSEL programme – addressing a culture to enable HCS leadership

The original Practical Skills in Education, Training and Leadership (PSEL) programme was a partnership between Health Education England, the Academy for Healthcare Science, the Leadership Academy, and NHS England – London region.

Initially evaluated in 2016, it was found that the development programme was 'valuable, useful and enjoyable'. Following this evaluation, the Director of Education and Quality for London and the South East from Health Education England asked for the programme to be piloted in other parts of the country. This was successfully delivered twice: in Birmingham, in March 2017 and Taunton, in October 2017. Then, after a successful bid for funding with the Leadership Academy, PSEL was delivered across England in the spring of 2018.

1.3. About this report

This report is a short, focused evaluation of the PSEL programme. It does not cover the complete range of activities undertaken, but instead its aim is to:

- Outline some of the key features of the programme.
- Evaluate how successful the programmes were.
- Identify any changes that can be made going forward.
- Describe some of the emerging outcomes of the programme with regard to its impact on participants.
- Demonstrate the value to the system through consistent investment in leadership development for HCS.
- Address the lack of grey literature database on HCS' leadership development added value – beginning to the contribution of evidence base for leadership development for healthcare scientists in the NHS.

2. FINDINGS

Content and Approach

The aim of the programme was to bring about change at three levels through developing leadership capacity of individual HCS in the healthcare system, including:

- the individual mid-career HCS;
- the team/department of the HCS;
- the regional/national HCS workforce.

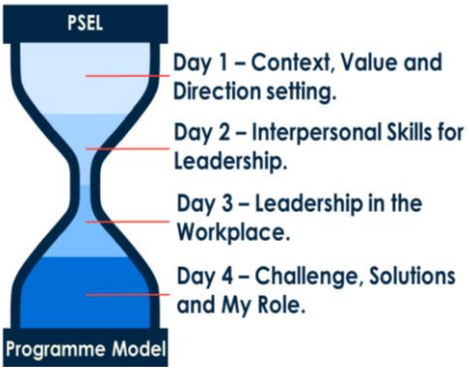


FIGURE 2 – PSEL PROGRAMME FORMAT

2.1. Method of delivery and duration

The leadership development model set up for PSEL was similar to the Leadership Academy's one. It set to evaluate the impact on the individual through:

- structured questionnaires (before, after and at various longer intervals after the programme),
- by capturing reflections on each day,
- asking for feedback from their heads of service.

PSEL format is a four-day interactive experiential programme integrating theory and practice, facilitated by four expert facilitators, Figure 2. Twenty-nine tools are delivered by using policies, theories, models and frameworks to develop leadership capacity. This tool box was developed as a 'go-to-framework kit' that HCS have embraced. The use of tools has been audited as part of the initial evaluation.

Reflection is an underpinning theme of the programme and participants are offered regular opportunities to practise reflection on their perspectives, their experiences and their workplaces. Self-awareness, an essential component of leadership ability, is addressed through the introduction to tools such as Myers-Briggs Type Indicator (MBTI) and the Johari Window.

In a safe and encouraging learning environment, participants are stimulated to step out of their 'comfort zone' and practise new skills and models, e.g. to rehearse newly-acquired assertiveness or conflict management skills for 'difficult conversations' in real workplace situations. The programme offered participants the opportunity to critically reflect on their own workplace culture and consider areas they would like to enhance. Participants have also reflected about how their team might come across to a newcomer, e.g. a new member of staff or a trainee, and what measures could be taken to enhance positive and inclusive working environments that would consequently improve patient outcomes. The programme addresses the challenges of working in teams and the interpersonal skills required to lead and develop departments. To ensure that participants are aware of the policy context in which they practise, the programme content is underpinned by a handbook of seminal texts on leadership and the discussion of contemporary policy texts, e.g. Developing People – Improving care (2016).

The documents are presented as 'tools' to provide a vision of enhanced outcomes through continuous improvement, to strengthen and underpin the impetus to develop practice and to bring about change.

On finishing the initial four-days, the participants, known as 'alumni', continue their learning during at least four facilitated action learning sets (ALS). Through these networks and ALS groups, alumni continue the discussions and reflections on good practice, ultimately translating their learning into projects.

