Final report

December 2018

Innovating for Improvement

Using live operational data and improvement science to help primary care teams deliver better patient care: the Tower Hamlets EQUIP programme.

Tower Hamlets Clinical Commissioning Group

The Health Foundation

About the project

Project title:

Using live operational data and improvement science to help primary care teams deliver better patient care: the Tower Hamlets EQUIP programme.

Lead organisation:

Tower Hamlets Clinical Commissioning Group.

Partner organisation:

Clinical Effectiveness Group, Queen Mary University of London.

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Contents

Part 1: Abstract

The story of EQUIP

Enabling Quality Improvement in Practice (EQUIP[1]) is an innovative programme seeking to embed quality improvement methodology in primary care in Tower Hamlets.

Using live operational data to promote a systems-based view of general practice, we hope to move away from a place of low staff morale, increased workload and uncertainty, to a place where staff can experience joy at work[2] and patients can enjoy a better experience of care.

Impacts and successes

Outcome measures

- Positive shift in patient experience across EQUIP practices.

Process Measures

- 31 practices engaged with the EQUIP programme (combined population 269,000).
- 34 projects achieving a score of 3.5 or more on the IHI standard assessment score[3].
- Recruitment and training of 26 Improvement Coaches.
- Training of over 300 primary care staff in Quality Improvement.
- Exposure of over 200 primary care staff to training and support in techniques to improve team culture.

Challenges

- There are big challenges in introducing a new way of working and thinking.
- Practice teams struggle to find the time to undertake improvement work.
- Practice culture is both a good indicator of success and progress.

Enablers include:

- 'Live' operational data and data sharing across practices, supported by training and support in measurement for improvement.
- The presence of external Improvement Coaches in practices. Their role is critical to generating momentum in projects, spreading ideas between practices and identifying talented emerging leaders.
- Working purposively on creating the culture for improvement using organisational psychology support, team development and systemic coaching.

Through EQUIP we have noticed practices teams shifting towards being more customer-focused organisations and are seeing early signs of the programme embedding QI into business as usual for practices.

Part 2: Progress and outcomes

EQUIP is the first programme of its kind aiming to improve staff and patient satisfaction in general practice using a quality improvement methodology. We aim to encourage a greater systems-level awareness of general practice through hands-on operational and diagnostic support. In delivering applied coaching to QI projects, team development tools and live data support, we seek to make lasting and sustained culture changes within general practice.

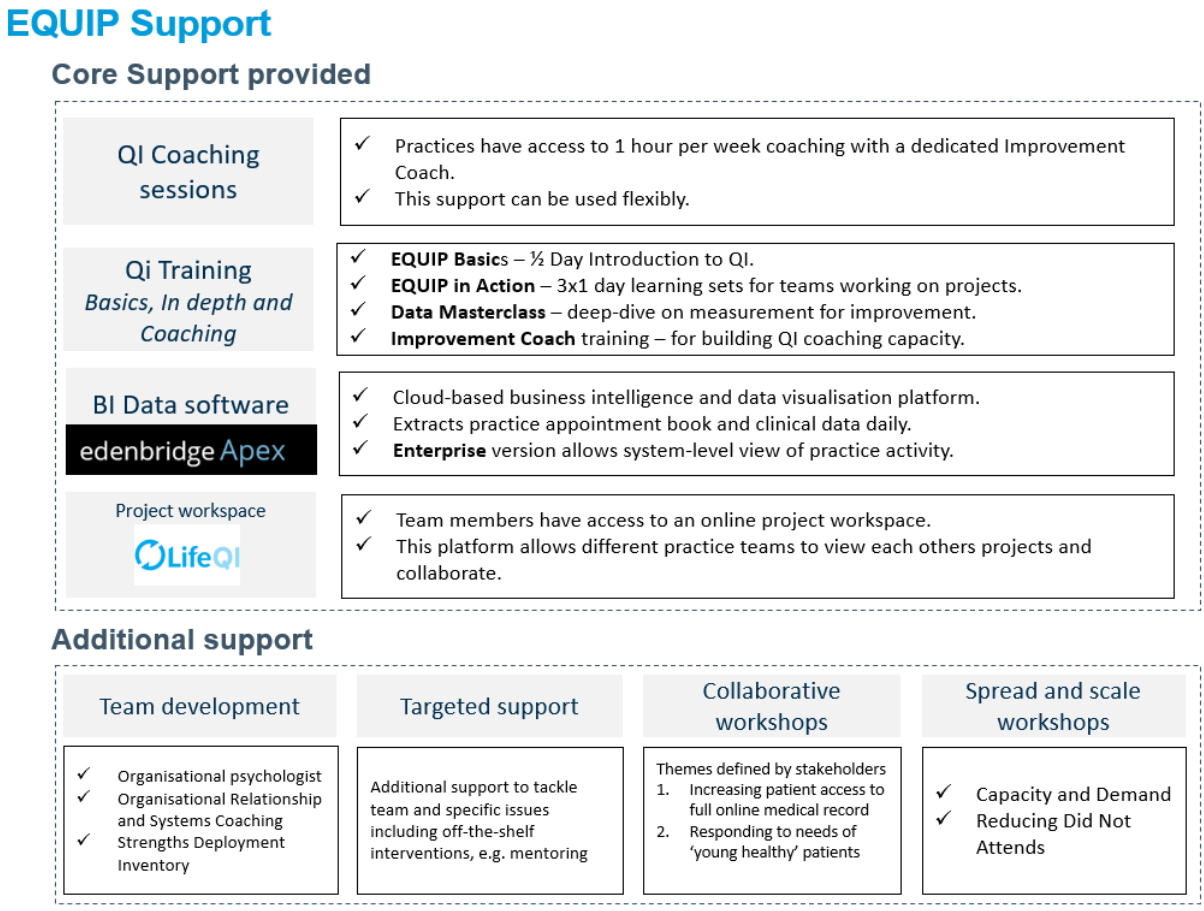


Figure 1: EQUIP programme delivery components.

