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# Trainees Leading Quality Improvement

A trainee doctor's perspective on incorporating quality improvement in postgraduate medical training

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On behalf of the FMLM Trainee Steering Group Think Tank

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## About FMLM

The Faculty of Medical Leadership and Management (FMLM) was established in 2011 by all the UK medical royal colleges and faculties and endorsed by the Academy of Medical Royal Colleges. FMLM supports a diverse and dynamic membership community and is the professional home for medical leadership and management in the UK.

The primary objective of FMLM is to raise the standards of patient care by improving and professionalising medical leadership and management. FMLM does this by setting and benchmarking against standards that are aligned with the General Medical Council's *Good Medical Practice* and underpinned by *Leadership and leadership development in healthcare: the evidence base*.

FMLM promotes excellence in leadership on behalf of all doctors in public health, primary care, mental health and secondary care, from medical students to medical chief executives, and for all UK healthcare providers and healthcare-related organisations from all sectors.

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## Forewords

This is the first report published by the FMLM Trainee Steering Group's (TSG) Think Tank and exhibits the value that trainees and medical students bring not only to the field of quality improvement (QI), but to broader health policy as well.

The report examines the barriers faced by trainees across the nation when trying to participate in QI and it re-casts the obstacles of the past into the opportunities of the future. The authors have created a holistic, practical and evidence-based strategy to engage our trainee workforce and give them the skills they need to deliver the improvements to the systems they will one day lead.

This report builds on the valuable national work conducted by the Academy of Medical Royal College in this area and offers practical solutions that help place QI centrally in the training of tomorrow's medical leaders.

*Dr Arrash Arya Yassaee*  
*FMLM TSG Think Tank Lead*

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Quality improvement needs to move from something done by evangelists to something which is routine in the relentless quest for better patient care. Therefore, all doctors need to be conversant with and competent in the science of QI, which begs the question when and how do we learn?

FMLM welcomes this report as a thoroughly practical guide which addresses these questions. It is written by the experts, talented trainees with the desire to make a difference. Evidence from a UK-wide survey and focus groups provide a valuable resume of the issues facing trainee engagement in QI. Helpfully, the same methods were used to produce a compendium of recommendations alongside examples of successful implementation.

I congratulate the authors on a great initiative and commend this report to you.

*Peter Lees*  
*FMLM Chief Executive and Medical Director*



## Executive Summary

Striving to maintain and improve quality of care for our patients should be an “intrinsic part of everyone’s job, every day, in all parts of the system” (Batalden, 2007). In recent years, Quality Improvement (QI) initiatives are becoming more and more common in the NHS with local, regional and national organisations supporting staff to become agents for change. Junior doctors in the frontline of our NHS are ideally located to identify areas needing improvement and are often the best placed to lead the necessary change.

However, most junior doctors’ involvement with QI has been through the traditional clinical audit, which often fails to lead to an actual change in clinical practice. There is a need to move from this traditional approach to one that implements repeated, real-time, measurable changes using the latest QI methodology. Recognising this need for trainee-led QI, the Academy of Medical Royal Colleges launched a comprehensive, collaborative initiative to improve junior doctors’ involvement in QI, the ‘Quality Improvement - Training for Better Outcomes’ project.

To help shape this work, and to ensure that junior doctors themselves have the chance to influence this important initiative that will shape their training for years to come, the FMLM Trainee Steering Group Think Tank launched this project to understand the current trainee involvement in QI, the challenges junior doctors face and make practical recommendations for improvement.

Over six months, our team of junior doctors and medical students reviewed the evidence on trainee led QI, launched a national survey of junior doctors and engaged with trainees across the country through national, regional and local events. Over 200 junior doctors from a variety of specialties, seniority levels and localities participated in this project and informed our report.

We found that although the vast majority of junior doctors are enthusiastic and motivated to get involved in QI, they are faced with significant barriers when trying to implement change in their workplace. The lack of dedicated time and the strains of a busy clinical environment, the lack of knowledge and training in QI methodology, the frequent rotations between different departments and hospital, the lack of support networks and the often hostile to change culture of their organisation, impedes junior doctors from leading a successful QI project or, even worse, from getting involved in QI in the first place.

By engaging with junior doctors themselves we propose nine practical recommendations to enable trainee participation in QI. We ask for incorporation of QI in both undergraduate and postgraduate curricula as well as QI training to be incorporated in the postgraduate teaching programme for all junior doctors. Structured training in QI methodology and dedicated time to spend in projects will facilitate the immersion of junior doctors in QI. At the same time, our call for regional support networks, senior and organisational support and easy access to resources and ideas with the creation of an online QI platform will give trainees the tools and the support they need to implement change and improve quality of care in practice.

We hope our recommendations, in combination with the work by the Academy of Medical Royal Colleges, will help shape a training programme for junior doctors with QI as an integral, central part. Following this report, the FMLM TSG Think Tank will continue to review junior doctor involvement in QI and challenges faced as well as actively promote junior doctor leadership and trainee led QI.



**Summary of trainee recommendations:**

- 1 **Mandatory, protected, bleep-free time should be allocated on a regular basis to QI for all doctors in training positions.**
- 2 **Local Education and Training Boards should encourage training in QI and leadership by allowing interested and motivated trainees to take time out of programme to participate in relevant fellowships and undertake postgraduate certifications.**
- 3 **Incorporate QI training into the undergraduate curriculum for medicine.**
- 4 **Incorporate QI into the postgraduate training curricula across all specialties and levels of training to allow trainees to progress beyond quality assurance and affect change within the NHS.**
- 5 **Structured training in QI should be incorporated in the postgraduate teaching programme of all junior doctors in training posts and assured by the Local Education and Training Boards.**
- 6 **Health Education England and the royal colleges should lead on the creation of an online platform that collates existing resources in QI methodology.**
- 7 **All educational and clinical supervisors should be trained in QI methodology and their role should expand to include providing advice and support to trainees to participate and lead QI projects.**
- 8 **Regional QI networks should be instituted across the UK where trainees could share ideas, find mentors, develop skills and build upon previous improvement work.**
- 9 **All LETBs should have a QI lead and collaborate with QI, patient safety and audit departments in hospitals to ensure trainees are leading and participating in QI projects that are aligned with organisational objectives.**



## Background

Health care professionals aim to provide the highest quality of care. The NHS Constitution defines quality as ‘Patient care that focuses on safety, effectiveness and patient experience’ however quality is not static. Considered as the process through which ‘better patient experience and outcomes are achieved through systematic change methods and strategies’ (Øvretveit, 2009), quality improvement (QI) is considered essential to improve patient care (Berwick, 2013) and is increasingly embedded into NHS organisations.