Source	Data Collection Methods
Participants	• Electronic pre-programme questionnaire submitted on Day 1. • Reflections on programme impact so far – collected on Day 3. • Written questionnaire on last day of the taught PSEL programme – collected on Day 4. • Electronic post-programme questionnaire and tool kit audit (one to three months post-programme).
Faculty	• Written perspectives from Faculty on the programme.
MBTI	• Participants' MBTI types documented anonymously for five venues.
LMs & OLS	• Electronic post-programme questionnaires – sent between one to three months post-PSEL programme to lead managers and organisational lead scientists.

2.2. Designed impact

Outputs as a result of PSEL:

- HCS emerging from the programme with skills and knowledge around leadership.
- HCS (mid-career) and organisational lead scientists (OLS) breaking down silo'd working.
- National support from the Chief Scientific Officer's team (NHS England's CSO) and drive to embed leadership development into the career pathways for HCS.
- HCS will have engaged in their first ever leadership development programme across England and start to close the leadership gap that exists for these groups.
- HCS will have the skills to collaborate in clinical leadership and networks in their organisations and be better able to deliver the transformational change to improve outcomes for patients, especially in the area of diagnostics.
- Lead healthcare scientists will benefit from the alumni programme.
- Participants will deliver a leadership development associated project in their own organisations.

Impact on participants' local integrated care systems (ICS)/sustainability and transformation partnership (STP), but also on their system, neighbourhood, organisations, teams and/or individuals:

- ICS/STPs will be better understood and HCS will see the value in engaging and be equipped with the language and tools to start engagement.
- Organisations will benefit from HCS getting involved and networking; for example, collaboratively delivering quality assurance, sharing development and training for HCS and apprenticeships. Lead organisational scientists will have access to a group of HCS that can support their aims.
- Individual HCS will realise the value of leadership development, increasing knowledge and skills across their career. They will cascade the value of this to peers and promote engagement in softer skills.
- Individuals will engage in further development through communities of practice or in accessing multi-professional leadership development.
- This will be demonstrated in the evaluation and growing networks and demand for further leadership development for HCS.

Impact

The programme was evaluated very positively by its participants; attendance on the programme was 97%. As evidence of positive engagement, where participants could not attend the planned programme, arrangements were made to complete PSEL with a different cohort.

Given that the clear majority of participants had not undertaken any previous leadership development, it is unsurprising that the concepts of ALS and MBTI were the topics that they knew least about, closely followed by coaching, career planning and professional networking.

This report presents a snapshot of the data collected to evaluate the 2018 programme. A wide range of data was collected from a number of sources and at a number of points.

To maximise the impact of the programme, efforts were made to encourage regional senior staff within the HCS workforce to either participate in the programme or to visit and network with the attendees. Their presence aimed to provide leadership role models for the participants. Regional senior healthcare scientists were also asked to share answers to the following questions to the cohort:

- *Are there any established regional/professional/organisational networks participants could join?*
- *Are there local/national websites participants should know about?*
- *Are there new or current projects/secondments participants could apply for?*
- *Are there things that the participants could do to support you in your role? E.g. networking activities.*

2.3. Programme Outcomes: changes in knowledge and practice for participants

Effective leadership of healthcare professionals is critical for strengthening quality and integration of care (Sfantou, et al., 2017).

The learning outcomes of the programme for individual participants are to:

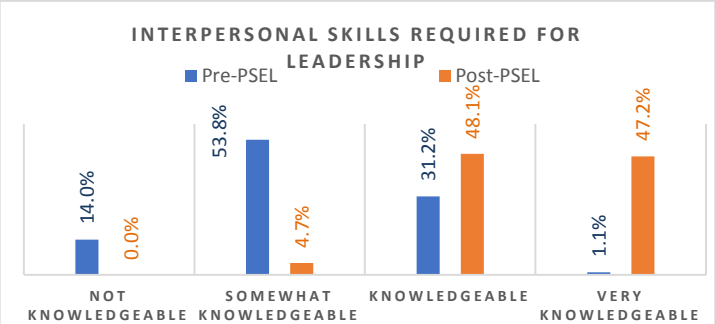
A. Develop knowledge and skills relevant to personal and professional leadership.
B. Develop knowledge and skills relevant to personal and professional education.
C. Apply knowledge and skills to enable professional development in workplace settings.
D. Construct new understandings about professional leadership.
E. Construct new understandings about professional education.
F. Develop practical solutions to professional, workplace challenges.
G. Undertake a professional self-appraisal and create a plan for professional development.