Data and approach

Our programme is enabled in large part by access to 'live' data from the GP electronic medical record. The source of our data at both practice and system-level is Edenbridge Apex[4]. Edenbridge Apex is a business intelligence platform with an Approved Provider Interface with EMIS[5] (the electronic medical record system used in many GP Practices). Edenbridge extracts practice-level appointment book and clinical data on a daily basis and is the principal source in EQUIP for visualising reporting data for practices.

Obtaining this practice-level data required data sharing agreements from practices on EQUIP, which was a big step for some practices. It required transparency and trust in the way the data was going to be used. Most GP practices are used to their performance data being used by external organisations for assurance but are far less familiar with the use of measurement for the purpose of improvement.

The EQUIP approach is not an assurance or performance management process. We use an asset-based approach drawn from coaching methods to facilitate behaviour change in practice teams. In essence shifting the focus from *'here's what you are doing wrong, try to do less of it*' towards '*what are we doing well and how do we use this to do better work?*'

The programme has secondary access to large-scale databases as part of the East London Health and Care Partnership (ELHCP) Data Repository, which includes:

- The North East London Clinical Support Unit (NELCSU) Fact Engine: GP appointments and patient characteristics.
- Secondary Uses Services SUS: acute care activity and spend.

Evaluation methods

We are undertaking a mixed-methods formative evaluation. We experienced significant difficulties recruiting a programme evaluator which delayed the formal evaluation process. However, we have undertaken informal evaluation of specific interventions throughout the programme.

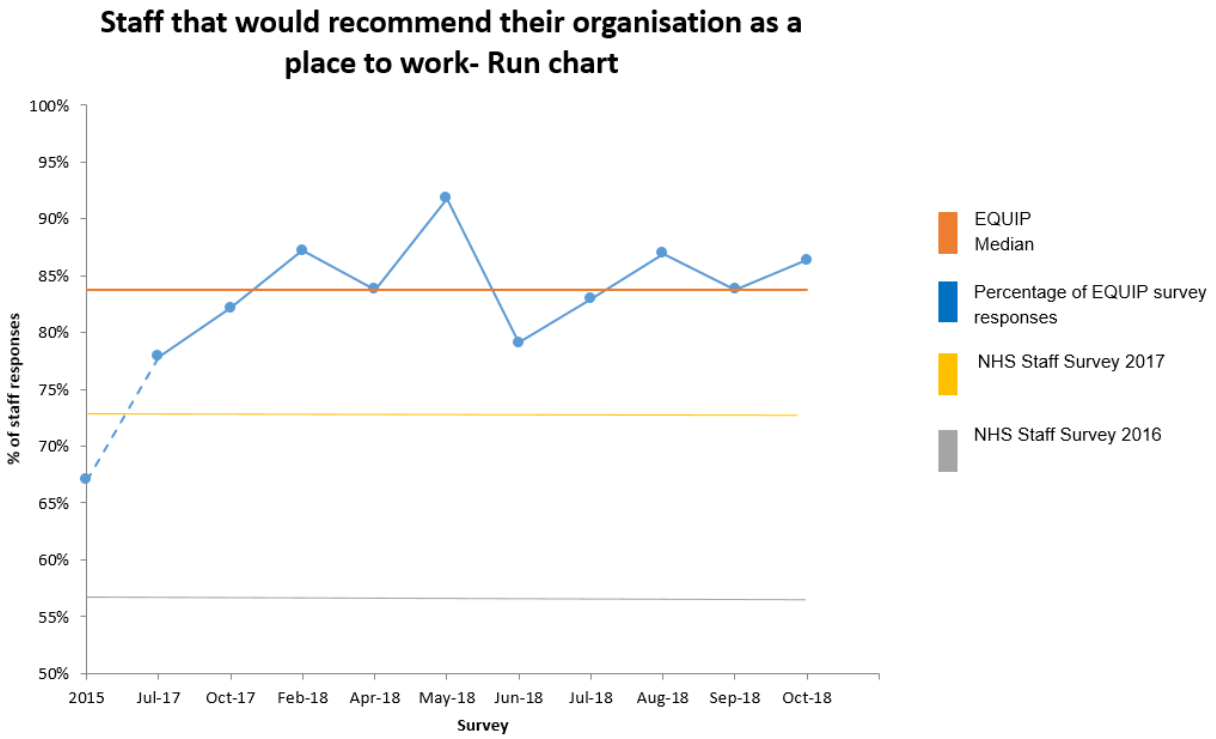
Given the complex nature of our intervention the formal evaluation explores the impact of specific components of the programme and aims to identify the 'ingredients of success'.

Randomised controlled trials (RCTs) are not well-suited to the evaluation of socio-technical interventions[6]. We use quality improvement methodology to measure progress in specific projects[7,8], and have used difference-in-difference designs[9,10] to identify system impact from EQUIP.

A central part of our evaluation has been the iterative development of our logic model (see Appendix 1, Appendices E). The process of building the logic model helped us identify all the moving parts of EQUIP and really pushed the programme team to think through our hypotheses of action and effect. We have also developed a simple radar diagram to use with teams to assess readiness for improvement work and also improvement maturity, to identify areas that may be helping or hindering teams' progress (see Appendix 1, Appendices F).