In a collective leadership culture (West, 2014), all employees are critical to organisational success and the systemic implementation of quality improvement. Within this, junior doctors should be viewed as essential champions and agents for change (Keogh, 2013). As frontline personnel who conduct 80% of ward-based activity (Tooke, 2008), junior doctors are willing to contribute beyond basic clinical care (Bagnall, 2012) and are ideally located to identify and lead the necessary improvements. However, they are frequently ill-equipped to implement QI efficiently and face multiple barriers to lead, such change and improve the quality of care provided. Their involvement in QI is under-utilised, with a focus remaining on traditional audit.

Bringing together stakeholders from the four nations, The Academy of Medical Royal Colleges led the ‘Quality Improvement – training for better outcomes’ project. Welcomed as an attempt to provide a framework that would allow QI to be embedded as a core competence for all doctors in training, the FMLM launched a Trainee Steering Group Think Tank in support of this project.

In this report we discuss the challenges that junior doctors face when engaging with QI, make recommendations for potential improvements, and highlight areas of exemplary practice throughout the UK to engage junior doctors in this crucial area of modern healthcare.

### Aims

To give trainees the opportunity to influence national policy and lead developments in the future training pathways for QI.

Specifically, we aimed to:

- Understand the current experience doctors in training have of QI and how this varies across different specialties, levels of seniority and areas of the country
- Identify areas of excellence and map regional and national initiatives that are engaging trainees in QI and leadership
- Identify the barriers and obstacles that trainees face in QI
- Make recommendations that will facilitate trainee engagement in QI

### Methods

With support from the FMLM, we recruited frontline medical students and junior doctors from different specialties, locations and stages in their training to the Trainee Steering Group. An initial literature review ascertained the: current trainee participation, barriers, and both regional and national initiatives in QI. Supported by a national survey (Appendix 1), workshops, focus groups and a twitter chat we engaged with junior doctors across the UK on multiple occasions. A full list of events that informed this report can be found in Appendix 2.



All quantitative data and figures presented in this report are derived from the survey. Focus groups and engagement events were used to solidify emerging themes, explore them in more depth and develop our recommendations.

## The current trainee experience of QI

### Participants

#### Online survey

The survey was sent to trainees across England, Scotland, Wales and Northern Ireland. Responses from all countries were received (n=138) with a variety of training grades, specialities and backgrounds represented. The majority of respondents trained at UK medical schools (n=130) and now practiced in England or Northern Ireland.