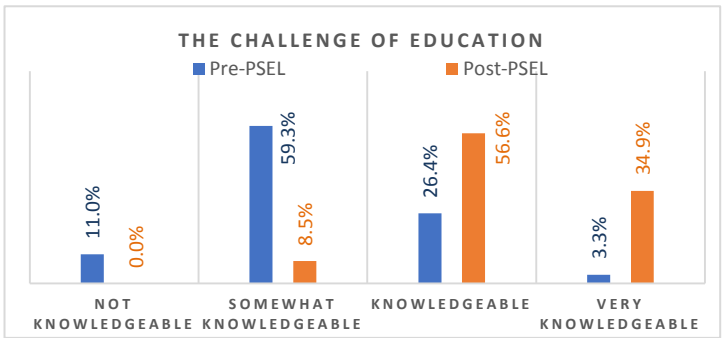
The data collection has enabled a qualitative and quantitative evaluation of the PSEL, with data collected before, during, after and long after the programme. The change in knowledge has been evaluated using the quantitative data, meanwhile the change in practice by using qualitative data.
There is evidence than an expansion of the PSEL programme would be of benefit to the future workforce of healthcare scientist in the NHS.

2.3.1. Outcome A and B: Development of knowledge and skills relevant to personal and professional leadership and education

CHANGE IN KNOWLEDGE:

While many participants had an understanding of leadership, the data showed that before the training over 67% of attendees rated their understanding of the skills required for leadership 'not knowledgeable' or 'somewhat knowledgeable'. Also, only three in ten felt that they were 'knowledgeable' and one in 93 thought they were 'very knowledgeable'. **By contrast, after PSEL, no participant rated their understanding as 'not knowledgeable', and there was a steep increase of 46.1% of attendees stating that they had an excellent understanding of interpersonal skills required for leadership. Participants also showed they had understood the challenges of education after PSEL, with 91.5% feeling 'knowledgeable' and 'very knowledgeable' at the end of the programme, by contrast with 29.7% before PSEL.**





CHANGE IN PRACTICE:

Alongside this marked improvement in knowledge after the four-day programme, participants were asked to comment on how they embedded their learning on the skills required for leadership and challenges of education into their day to day roles. Participants' comments attest either to a plan to change the current work setting or show how practice has already changed, as follows:

REPORTED CHANGES IN PRACTICE:

"I have put myself forward for the role as lead healthcare scientist if our trust chooses to appoint one"

"I have put myself forward for things I don't think I would have had the confidence to do before PSEL"

FUTURE PLANS OF ALUMNI:

"I will be applying for a new role as an advanced practitioner in sleep physiology"

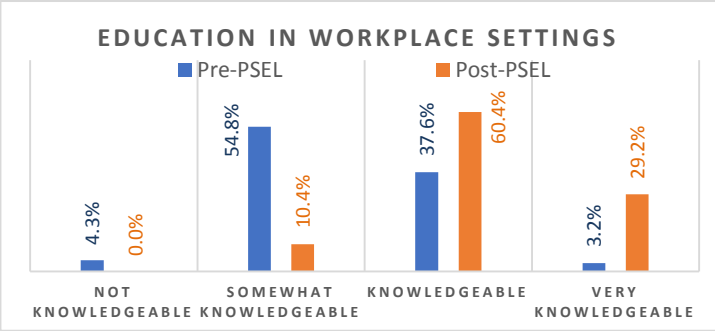
"I am considering looking at the role of the Lead Scientist Role within our organisation as it is currently vacant"

2.3.2. OUTCOME C: APPLICATION OF KNOWLEDGE AND SKILLS TO ENABLE PROFESSIONAL DEVELOPMENT IN WORKPLACE SETTINGS

CHANGE IN KNOWLEDGE:

As might be expected, many participants were educational leads or responsible for training the future healthcare science workforce. After the four-day PSEL programme, the participants felt more knowledgeable on how to deal with education in workplace, **an increase of 48% in knowledge was recorded in the evaluation**.

Participants commented on providing new opportunities for the workforce of the future, especially for the healthcare scientist trainees.