The impact so far

Our two main quantitative outcome measures are staff and patient experience. For staff experience we use a short survey with questions taken from the national NHS Staff Survey[11]. Whilst the NHS staff survey is not routinely collected in primary care, it is however a nationally collected dataset and it is therefore possible to make comparisons to the wider NHS.



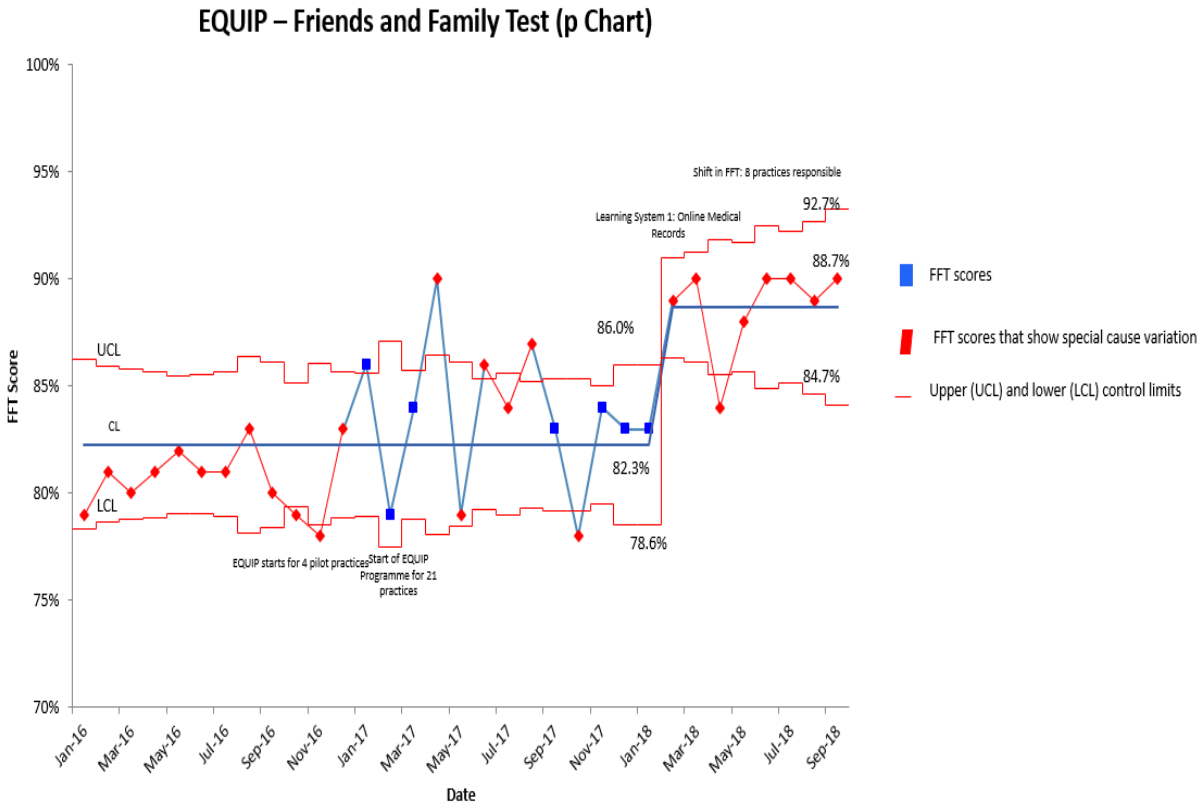
Source: EQUIP staff survey.

Figure 2: Staff that would recommend their organisation as a place to work.

At first, we ran our staff survey on a quarterly basis from our full staff cohort but moved to monthly sampling in order to better try to capture and attribute any changes. To get a deeper understanding of any impact of EQUIP we are also performing semi-structured interviews with practice QI sponsors on a rolling basis and have included some of their quotes later in the report.

The survey shows consistently higher rates of staff satisfaction than NHS mean values and an increase from the Tower Hamlets-wide survey undertaken in 2015. The limitations of the EQUIP survey are that we have found decreasing response rates over time and it is hard to pick out the effects of individual changes at a practice level on staff experience. As we head into 2019, we are looking to test new ways of tracking joy at work in a meaningful way. This will include a system-level objective measure and local-level measures defined by individual practice teams[12].

For patient experience one of the measures we use is the Friends and Family Test (FFT)[13]. Whilst not without controversy as a measure of quality of care[14], it is collected monthly across English general practice and wider NHS and therefore allows comparison. To supplement the FFT data we also work closely with Healthwatch Tower Hamlets[15] to provide practices with other sources of patient feedback including NHS Choices, social media and focus group data (where available).



Source: NHS England data.