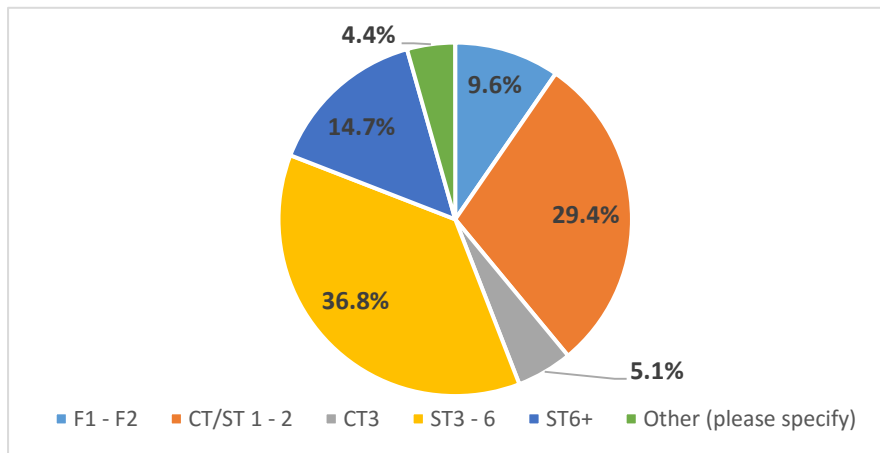


Figure 1. Responders' current training level

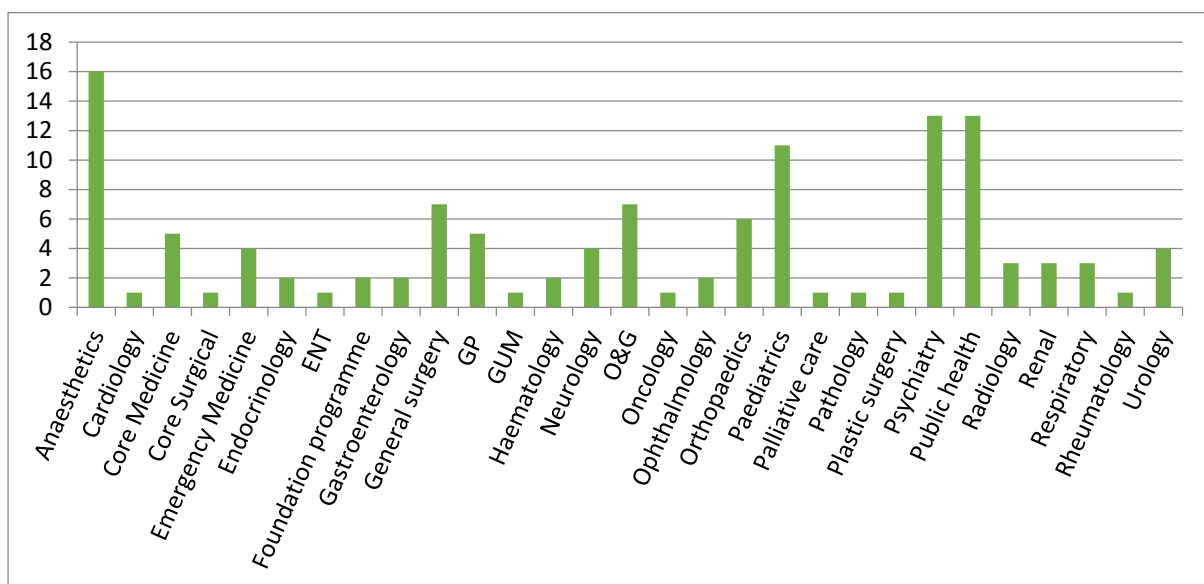


Figure 2 Responders' specialty



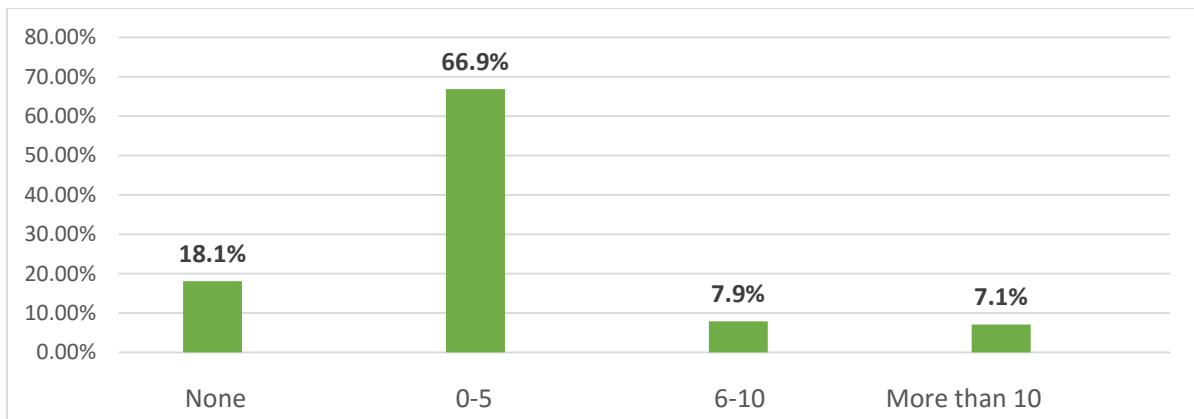


### Engagement events

Two national and seven regional events in Northern Ireland, Scotland and England were held, as well as a Twitter chat. Participating trainees (n=91) represented a diverse range of training levels and specialties.

### Experience of QI

The majority of junior doctors surveyed and engaging with focus groups had some experience of QI, with 82% of survey respondents having been involved in at least one QI project. Those who had not, were predominantly the foundation level doctors.



**Figure 3. Responders' participation in QI projects**

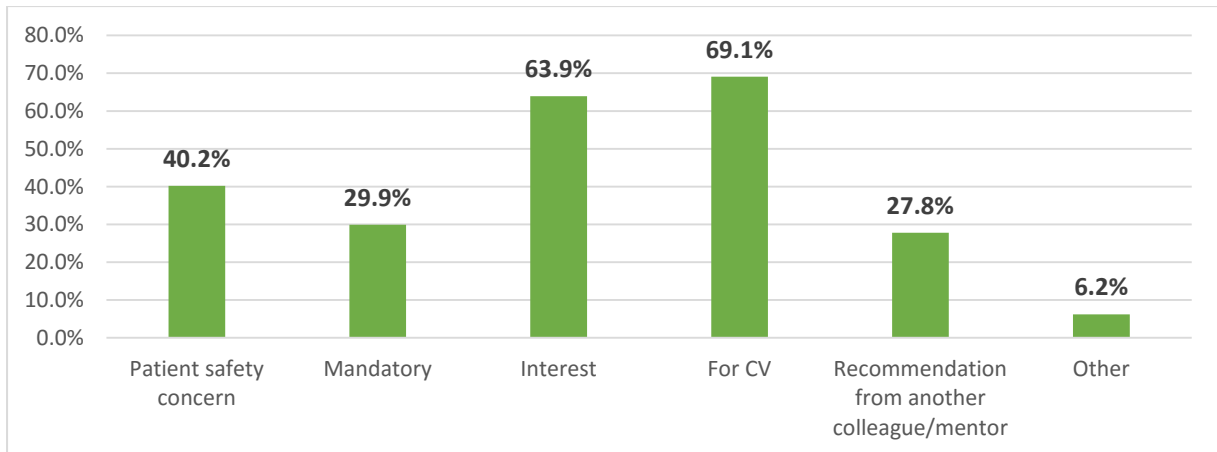
Most respondents had completed QI projects; more than 95% had completed at least one and almost 50% had completed two or more. Over 80% involved in QI had led at least one of those projects and 30% had led on two or more. Predominantly trainees (43.8%) and consultants (38.5%) were involved with project leadership, only 10% incorporated nurses, managers or academic research teams.

### Motivation to participate in QI

Similar themes arose from the survey and focus groups. Survey respondents, cited CV building (69.1%), personal interest (63.9%), and patient safety concern (40.2%) as the primary motivators for being involved in QI.

*"I wanted to be competitive, so it was a CV exercise initially, but then I found it interesting."*

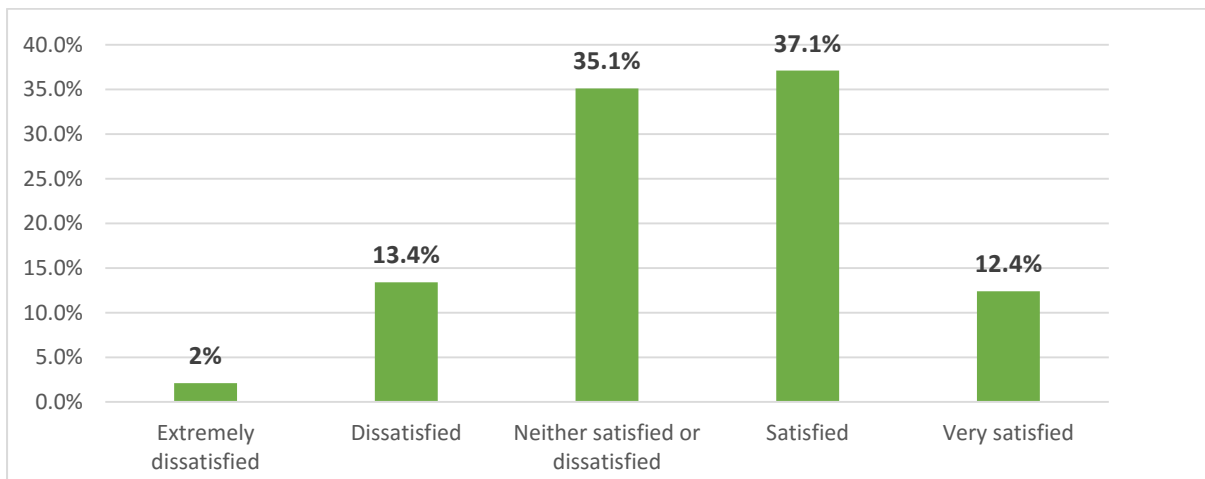
*"I was frustrated by the environment in which I worked – I was able to identify how the ward could improve efficiency and patient care."*



**Figure 4. Reasons that influenced trainees to get involved in QI**

### Trainee satisfaction of QI

With an average score of 3.44 on a scale of 1 (extremely dissatisfied) to 5 (very satisfied), we found trainees to be somewhat ambivalent regarding their satisfaction with previous QI experiences.