After the programme, 29.2 percent of participants felt that they were 'very knowledgeable' about the challenges and opportunities when dealing with education in workplace settings, by contrast with 3.2% pre-PSEL – an increase of 26%. Also, after the programme, there was no participant that felt 'not knowledgeable' about this subject with a shift of 44.4% of participants who were 'somewhat knowledgeable' before the programme but then, during the four-day PSEL, gained the knowledge to feel more confident about education in workplace settings.

CHANGE IN PRACTICE:

The picture of HCS that emerged from this process is of a workforce hungry for development opportunities; many asked why such programmes were not delivered earlier in their careers or why they were not mandatory. Again, the qualitative feedback from the programme was extremely positive; with participants reflecting on how they can use the knowledge gained throughout PSEL to improve or address challenges in their workplace, with some changes to enable professional development in workplace settings already achieved.

REPORTED CHANGES IN PRACTICE:

"I will use what I have learned to give better feedback to students."

"I will be able to apply the knowledge and skills when looking after trainees"

FUTURE PLANS OF ALUMNI:

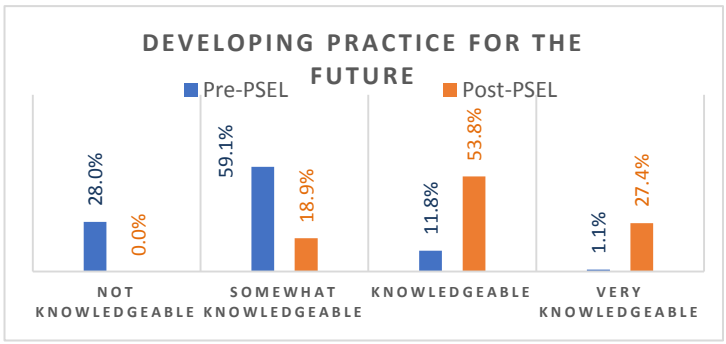
"I am setting up mentoring/coaching sessions with my trainees."

"I have made enquiries with our trust education centre about completing a PGCE"

"Attended to think about our STP trainees both from a work culture perspective and in designing the training programme. This has already led to discussions with the wider department and changes for the trainees"

2.3.3. Outcome D and E: Construct new understandings about professional leadership and Education

CHANGE IN KNOWLEDGE:



Follow up questionnaires with participants showed a positive shift in knowledge about developing the practice for the future. The programme has proven to have had a great impact on the participants' understanding as after PSEL no alumni felt 'not knowledgeable' about emerging practices. **More than 80% felt 'knowledgeable' and 'very knowledgeable' at the end of the programme, in comparison to 12.9% before PSEL.**

CHANGE IN PRACTICE:

Participants have commented on how PSEL offered a range of tools and strategies that have allowed them to navigate the complexities of workplace relationships and understanding of workplace settings.

REPORTED CHANGES IN PRACTICE:

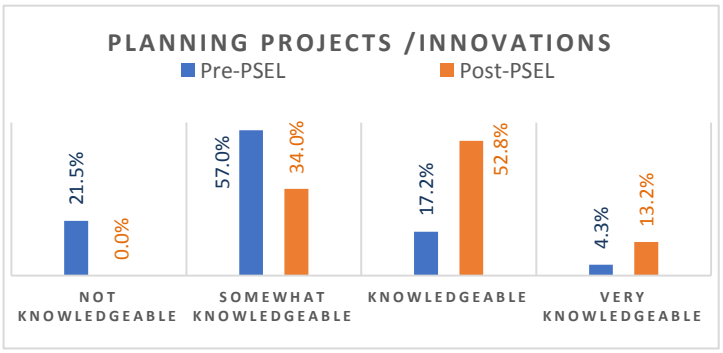
I attended Trust Introductory Coaching course to improve skills acquired on the PSEL course."

FUTURE PLANS OF ALUMNI:

"I want to be more assertive and confident at putting forward ideas/ projects."
"I want to take a lead on some policy changes that are needed.

2.3.4. Outcome F: Develop practical solutions to professional, workplace challenges

CHANGE IN KNOWLEDGE:



Planning projects/innovation is one of the areas in which PSEL has had the least learning impact on the participants. **Although alumni were 'somewhat knowledgeable' and 'knowledgeable' before the programme (74.2%), by the end of PSEL there was a small increase to 86.8%** for the same categories. Also, there was a slight increase of 8.9% in the number of participants that felt 'very knowledgeable' at the end of PSEL. **Although the 'planning projects/innovation' was, overall, one of the topics with the least learning impact, there was still an increase in learning that effected change in practice.**

CHANGE IN PRACTICE:

This particular learning outcome of the programme received a great deal of feedback and reflections from the participants. Most of them commented on how the influx of information during PSEL has made them reflect on their profession and workplace challenges when it comes to planning projects or leading on innovation.