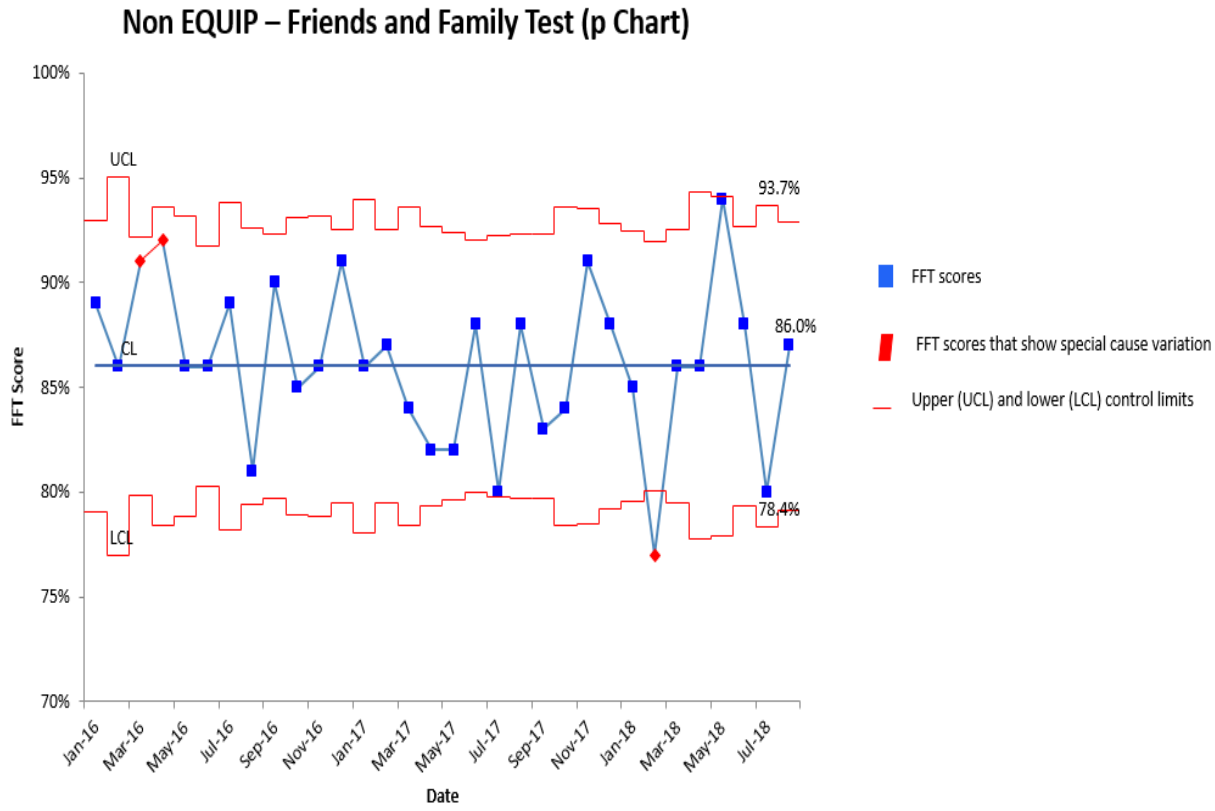
Figure 3: P-chart showing patient satisfaction through Friends and Family Test scores from January 2016 to September 2018 for practices participating in EQUIP.

Figure 3 shows:

- FFT scores are stable prior to start of the EQUIP Programme.
- There is high variation in FFT scores after the EQUIP Programme starts.
- There is a positive shift starting in February 2018.

We have undertaken a drill-down into the shift in FFT scores and note the following:

- Eight practices are responsible for the shift.
- There is a cumulative effect of EQUIP on FFT scores.



Source: NHS England data.

Figure 4: P-chart showing patient satisfaction through Friends and Family Test from January 2016 to September 2018 for Tower Hamlets practices not participating in EQUIP.

Figure 4 shows that the FFT test for non-EQUIP practices exhibits common cause variation. In February 2018, this observation is outside lower control limit. Our drill-down revealed that this is not attributable to specific practice.

From this data we can't claim that through EQUIP we have made Tower Hamlets the *'best place to work and receive care'*, but we may be seeing early signs of positive impact.