**Figure 5. Responders' satisfaction with their previous QI experience**

Contributing to satisfaction, a number of benefits of QI involvement were identified, these included:

- A sense of empowerment; the ability to have an impact and make a difference for patients
- An increased level of motivation at work
- The opportunity for skills development – e.g. leadership skills, time management skills and presentation skills
- The opportunity to better understand hospital systems and the structure of the NHS
- The opportunity to expand their CV
- Better engagement with senior colleagues; trainees felt that through QI they were more engaged with their seniors and their views were valued more
- A feeling of satisfaction, both personal and from patients and colleagues
- Creating a sense of community



*"I felt that I was making a difference in patient safety."*

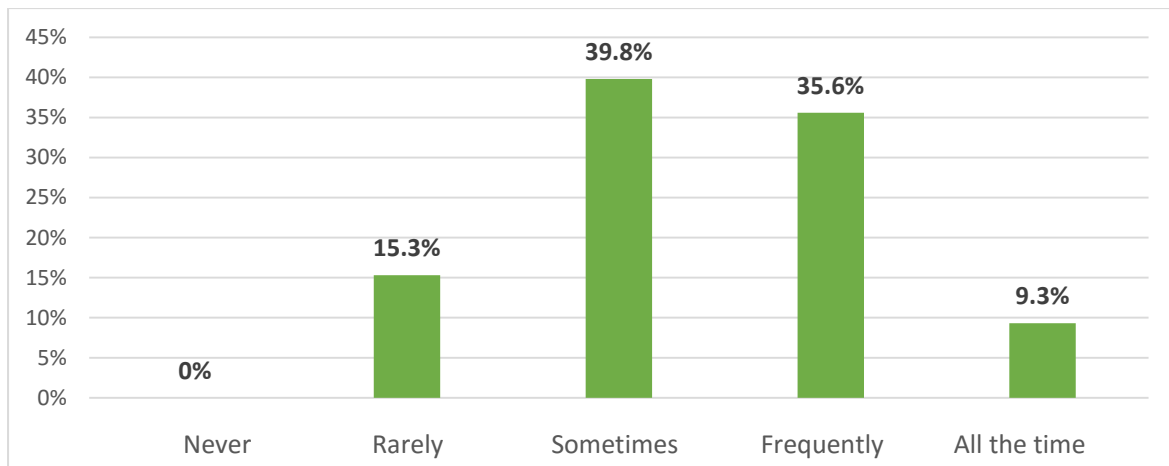
*"I really enjoyed being part of small changes that really made a difference to patients at the point of assessment and treatment."*

*"It was a good opportunity to use data analysis and presentation skills."*

## Barriers to QI

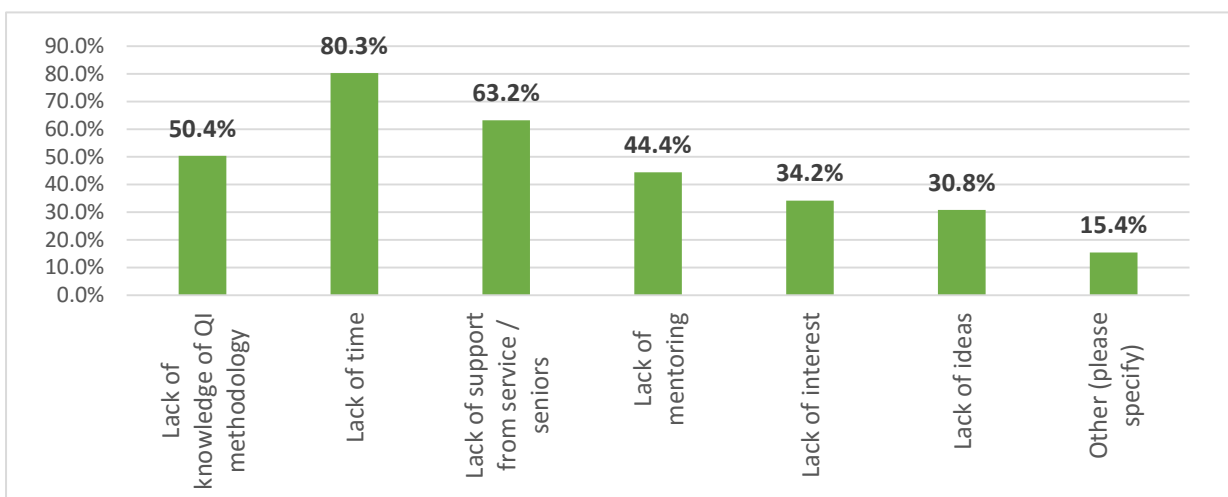
Although the majority of junior doctors have ideas for improvement, it is well described in the literature that they are underrepresented within QI initiatives (Parvizi et al., 2014), and only 10% ultimately see their ideas implemented (Gilbert, 2012).

We elicited similar trends, with all 138 responders experiencing barriers that have discouraged them from undertaking QI projects.



**Figure 6. Responders' experience of barriers in QI**

The most frequently cited barrier to QI was a lack of time during the working week (80.3%), this was also a significant contributor to QI dissatisfaction. The second most frequent barrier was a lack of support (63.2%) from senior colleagues and hospital management. Other common barriers were a lack of knowledge of QI methodology (50.4%), lack of mentoring (44.4%), lack of stakeholder interest (34.2%) and lack of ideas (30.8%).



**Figure 7. Identified barriers to QI**



Exploring these barriers further during the focus groups, no trainee interviewed reported that they had a smooth experience of QI. The barriers identified through our survey, engagement events and review of the literature followed the same common themes of: time, QI education, cultural inertia, rotational restrictions, and organisational networks.

## Time

It is well documented that junior doctors feel that protected time is needed to implement effective quality improvement and build the necessary competencies to lead improvements as future NHS consultants (Bagnall, 2012). Spending the majority of their working time on the shop floor, junior doctors often face challenges to engage with QI due to existing 'time stealers' within the NHS; such as inadequate staffing and administrative burdens (Gosfield, 2003; Hudelson et al., 2008).

Most respondents (80.3%) agreed with this and reported a lack of time as the biggest barrier. Many resorted to completing QI projects in their own time with one respondent reporting that s/he "still had to do mandatory aspects like traditional audit." Competing educational and training requirements are also barriers, and are prioritised over time spent undertaking QI.