REPORTED CHANGES IN PRACTICE:

"I feel I can stop procrastinating with regard to managing difficult situations [with staff]."
"I am instigating "Brand Development" for HCS at my Trust."
"I have taken on the role of work experience co-ordinator for the pathology labs and have started finding out about opportunities to publicise healthcare science more in my local area"
"I have re-joined our governing body the SCST after networking at the PSEL and as a result of the networking I have

FUTURE PLANS OF ALUMNI:

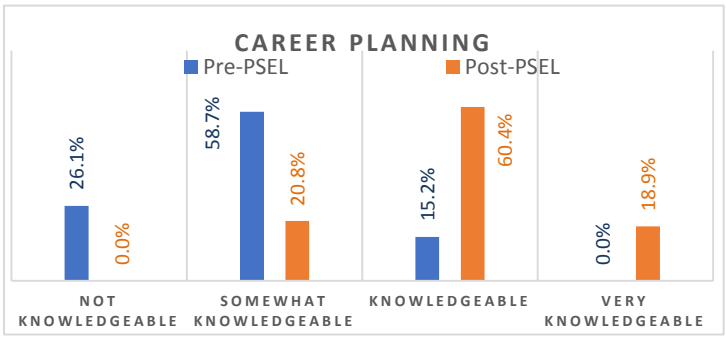
"I will be doing an engagement session with schools which has come about through discussion with peers at my hospital, who were also involved in this course."

"Since PSEL I have become the joint chairman for the Science 4U Schools Conference."

"I feel more equipped to tackle conflict and personnel issues. I'm planning to use more team-working to tackle future projects rather than working isolation."

2.3.5. OUTCOME G: UNDERTAKE A PROFESSIONAL SELF-APPRAISAL AND CREATE A PLAN FOR PROFESSIONAL DEVELOPMENT

CHANGE IN KNOWLEDGE:



PSEL has been developed as a programme for HCS in response to the recognition that many healthcare scientists lacked support in managing their career; so talent management tools and discussions have been a part of the programme. Before PSEL, more than three quarters of the participants (84.8%) were 'not' or 'somewhat knowledgeable' about their career development.

After the programme, however, considerable positive shift was recorded with more than three quarters now in the 'knowledgeable' and 'very knowledgeable' categories, with an impressive 18.9% of participants feeling 'very knowledgeable' about career planning.

CHANGE IN PRACTICE:

One healthcare scientist indicated that they were going to "put my growing self-awareness into practice". This point is especially important as it confirms that career development is rarely addressed in the field of healthcare science. Participants also felt encouraged to learn new skills and take on extra responsibilities, which in turn will enable them to progress within the organisation.

REPORTED CHANGES IN PRACTICE:

"I am going to be more positive about who I am."

"I am going to be more assertive in giving feedback to staff."

FUTURE PLANS OF ALUMNI:

"put my growing self-awareness into practice"

2.4. TOOLBOX AUDIT

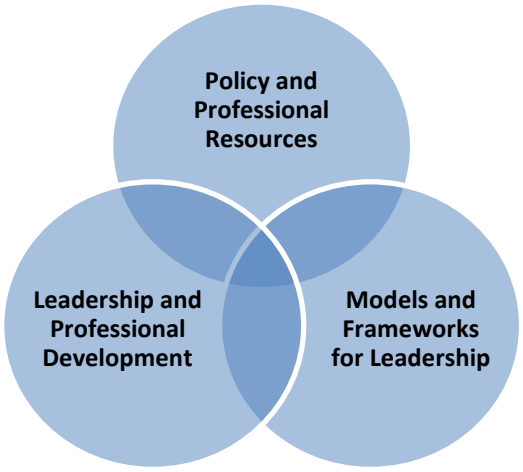


FIGURE 3 – TOOLBOX CATEGORIES

During the four-day PSEL programme, participants were introduced to a range of 'tools' – which were audited some weeks following the programme. These tools were wide and varied, and for the purposes of analysis, they were divided into three categories as per the Venn diagram, Figure 3.