Structural and Process Outcomes

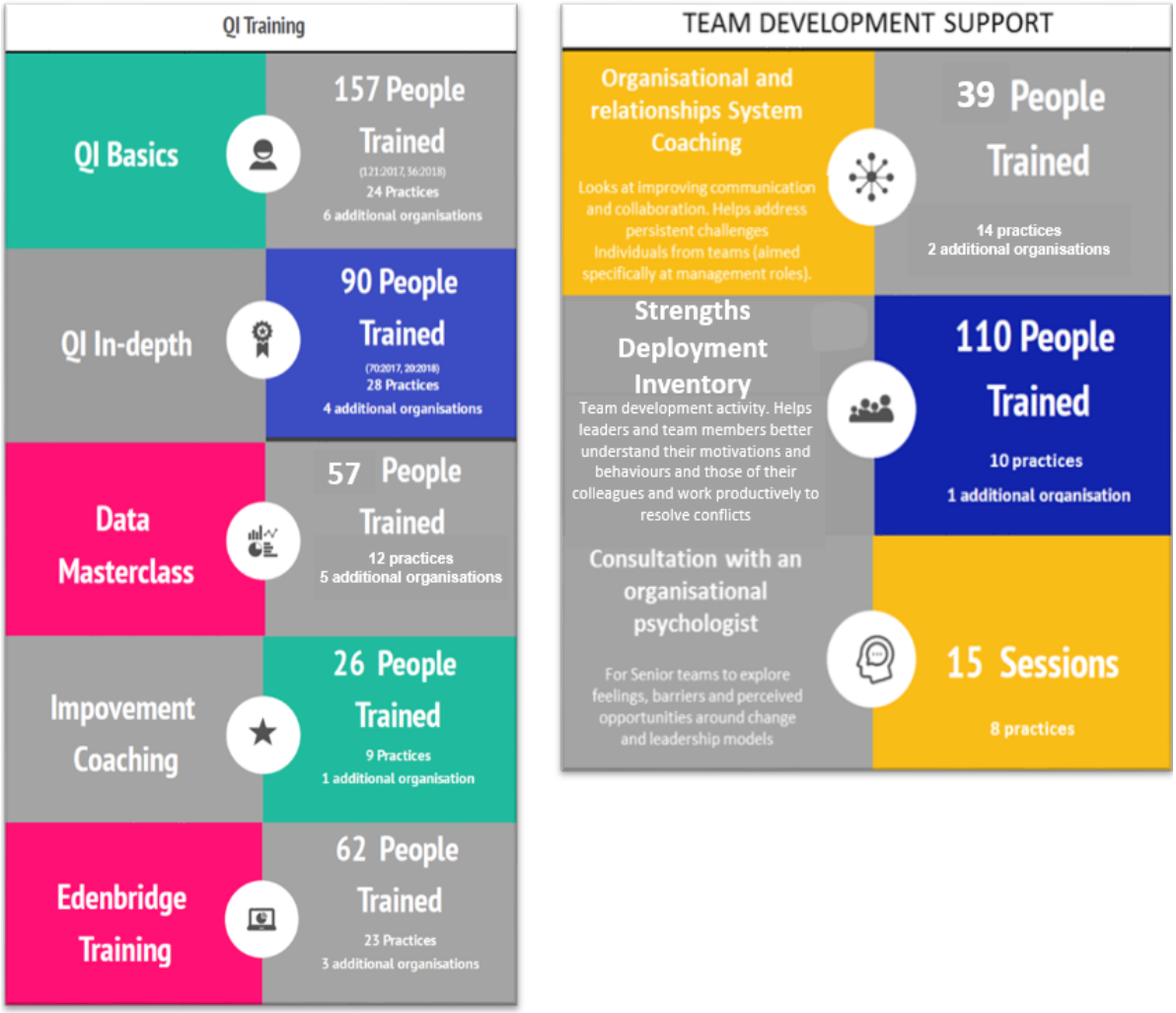
Practice Projects

There are in excess of 100 live QI projects at different levels of maturity running in the 31 practices engaged in EQUIP. One-page summaries of three examples of these projects are in Appendix 1, Appendices A.

Training and development

Figure 5 shows delivery to date of the training and team development components of EQUIP. We are aiming for a workforce who are 'fluent in QI' and hypothesise that training is an essential component of this. Our Improvement Coaches report that teams with no formal QI training make less progress in their project work.

We have found that we need to be flexible in our training offer – from offering 'micro-teaching' by coaches during practice QI meetings through to formal in-depth training.



Source: EQUIP programme delivery records.

Figure 5: Infographic describing the uptake of different training and team development components of EQUIP

Challenges and enablers

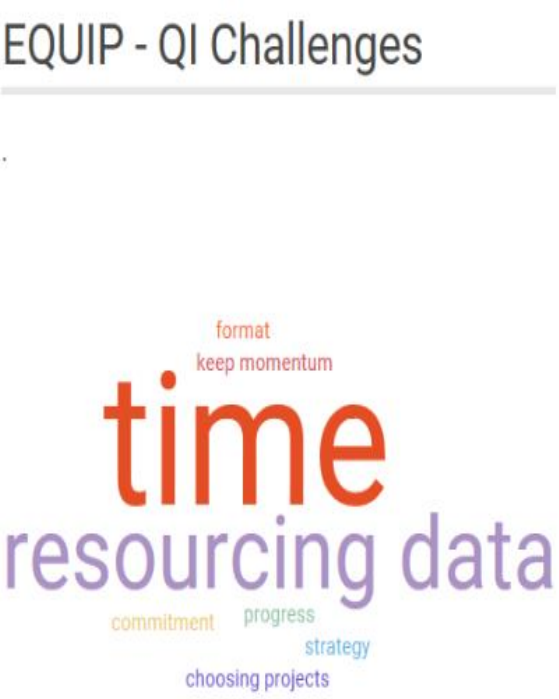


Figure 6: Reported difficulties with enacting QI in EQUIP practices, from practice staff (no. of source comments = 11)

Figure 7: Reported advantages of the programme from practice staff (no. of source comments = 58)

Source: Programme feedback from participating practices

Figures 6 and 7: EQUIP Challenges and enablers as described by practice staff

Part 3: Cost impact

EQUIP is funded and commissioned by Tower Hamlets Clinical Commissioning Group.