*"All the time I spent on my project was during my free time, not sustainable after a while."*

*"Free sessions are filled with dictation, admin duties, or on calls and it leaves very little time to take on projects."*

*"Between audits, on calls, clinics, applications for next year and teaching, where do I even start?"*

## Education

QI is increasingly incorporated into undergraduate medical curricula, however, its perceived importance in comparison to clinical knowledge is minimal. Although the majority of the survey respondents had experienced QI, only 20% of these had gained this during medical school.

Many junior doctors feel underprepared to undertake QI, and this is a recurrent theme cited by the literature that impacts on the degree to which junior doctors are engaged with QI (Bagnall, 2012; Bethune et al., 2013; Hooper et al., 2015; Jamil et al., 2012; Lemer and Moss 2013, The Health Foundation, 2001; Watmough, 2006). This lack of education and support continues into postgraduate medical education (Bagnall, 2012; Wong et al., 2010; Kendall et al., 2005).

Only 60% of our respondents reported having received QI training, the majority of which was delivered ad hoc by senior colleagues (38.6%). Many of our respondents did not consider themselves experienced enough to undertake QI and sought QI training independently. Some respondents were completely unaware of available resources, with one responding s/he felt as if *"I was making it up as I went along"*.

Although QI training has become more available in recent years, the majority of this remains unstructured and inconsistent, relying on the trainee's own initiative.



*Figure 8. Sources of QI training*

At one workshop, attendees were asked to identify all organisations known to be involved in QI and who could provide useful resources. Participants identified 18 organisations (Appendix 3), one of which was frontline, two regional, one international and the rest national. This suggests a general lack of awareness of the multiple organisations in the UK that can provide junior doctors with training in QI.

The trainees who engaged with this project felt that QI training is currently unstructured and inconsistent, resulting in them feeling unprepared to undertake QI projects.

*“My first attempt was a disaster - I tried to do too much.”*

*“It could have been easier if I had been provided with a structure or examples, like a basic toolkit to QI.”*

*“I still don't understand the difference between a complete audit cycle and a QI project.”*

### Cultural inertia

Many organisations maintain a culture engrained in quality assurance and are resistant to change (Wilkinson, et al., 2011). Using audit alone, improvements are often restricted to those of only ‘small to moderate’ effect (Jamtvedt et al., 2006) and a junior doctor’s role is often limited to the menial task of data collection (Allard, 2010; Kendall et al., 2005). To impact on the engagement of junior doctors in QI, we should shift this focus on data collection to a focus on change management.

However, whilst senior staff are needed to support QI implementation, they are unlikely to have been robustly trained in it themselves (Ahmed et al., 2014). In this situation, junior doctors can easily feel intimidated (Buchanan, 2005; Geenhalgh, 2004; Jamil, 2012), find that some seniors resist or even obstruct change (Bagnall, 2012), and that convincing non-clinical team members can be an arduous and time intensive task (Parvizi, 2014). This view was supported by respondents (63%) who reported that senior colleagues did not adequately support them due to a lack of awareness of basic QI principles, leaving many junior doctors unaware of how to access both clinical and administrative advice. Without this support and integration into the wider clinical context, respondents felt their effectiveness was limited, reporting difficulty overcoming “bureaucracy”, “resistance to change” and “stakeholder relationship issues”. One respondent found: “the political challenge of addressing poor practice insurmountable”.



Furthermore, where cultures are avoidant of reporting patient safety and quality concerns, engaging clinicians in QI can be challenging (Hooper et al., 2015). While some junior doctors said they would challenge this, others said their response would depend on their senior colleague’s receptiveness and attitude (Kobayashi, 2006). This is dangerous, leaves patient safety concerns hidden and hinders any potential quality improvement.

*“I felt there was a lack of engagement, with others just accepting ‘it’s always been this way’, and they were more happy to keep going as they were as they felt changing things would require too much effort.”*

*“It would be easier if I was working in an environment that shows a willingness to continually improve and question practice.”*

*“Seniors often do not seem to value QI or understand the need to do projects.”*

### Rotational restrictions

Alongside time pressured clinical roles, junior doctor-led QI initiatives are limited by their rostered working patterns and relatively short periods of time within each post (Kendall, 2005). Our responders confirmed this and particularly emphasised the difficulty in completing projects and ensuring sustainability within this limited time frame.

The rotational experience of training is felt to limit the time available to generate QI ideas, teams and in seeing projects through to completion, which either results in disengagement or smaller QI initiatives completed as merely a ‘tick-box exercise’ (Bagnall, 2012; Diner, 2007; Kendall, 2005).

### Organisational networks

As one of the newest and most inexperienced members of their organisation, junior doctors frequently face a daunting challenge to gain the confidence and know-how to navigate the complex structures and politically fraught networks in existence (Allard, 2010; Da Silva, 2015; Parvizi, 2014). This limits QI engagement and where clear support mechanisms are absent or ill-defined, junior doctors frequently stagnate and find great difficulty, even on a small scale, to implement improvements (Helfrick, 2007). Furthermore, with quality improvement heavily aligned to strategic organisational objectives, the disconnect between junior doctors and non-clinical managerial staff leads to a lack of collaboration which ultimately leaves junior doctors feeling undervalued and disengaged (Gilbert, 2012).

To ensure relevant projects with high impact are undertaken, junior doctors need to appreciate why quality improvement initiatives occur and understand the strategic goals and direction of the healthcare system within which they work (Parvizi, 2014); something which many are keen to learn (Gilbert, 2012).

## What needs to change?

Through the survey and engagement events, we asked trainees across the country about interventions that would improve their experience of, and engagement with, quality improvement.

We received an amazing response from trainees with ideas for national policy change, regional networks, and local, bottom-up initiatives.



In this report, we have set out to collate and organise these ideas into practical and realistic recommendations that would help alleviate the barriers we have described above.

## Time

- 1 Mandatory, protected, bleep-free time should be allocated to all doctors in training on a regular basis for QI projects.**

Lack of time was identified as a major barrier to involvement in QI. Three quarters (74.8%) of respondents suggested protected training time would encourage junior doctors who had previously not been involved in QI and that this would improve their experience of it. As with other educational requirements, such as weekly teaching and regional training days, protected non-clinical time should be incorporated into the work plan of junior doctors for training and experiential learning in QI.