Some of the tools referred to policy texts that underpin NHS strategic thinking, e.g. the NHS Five Year Forward View; some were professional texts on leadership, e.g. Nancy Kline's 'Time to think'; some were frameworks, e.g. the Johari Window and the Five Step Assertiveness framework; and some were exercises, e.g. the constellation ice-breaking exercise, listening exercises. Participants were asked to feed back on the tools they had used and the impact of those tools. At the time of writing this report, 40 responses had been received. Below is a synopsis of the tools used, and comments made by the alumni.

The most useful top four tools for the PSEL alumni were:

Myers-Briggs Type Indicator	• *"I make sure to plan downtime before/after patient-facing clinics so that, as I tend towards introversion, I can give my patients the best possible quality of intervention."* • *"I make sure I allow for all personality types when devising questions."* • *"It has helped me understand why I behave in certain situations especially under stress."*
NHS Constitution	• *"Used it in a meeting – positive. Senior managers took notice."* • *"Used it in staff meeting. Staff showed clearer identification with Trust rather than the department."*
CSO Website	• *"I now feedback points of interest on the CSO website at our team briefings."* • *"Have used aspects of the CSO annual conference in discussions around NHSI and pathology/genetics reconfiguration. We may have a fighting chance to ensure reconfiguration is not a disaster!"*
Appreciative inquiry	• *"Used it in my team, people felt more involved and happier to contribute with what they could do best."* • *"As a team, we were able to reflect on our success so far which makes end goals seem far more achievable. "*

2.5. Feedback/Perspectives from line managers

Following the programme, perspectives from the alumni's line managers were also sought. To date, seven responses have been received. All the managers referred to the PSEL programme having had a positive impact on the practice and confidence of participants. The comments made referred to changes within the individual and new development steps taken.

Managers have reported an increase in motivation and alumni being reinvigorated with a plethora of ideas: *"… is acting up in a lead clinician role"* and *"…improving the professional standing of their HCS colleagues in a meaningful and focused way"*. Managers also recognised that the PSEL has made their employees more self-aware and more confident in their leadership skills, leading to a keenness and willingness to effect change: *"…is now leading a review – it will involve chairing meetings, tact, and persuasion"* and *"...has volunteered to work on one of our outreach projects involving public engagement… she will continue to be a visible role model for more junior HCS"*.

2.6. Action Learning Sets (ALS)

FIGURE 4 – TOPICS THAT ALS GROUPS HAVE BEEN REFLECTING UPON.

At the time of writing this report, the ALS were in progress. Depending upon the size of each cohort, there were either two or three ALS groups established. The first and last ALS is to be facilitated by a member of Faculty. Although the sets are at an early stage of development, one ALS facilitator has made the following observations:

"There have been some very emotional and impactful sessions that have demonstrated vulnerability, courage, and compassion. Much has been learned from this opportunity to share challenges and experiences in a generous and empathetic environment."

The themes from the ALS Figure 4, are in line with those that have emerged from the questionnaire analysis, themes that are relevant to individual and team development. The participants are continuing to explore their roles, potential and identities. In addition, they are focusing on individual challenges and the dynamics of the workplace, developing the courage and confidence to seek solutions.

3. KEY LEARNINGS

The evidence collected from the participants at various points of the programme, together with feedback from the Faculty, suggests that the PSEL programme has successfully achieved its aims. New leadership skills were developed and have been put into practice in the workplace, some after only two days of completing PSEL.

Several participants can identify the small, courageous leadership steps they have started to take following PSEL. One very experienced participant described the impact on their self-worth:

> ***The self-motivation, morale boost and renewed/revised learning made me feel enthusiastic and galvanised to achieve new heights and new developments in my place of work. It can be difficult to maintain the momentum and enthusiasm for a role after 25 years, but this course put the shine back on my job and made me realise the impact I have on XXX Trust and the NHS generally. Thank you for making me feel valuable, valued and worthwhile.***

LESSONS LEARNED

A number of lessons have been learned through delivering the PSEL programme.

The first is that it is difficult to ensure that centrally provided programmes are communicated to all HCS equally. There were instances of participants learning about the programme 'through a friend', rather than their line manager or organisational lead scientists.

Recruitment was random and often last minute as it relied on irregular communication channels and busy professionals.