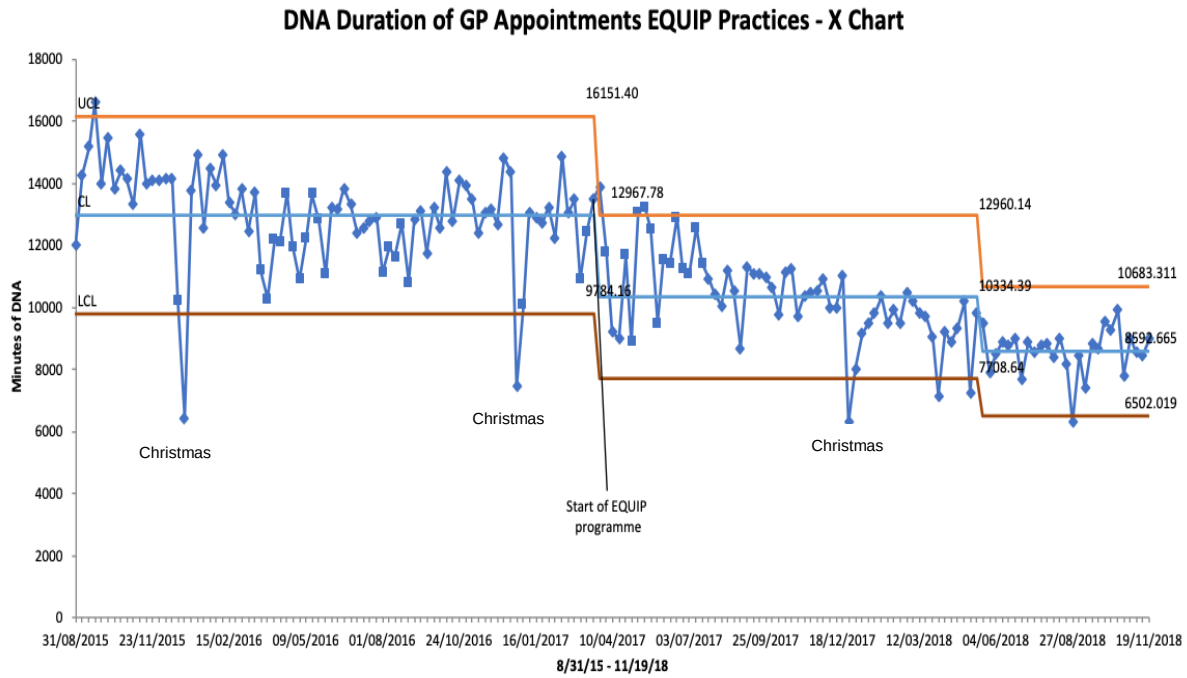
The cost of the programme is approximately £10,000 per practice over 2 years, depending on the levels of additional support taken up by practice. This includes coaching, training, install and configuration of Edenbridge Apex.

There has not been a formal financial evaluation of EQUIP to date, although we have used different methods to capture impact. It has proven difficult to capture the financial impacts of individual projects at a practice level and we are working on ways to readily capture time, and therefore money, released from process improvements in practices.

Major system impacts

An example of system level impact is in the 'light green dollar'[16] returns from reductions in duration of non-attendance (Did Not Attend - DNA) time for GP and nurse appointments across EQUIP practices.

The example below illustrates the impact of making practice data visible at a system level and the impact of individual practices working to address higher than expected rates of non-attendance for GP appointments.



Source: Edenbridge data by EQUIP practices, Aug-15 – Nov-18.

Figure 8. X-chart showing minutes of Did Not Attend for GP appointments across EQUIP practices.

By using data from practice systems, we were able to perform secondary analysis at a system level on the drivers of DNA and explore the impact of relationships like age, sex, deprivation and long-term conditions on the levels of DNA for GP and nurse appointments. We were then able to compare practice DNA levels to the mean performance of the system as a whole, and present that back to practices.

Figure 8 highlights the impact of a small group of practices working on reducing DNAs on the system as a whole, and the overall effect of making data visible. Through this work we have learnt that changes to appointment systems, for example the length of time in advance it is possible to book an appointment, appear to lead to greater and more sustained reductions in the volume of DNA than behavioural interventions like text-message reminders.

This reduction in the total time of Did Not Attends (DNA) is equivalent to 437 GP and 93 practice nurse appointments per week across EQUIP practices. This is equivalent to 'light green dollar' returns to the system of £18,048 per week[17]. We cannot attribute cause and effect solely to specific changes at a practice level, but there appears to be a systemic improvement from June 2016 that we are investigating further. By making data visible and providing practical steps that practices can follow to reduce DNA levels, as part of overall work on capacity and demand, we are observing system improvements.

Difference-in-difference

To further assess wider system impact of the EQUIP work at a practice level we have begun working with the Tower Hamlets CCG Financial Strategy team to perform analyses of the how changes made at the level of an individual practice or group of practices affect the wider system. We believe that these system-level analyses are necessary, in part, for identifying unintended consequences of the improvement work.

The model used is based on a difference-in-difference regression analysis[18]. This method removes biases in second period comparisons between treatment and control that could be the result from permanent differences between those groups, as well as biases from comparisons over time in the treatment group that could be the result of trends. The model also controls for other factors like age, long term conditions and gender to improve the precision of the analysis.

These analyses have shown significant reductions in unplanned hospital admissions and outpatient activity following changes to individual practice appointment systems. There are case study examples of these analyses in Appendices B and C.

Part 4: Learning from your project

Achievements

We have seen some early signs that the programme has resulted in a demonstrable shift in workplace culture and attitudes.

> *We've definitely learned a lot about our system...it was quite a shock...we realised we really needed to change things.*
>
> *- Practice 4.*

> *QI has provided us with a positive outlook, it has changed our collective thinking process as a team'*
>
> *- Practice 10*

Having set out to run EQUIP in Tower Hamlets over two years, during the journey we have learned to appreciate that we are playing a longer game. Systemic changes, such as those sought in our programme, result from long-term investments. Our learning first-hand from other healthcare settings such as the Virginia Mason Institute[19], Intermountain Healthcare[20] in the United States and, closer to home, East London Foundation Trust[21], is that to properly embed improvement behaviour takes significantly more than two years.

Enablers to success

One of the key enablers of our programme has been the newest wave of fully-trained Improvement Coaches. These improvement leaders are mostly local citizens from the borough and come from non-traditional leadership roles. This mix of administrators, managers, commissioners, citizens and clinicians are the potential future leaders of primary care in Tower Hamlets.

Another enabler is the EQUIP newsletter that is sent out weekly to almost 800 stakeholders and critical friends. Written in a deliberately irreverent tone of voice, it generates conversations, celebrates success and encourages sharing of ideas (see Appendix 1, Appendices G).