- 2 Local Education and Training Boards (LETBs) should encourage training in QI and leadership. This should include Out of Programme Experience (OOPE) in relevant fellowships and postgraduate qualifications.**

Opportunities already exist for junior doctors to undertake out of programme activities. Those interested in developing leadership and management skills and learning more about QI should be encouraged to do so. It is encouraging that an increasing number of QI fellowships and postgraduate qualifications are being offered for junior doctors to pursue these opportunities.

### Learning from success:

#### QI fellowship programmes

A number of LETBs, including Health Education Wessex (HEW) and Health Education East of England (HEEoE), have established QI fellowships. Junior doctors are recruited alongside fellows from a range of healthcare backgrounds to jointly lead on QI projects within the local area on a part-time basis. Similarly, the Scottish Patient Safety Programme (SPSP) fellowship was developed in 2008 to strengthen both leadership and improvement capability (NHS Education for Scotland, 2013) among junior doctors across Scotland.

#### Postgraduate Qualifications

In recent years a number of postgraduate courses (certificates, diplomas, Masters degrees or individual modules), have been established to provide training in clinical leadership, management and education (University of Dundee, 2015; University of Birmingham, 2015; University College London, 2015; Cardiff University, 2015). Many incorporate critical analysis and quality improvement methodologies aiming to empower junior doctors and other healthcare professionals to implement QI within their workplace.



## QI education

### 3 **Incorporation of QI training into the undergraduate curriculum for medicine.**

Only a small number of respondents received undergraduate quality improvement training, yet nearly 80% felt that this should be mandatory within the curriculum. By introducing and involving junior doctors in QI early within training, it was felt this would develop deeper QI knowledge, interest and help overcome difficulties in obtaining advice and training at a postgraduate level.

### 4 **Incorporation of QI into the postgraduate curriculum across all specialties and levels to allow trainees to progress beyond quality assurance and affect change within the NHS.**

The vast majority of respondents (87%) and participants at engagement events felt that postgraduate QI training should be mandatory. However, there is recognition that not everyone would be interested in doing QI, and the training structure should take account of this.

Whilst there is a current requirement for trainees to be involved in clinical audit, many felt that trainees should “learn how to do it properly” and learn “through ‘doing’ with more senior colleagues”. Adopting QI methodology and training would support this and encourage trainees as “drivers of innovation” to participate in QI during their short rotations.

Previous themes of trainees as “drivers of innovation”, QI being a vital part of medicine and continuing training, were raised. Some respondents felt postgraduate training should build on undergraduate training, taking on the style of advice and application and “instil a sense of responsibility”.

#### **Learning from success:**

##### **Learning to make a difference project (LTMD) & Making every moment count (MEMC)**

The Royal College of Physicians and the Joint Royal Colleges of Physicians Training Board (JRCPTB) jointly led LTMD as a QI training initiative for core medical trainees (Vaux et al., 2012). Expanding from a pilot project of 61 participants, LTMD tested the feasibility of introducing quality improvement projects as a mandatory requirement of clinical training. LTMD integrates the Institute for Healthcare Improvement (IHI) ‘Model for Improvement’ (Langley et al., 2009) within routine clinical practice and focuses on trainee-led small-scale change. Trainees are encouraged to undertake a project within their 3-6 month rotation, either individually or preferably as a multi-disciplinary team, with the support of consultant supervisors and online educational materials. MEMC expands on the initial LTMD pilot with support from Health Education England to empower junior doctors to recognise problems within healthcare and proactively adopt methodology to seek solutions (Vaux, 2013).

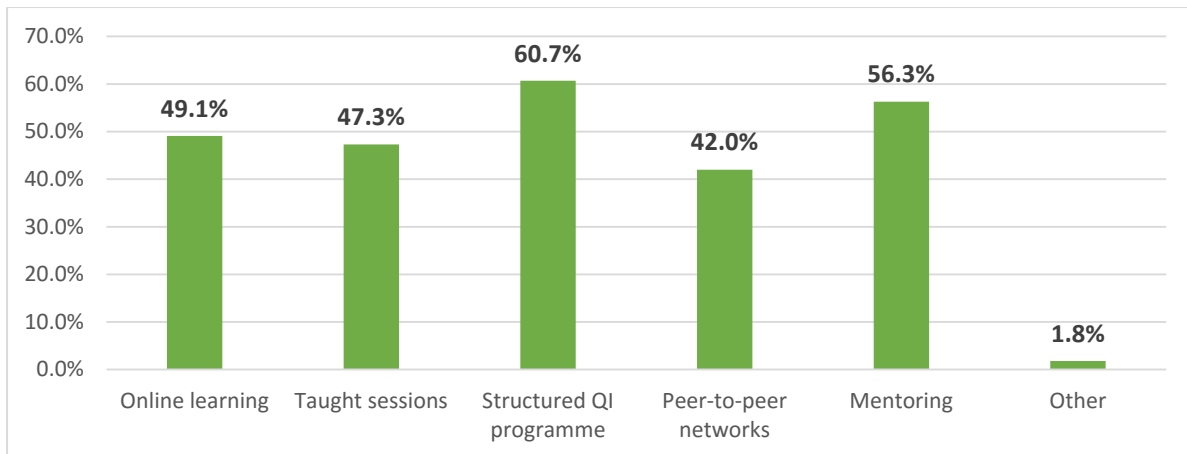
45 junior doctors across different specialties within Royal Berkshire NHS Foundation Trust were given the opportunity to complete 27 projects under the initiative. Crucial to its success was strong leadership by the steering group, involvement of key stakeholders, including patients and consultants, within the multi-disciplinary team, and accessibility of the MEMC project team. The success of these programmes has led to the integration of QI into the medical specialty curriculum, the Annual Review of Competence Progression decision aids, and the national application processes within the Royal College of Physicians.





**5 Structured training in QI should be incorporated in the postgraduate teaching programme of all junior doctors and assured by the Local Education and Training Boards.**

A structured QI programme where participants could learn by doing and have regular exposure to improvement science methodology was most frequently highlighted (60.7%) as the preferred format for QI training. Mentoring was the second preferred method, though it came in below greater senior support and availability of ideas for QI projects as factors that would encourage participation in QI. Online learning, which can be assessed or delivered after hours, was the third most mentioned format (49.1%), and seemed to be the format of choice for respondents regarding availability. Recognition was also given to didactic teaching sessions (47.3%) and peer-to-peer networks (42.0%).



*Figure 9. Trainees' recommendations for format of Postgraduate QI Training*

All but one participant in the focus groups felt that both trainees and medical students should receive QI training. Support for QI was generated because “it is the right thing to do – as doctors we should always learn and improve” and “because we are the ones who are front line with patients and can identify what needs to be improved – so we need to know how to do this.”