At times, in certain geographical locations with limited networks, there were no representatives from key Trusts and the conclusion drawn was that marketing emails/flyers got 'stuck' at key points in the infrastructure.

The concept of 'non-scientific' development, such as educational or leadership training, is not widely embraced by HCS or their line managers. This was demonstrated by the fact that some participants booked annual leave to attend the four-day PSEL programme.

Measuring the full impact of the programme is a challenge, however, the evaluation indicates that the majority of alumni reported taking steps – as one participant described it *"sometimes baby steps"* – to improve existing practice, apply for a new post or develop a new initiative.

Participants were advised on the programme that *"leadership happens one conversation at a time"*.

4. Conclusions

Evidence from participants, facilitators and line managers indicates that the programme has fulfilled its aim to develop the leadership capacity of HCS. Participants have reported how they have used newly acquired tools, techniques, knowledge and they have described the impact as an enhanced self-awareness, increased confidence and motivation on their professional identity and practice. HCS have been enthusiastic about their extended professional networks and expressed confidence in a newly-forged professional identity**. The findings suggest that this programme has been a sound investment for this critical part of the NHS workforce.** However, in terms of measuring its impact on patient outcomes, it can be difficult to draw direct correlations. As the King's Fund explained (King's Fund, 2015):

"Undoubtedly some programmes work for some people some of the time, but evaluating their effectiveness empirically is challenging and demonstrating positive effects on patient outcomes is difficult."

This evaluation confirms that the programme had a positive effect on individual participants – and also, in many cases, their teams or departments. More longitudinal studies would help to assess impact on patient outcomes.

The Faculty was concerned that, unlike other professions, HCS tend not to regard leadership and educational development as a core component of their professional practice and believed strongly that there is a need to fulfil the leadership potential of all HCS. **Therefore, it is recommended that the programme – or similar types of provision/opportunity – should be delivered regularly and repeatedly throughout individual regions of the country until critical mass has been achieved and leadership capacity development becomes a core element of HCS culture at both undergraduate and post-graduate levels.** A possible way of implementing universal first line leadership development could be the adoption of PSEL by the HCS career framework developers. A positive consequence of the programme is that it has stimulated interest in leadership by providing an insight and several participants asked *"what next?"* eager to continue on their leadership journey. It is suggested that an advanced PSEL programme could meet these needs.

PSEL has demonstrated the effectiveness of strong regional networks in that the greatest recruitment to the programme was in regions where networks are already established, e.g. London and the North West. There is a crucial need to develop effective regional networks of HCS through robust, high profile regional leadership and the consequent development of comprehensive databases. This will remove the 'ad hoc' nature of professional opportunities and ensure that there is fair and equal access to leadership development for the HCS workforce.

The programme has addressed the initial development needs of HCS, however, the evaluation has indicated that successful leadership development is not a 'one-off' and that the alumni from this programme need ongoing support and development to continue their leadership journeys. A set of three regional master-classes will consolidate the learning from this programme; however, it is suggested that a further, advanced programme be developed to maintain the PSEL momentum and nurture the green shoots of confident, proactive HCS leadership informed by the programme.

ANNEXES

- 2015 PSEL: https://www.ahcs.ac.uk/2015/04/24/sign-practical-skills-professional-education-leadership-healthcare-science-programme/
- Sept 2016: CSO's Lead Healthcare Scientist Letter to Medical Directors: https://www.networks.nhs.uk/nhs-networks/healthcare-science/key-documents/lead-healthcare-scientist-letter-to-medical-directors/at_download/file
- 2017 PSEL Flyer: https://www.ahcs.ac.uk/wordpress/wp-content/uploads/2017/02/PSEL-Healthcare-Science-Birm-17-Ruth.pdf
- 2017 Impact evaluation of the Taunton PSEL programme: https://www.ahcs.ac.uk/2017/11/28/evaluation-impact-taunton-psel-programme/ and https://www.ahcs.ac.uk/wp-content/uploads/2017/11/Evaluation-of-the-impact-of-the-Taunton-PSEL-programme.pdf
- 2018 PSEL programme: https://www.ahcs.ac.uk/2018/01/17/practical-skills-education-training-leadership-healthcare-science/
- 2018 PSEL Masterclasses: https://www.ahcs.ac.uk/2018/08/20/practical-skills-in-education-training-leadership-masterclass-events/

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