Fig 9. Wave 2 Improvement Coaches at their graduation event, September 2018

Overcoming obstacles

> *Partnership have come round to the need to resource this properly and are giving people dedicated more time to do the work.*
>
> *- Practice 9.*

> *Need to get more strategic with choosing project. Initially lots of false starts because no clear structure on who's projects got picked to work on and of lack of buy in around data.*
>
> *- Practice 5.*

One of the main obstacles reported by practices is finding time to fit in the improvement work. Spreading this work beyond the core quality improvement practice team forms a central focus of our programme.

> *Practices need to understand that they need to invest upfront - make the amount of time it takes clearer upfront.*
>
> *- Practice 29.*

There are also challenges in getting good quality data out of GP systems because of the variation in practice configuration of EMIS. This has taken significant effort with in-practice configuration to get good data out. An interesting outcome of this configuration work is that we are now regularly contacted by practices to facilitate in configuring their EMIS setup so that they can get better quality data out of their systems more easily.

> *Totally sold on data, and now a number of people in practice are too. The shift is palpable, people see that you need data to do any successful change.*
>
> - *Practice 7.*

> *QI has been the enabler. No surprises, put everything under a common umbrella…. They can prove things now with data.*
>
> - *Practice 2.*

> *[Practice staff] are collecting more relevant data. They are bringing the right data to meetings and making data informed decisions.*
>
> - *Practice 19.*

We have really learned the significance of team culture in terms of gauging practice readiness for QI. Intentional work in this area has become a much more explicit focus of our work. Some teams are not ready for QI if relationships and teams are not stable.

> *[Regarding psychotherapeutic team development tools]… Do not think we achieved much… a member of the team not engaging at all... due to the ingrained, cultural problems steeped in over a decade of history... 2 half day sessions barely touched the surface.*
>
> - *Practice 15.*

The OSRC training was great, I was very impressed…. makes you think... how to have a better conversation with your staff... I am really keen to know more about this… best course I've ever been to.

- *Practice 11.*

SDI has reinforced conflict management…I feel like a strategy is there

- *SDI Participant*

We have experienced a range of engagement across practices, from those who have picked up the improvement approach and run with it to the extent that coaching support can be scaled back after two years, to those practices who have struggled to gain momentum in their QI work.

Practice size appears to have an influence on progress with improvement work. Small practices find it difficult to release staff, and for large practices it is very challenging getting full teams together, which hampers potential spread of projects and ideas within the practice. We have tried to be more flexible with our coaching and programme support to accommodate both of these practical challenges.

Surprising feedback

At the outset of our programme we assumed that the more successful a practice's QI work, assessed using the IHI assessment score[3], the more engaged they would be with the programme. Over time, one thing which particularly surprised us was that some practices, despite projects failing to demonstrate much objective improvement in terms of assessment scores, continued to express ongoing engagement with the programme. These practices consistently report some of the less-tangible benefits of an improvement focus to their work, including some of the relational aspects of working differently together.

[Programme] has driven improved wider engagement.

- *Practice 8.*

Staff are "looking after each other". They help each other out. [Sponsor] feels as though they have unseen leaders.

- *Practice 8*

[EQUIP/QI] Brings people together, engages people, breaks down hierarchies, empowers people.

- Practice 7.

People have given up their lunchtime for QI… personally I have prioritised QI to attend some of meetings.

- Practice 5

We have been pleased to observe subtle, yet tangible, changes in the customer focus of practices. This is felt in terms of a growing practice awareness of being customer-facing organisations - from '*them and us*', to '*we*'.

'One of my practices has gone from an average 2 patients at their bi-annual PPG [Patient Participation Group] meetings to an average of 14 patients at meetings.... There is much stronger patient engagement in the practice …. providing very constructive feedback and ideas, which the practice is acting on, such as staff noticeboard with pictures of all staff members, with very positive feedback from patients'.

- Coach 1.

Some practices have certainly changed from a practice-centric view to seeing themselves as part of something larger, and in doing so are seeing more clearly their relationship with the patient.

I think there is a change, and it's been very gradual, and isn't in all of them. Where it is, the practices tend, unsurprisingly, to be able to better articulate their purposes and their patients' needs.

-Coach 2.

Introducing and sustaining innovation

As an organisation we have learnt the importance of personal resilience, and the value of not taking criticism personally. Given the nature of the programme and with so many moving parts, we have needed to *learn to fish whilst fishing*. This has bonded us strongly as a team and has required practising what we preach in terms of managing ourselves when things are going well and when we are in conflict.

Time has been a crucial factor proving the adage that '*change happens at the speed of trust'*. EQUIP is not a time limited, one-off intervention, but a new way of doing business, and this can be challenging to translate in a world of quick solutions and single interventions.

Coach impact cannot be overestimated. As practices gain maturity, we have experience of them asking for extra coaches to take on additional projects or changing their coach relationship such that their original coach supervises and mentors new in-practice coaches.

From the outset we would have benefitted greatly from more explicit focus on sponsorship at practice level. In our experience we have found that without a senior sponsor engaged and enabling the improvement work it can be very difficult for projects to gain lasting traction or attention. This risks the work becoming marginalised, with teams tinkering with peripheral processes rather than addressing fundamental system problems.

Looking ahead

Whilst working to embed sustainable operational change within practices, we have grown more aware of the importance of the 'coach approach'. This is particularly true in terms of matching coaches to practices.