Junior doctors' preference for structured QI training stems from the appreciation that training in methodology requires support with experiential learning through a QI project in the 'real world'. They also expressed a desire for an emphasis on learning the non-technical skills needed to implement successful improvement projects, such as managing relationships, as well as influencing and negotiating with others, which can only be gained through a structured training programme.

**Learning from success:**

**Enabling clinicians in QI and patient safety (EQuIP)**

Established by Great Ormond Street Hospital for Children NHS Foundation Trust on the grounds that “medical training does not necessarily prepare graduates for the real world of healthcare in which continual improvement is required”, EQuIP provides QI training to both clinical and non-clinical staff from all disciplines (Runnacles et al., 2013). EQuIP transforms the traditional medical emphasis of clinical audit into that of experiential workplace-based improvement and focuses this on local initiatives over a 6 month period. However, where LTMD and MEMC largely integrated training with no formally protected time, EQuIP structured training through an one hour workshop and two supplementary full-day workshops where the fundamentals of patient safety, QI methodology, and the specifics of the chosen projects could be developed.



**6 Health Education England and the medical royal colleges should lead on the creation of an online platform that collates existing resources in QI methodology**

Whilst almost half of our respondents suggested that online training resources would be useful in encouraging junior doctors' participation in QI, there was a general lack of awareness of the multiple organisations in the UK that offer online QI resources and training. This was particularly true for local and regional QI organisations and formal NHS networks set up for these purposes, such as the patient safety collaborative. Many junior doctors are therefore 'going-it-alone' as individuals or ad hoc groups. Collating all relevant resources in an accessible format would enable junior doctors to access support and skills in QI in their own time and increase the effectiveness of their QI projects.

**Learning from success:**

**NHS Change Day and The School for Health and Care Radicals**

NHS Change Day is an annual grassroots frontline movement for improvement in health and social care, which began in March 2013. With thousands of individuals involved and pledges for change made, NHS Change Day is the biggest moment for improvement in the history of the NHS. It presents an opportunity to all NHS staff, including junior doctors, to make a change within their workplace and provides a platform to share and inspire others nationally (Trivedi, 2015).

The School for Health and Care Radicals was established in 2014 from earlier roots to build on the growing success of NHS Change Day (NHS Improving Quality, 2015). With its similarly focus on an inclusive approach, it is available virtually and to all through free open access, providing online learning materials such as webinars and handbooks, to support everyone involved with the NHS to engage with QI and implement change.

**Cultural inertia**

**7 All educational and clinical supervisors should be trained in QI methodology and their role should expand to include providing advice and support to junior doctors participating in and leading QI projects**

A number of recent health policy documents have highlighted the need for a cultural change within the NHS to one where every member is empowered to speak up, raise concerns, innovate and implement change in order to improve quality of care. Whilst this is beyond the scope of this report, the majority of junior doctors surveyed called for greater support from senior clinicians to encourage QI engagement (67.8%). Educational and clinical supervisors should be the first point of call for trainees. To achieve this however, supervisors need to have knowledge and experience of QI methodology themselves as well as the time necessary to support trainees.

**Rotational restrictions**

**8 Regional QI networks should be instituted across the UK where junior doctors can share ideas, find mentors, build skills and build upon previous improvement work.**



The rotational nature of postgraduate training poses significant challenges to QI involvement. The nomination of local leads, regional collaborations and a team-based approach to QI projects may help ease the difficulty of finding new mentors for each rotation, and allow QI projects to be passed on between junior doctors on subsequent rotations to ensure continuity. It would also be a platform for sharing best practice within a geographical region to enhance the effectiveness of QI over a greater area.

**Learning from success:**

**The Severn Deanery foundation doctor QI programme**

Since 2009, Foundation Year 1 (FY1) doctors have been encouraged at induction to identify their own areas for improvement within clinical practice using the 'Model for Improvement' (Bethune et al., 2013). Further mandatory teaching and discussions regarding potential projects are facilitated, and final projects are led by groups of FY1 doctors with the support of a mentor. The resulting changes are shared with senior clinicians and the trust board, and further disseminated at international conferences and in publications.

**Organisational networks**

9

*All LETBs should have a QI lead to collaborate with QI, patient safety and audit departments in hospitals to ensure trainees are leading and participating in QI projects that are aligned with organisational objectives*

Successful QI is dependent upon organisational support, without which junior doctors leading QI would be a redundant exercise. Respondents recognised a difficulty in gaining this support at their level. It may be that there is a role for LETBs to provide the bridge between junior doctors and hospital trusts to ensure that QI, as with all aspects of postgraduate medical training, is fully integrated at the organisational level, and allow the QI contribution of the junior doctors to be recognised in the same way as their clinical contribution.

**Learning from success:**

**London Deanery - beyond audit**

Beyond Audit moves junior doctors' focus away from meaningless data collection for pre-identified audits, to identifying and leading change within the workplace through QI methodology. Stakeholder engagement and collaboration between the deanery and local trusts through training days and workshops were essential for the success of the programme (Roueche & Hewitt, 2012).

## Conclusion

The call for junior doctors to be trained in QI science is overwhelming. Without developing this expertise, junior doctors are likely to either fail to produce projects which make a difference or worse still, be prevented from initiating projects at all.

Formal QI and leadership training should be incorporated, not as a token consideration, but as a core and formal aspect of both undergraduate and postgraduate medical education. Without providing junior doctors with the tools (and time) to lead change, they are likely to become demoralised, never fully engage with the QI agenda, and we will not develop this untapped, but vital resource, to drive the NHS to survive and thrive in the modern economic and political landscape.



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## Appendices

### Appendix 1

#### Survey questions:

##### **Demographic information:**

Question 1: What is your current level of training?

Question 2: What is your specialty? Please outline your specialty if you are in a specialty - specific training programme

Question 3: Where are you doing your training?

Question 4: Are you a less than full time trainee?

Question 5: Have you spent >6 months out of training?

Question 6: If you have spent >6 months out of training, could you tell us why?

Question 7: Did you study medicine as an undergraduate?

Question 8: What is the subject of your undergraduate degree?

Question 9: Which medical school did you attend? Please provide a location if you did not train in the UK

##### **Experience of Quality Improvement:**

Question 10: How many QI projects have you been involved in?

Question 11: How many of these were at undergraduate level?

Question 12: Why did you get involved in QI? Please select all that apply

Question 13: How many QI projects, overall, have you led?

Question 14: How many QI projects, overall, have you completed?

Question 15: How satisfied are you with your past QI experience?

Question 16: In your experience, who usually leads QI projects?

Question 17: Where would you go to share your work?

##### **Training in Quality Improvement:**

Question 18: Have you been directed to some skilled mentoring within your workplace?

Question 19: As an undergraduate did you receive formal training in QI?

Question 20: Where did you receive this training? Please select all that apply

Question 21: If you received training at an external course please provide the name below

Question 22: On a scale of 1 - 5 how prepared did you feel after your training to undertake QI work?  
1 = not prepared ; 5 = very prepared

Question 23: As a postgraduate have you received formal training in QI?

Question 24: Where did you receive this training? Please select all that apply



Question 25: If you received training at an external course please provide the name below

Question 26: In what format was the training delivered? Please select all that apply

Question 27: On a scale of 1 - 5 how prepared did you feel after your training to undertake QI work?  
1 = not prepared ; 5 = very prepared

**Barriers to Quality improvement and Ideas for Improvement:**

Question 28: In your view, should it be mandatory for medical students to receive QI training?

Question 29: In your view, should it be mandatory for trainees to receive QI training?

Question 30: How often have you encountered barriers that have discouraged you from undertaking QI?

Question 31: What barriers have you encountered? (Please select all that apply)

Question 32: As a trainee what would encourage you to participate/lead a QI project?

Question 33: What do you think QI training should involve?

Question 34: How could QI training be improved in your area?





## Appendix 2

<b>Engagement events that informed this report</b>			
<b>National workshops</b>			
<b>Title</b>	<b>Location</b>	<b>Date</b>	<b>Delegates</b>
Quality Improvement Workshop	Agents for Change Conference, Islington Design Business Centre, London	24 October 2015	25
Lunchtime QI Session	Agents for Change Conference, Islington Design Business Centre, London	24 October 2015	13
<b>Regional Focus Groups</b>			
<b>Region</b>	<b>Location/Event</b>	<b>Date</b>	<b>Delegates</b>
Scotland	Dr Gray's Hospital, North of Scotland Deanery	4 November 2015	7
Northern Ireland	NIMDTA (Northern Ireland Medical and Dental Training Agency), Belfast, Northern Ireland	2 November 2015	6
Northern Ireland	Royal Victoria Hospital, Belfast, Northern Ireland	5 November 2015	6
Northern Ireland	Royal Victoria Hospital, Belfast, Northern Ireland	5 November 2015	7
Northern Ireland	Ulster Medical Society Meeting, Belfast, Northern Ireland	5 November 2015	4
Northern Ireland	FMLM in Northern Ireland Regional Conference	11 November 2015	3
<b>Twitter Chat</b>			
<b>Host</b>	<b>Accounts reached</b>	<b>Date</b>	<b>Participants</b>
Agents4C	55,806	22 October 2015	20
<b>Informal Engagement</b>			
<b>Region</b>	<b>Location/Event</b>	<b>Date</b>	<b>Delegates</b>
East of England	Cambridge QI Conference, Addenbrooke's Clinical School, Cambridge	28 November 2015	48



## Appendix 3

### QI Organisations identified by junior doctors

DAPS (Doctors Advancing Patient Safety)	<a href="http://www.dapsglobal.com">www.dapsglobal.com</a>
NHS Improving Quality	<a href="http://www.nhsiq.nhs.uk">http://www.nhsiq.nhs.uk</a>
FMLM	<a href="https://www.fmlm.ac.uk/themes/quality-improvement">https://www.fmlm.ac.uk/themes/quality-improvement</a>
QI Network	<a href="http://www.quid.org.uk">www.quid.org.uk</a>
Quality Improvement Database Health Foundation	<a href="http://www.health.org.uk/collection/improvementprojects-tools-and-resources">http://www.health.org.uk/collection/improvementprojects-tools-and-resources</a>
Scottish Patient Safety Programme	<a href="http://www.scottishpatientsafetyprogramme.scot.nhs.uk">http://www.scottishpatientsafetyprogramme.scot.nhs.uk</a>
The King's Fund	<a href="http://www.kingsfund.org.uk/topics/quality-care">http://www.kingsfund.org.uk/topics/quality-care</a>
Advancing Quality Alliance (AQuA)	<a href="https://www.aquanw.nhs.uk">https://www.aquanw.nhs.uk</a>
BMJ Quality	<a href="http://quality.bmj.com">http://quality.bmj.com</a>
Action Against Medical Accidents (AVMA)	<a href="http://www.avma.org.uk">http://www.avma.org.uk</a>
BaSIS (NHS Institute)	<a href="http://www.institute.nhs.uk/safer_care/safer_care/basis%3A_building_safety_improvement_skills.html">http://www.institute.nhs.uk/safer_care/safer_care/basis%3A_building_safety_improvement_skills.html</a>
1000 lives plus	<a href="http://1000livesplus.wales.nhs.uk/home">1000livesplus.wales.nhs.uk/home</a>
CQC	<a href="http://www.cqc.org.uk">http://www.cqc.org.uk</a>
Aneurin Bevan Continuous Improvement (ABCi)	<a href="http://www.wales.nhs.uk/sitesplus/866/page/69347">http://www.wales.nhs.uk/sitesplus/866/page/69347</a>
10,000 voices	<a href="http://www.pointofcarefoundation.org.uk/Blog/35/10-000-Voicesimproving-patient-experiencein-Northern-Ireland">http://www.pointofcarefoundation.org.uk/Blog/35/10-000-Voicesimproving-patient-experiencein-Northern-Ireland</a>
Healthcare Improvement Scotland	<a href="http://www.healthcareimprovementscotland.org">http://www.healthcareimprovementscotland.org</a>
Institute for Health Improvement (IHI)	<a href="http://www.ihl.org/Pages/default.aspx">http://www.ihl.org/Pages/default.aspx</a>

### List of named resources accessed by respondents

STEP Programme  
 Development fellowship (Lothian)  
 Darzi fellow  
 Chief Residents Programme (Cambridge University Hospitals Trust)  
 LeaP Programme (Cambridgeshire and Peterborough NHS Foundation Trust)  
 BaSIS  
 Introduction to Quality Improvement (RCPCH)  
 PGCert Healthcare Improvement Leadership (University of Hull)  
 Edward Jenner Programme  
 HEEoE QIF Programme  
 NHS Scotland Management Training Programme  
 Foundation in Improvement Science in Healthcare  
 REACH for Success  
 IHI Open School  
 DAPS North West Quality Improvement Course