Coaches demonstrate a wide range in the skills and attributes they bring to the role. This is challenging as it is another variable to manage when planning deployment of coaching resource. Although, overall it has enriched the programme significantly and we have drawn on this experience, often drawn from outside healthcare, to refine the EQUIP offer.

> *[Coach F] keeps them on track. Good at showing the tools and getting the wider team involved. … we valued [Coach F] holding teams to account… but not being difficult when things not done - looks for solutions*
>
> - *Practice 14.*

[Regarding Coach F] Bit side-lined. Not engaged so when meetings happen they feel they are playing catch-up with him rather than making progress.

Not best use of time.

- *Practice 12.*

The QI work has brought more structure to the way we operate as a practice... does provide a structure and rigour.

- *Practice 9.*

We have learned that this intersection between coaches, in terms of approach and ability, with the individual needs of practices, together comprise an especially rich area for further investigation. We are particularly keen to understand the relational dynamic between coaches, as agents of change, and practices, as subjects of change.

Improvement coaching in general practice requires a fairly unique skill set, including:

- Knowledge of primary care.
- Understanding of organisational development and human resource interventions.
- Team and individual coaching methods.
- Quality Improvement expertise.
- Facilitation of groups.

These skills need to be combined with flexibility, tenacity, personal resilience and the ability to hold teams accountable for undertaking actions where the coach has no innate authority. To this end we *recruit for attitude and train for skill*[22]. We supplement Improvement Coach training with further skills and supervision to effectively develop the skills to be an effective coach in this challenging, yet very rewarding area. At a programme level we are refining how to effectively match individual coaches with different practices.

Part 5: Sustainability and spread

We hope that the sustainability of the project will be further informed by our ongoing evaluation, which brings applied research attention to the overall strategy of the programme.

We are particularly interested on focusing on optimising the 'dose and scope'[23] of individual programme elements in order to have the most impact. The evaluation will work towards developing change bundles. Change bundles are ideas which have been tested in a specific topic area, such as reducing DNAs, capacity and demand or practice workflow, such that there is a high degree of belief in their reproducible impact and return on investment. Our hypothesis for is that these change bundles may become the unit of spread for EQUIP. The process of developing change bundles is detailed in Figure 10.

1 *Identifying key areas for Primary Care to improve performance and reduce variation*

2 *Engage with stakeholders to identify area to focus on*

3 *Use a standardised approach to identify change bundles suitable for spread*

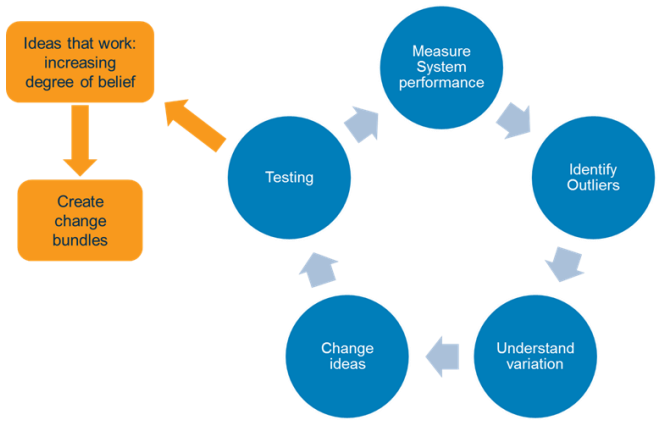


Figure 10: Outline of EQUIP approach to identifying and managing variation.

EQUIP has provided the footprint for working at scale across East London and has been able to significantly inform both meso- and macro-level strategy. This means that local funding decisions around workforce and quality improvement align to the EQUIP model and will contribute to the sustainability of the programme over time.

Interest and recognition

- Presented poster at the *International Forum on Quality & Safety in Healthcare,* Amsterdam (May 2018).
- Submitted poster to *International Forum on Quality & Safety in Healthcare*, Glasgow (March 2019).
- Highlighted in over 100 conferences nationally.
- EQUIP team have hosted an equal number of international and national visits including NHS England, NHS Scotland, Canada, Brazil, Beijing and Australia.

Has the way you think and describe the intervention changed as a result of implementing it?

Our understanding of the programme has developed in three important ways.

Firstly, we have grown in our confidence to be up-front about describing joy at work as a primary objective of this work. We are very fortunate to work with great people and teams doing good work in a very challenging landscape. These teams deserve more than mere satisfaction in work.

Secondly, we have increasing confidence in our approach and in the tools and change bundles we have developed to help support delivery of this improvement work. We hope this will facilitate spread as teams will be able to pick up tried and tested ideas and see improvements more quickly.

Thirdly, we have realised the importance of influencing the wider system. Both internally at the CCG, but increasingly through the executive of the East London Health and Care Partnership[24], our partners in the acute setting, public health and social care. The EQUIP operational infrastructure can help support wider system improvement and our ambition for scale and spread.

Plans for spread

Although scale and spread are often packaged together, we have learned the practical importance of working towards scale *before* spread. We have received advice from The Institute for Healthcare Improvement[25] (IHI) on the need to reduce variation in programme outcomes between practices. As such we have taken reducing variation as one of our key programme workstreams and are working towards a global picture of improvement at borough-level before taking the programme further.

Whilst immediate plans for spread are on the back-burner given our focus on reducing variation, our Engagement Lead continues to inform strategy for the North East London Primary Care Transformation board and will also chair the WEL (Waltham Forest, Newham and Tower Hamlets CCGs) QI Board. This board has placed scaling of EQUIP as one of its most immediate priorities.

Plan to spread innovation beyond Innovating for Improvement award site

There are multiple components to the EQUIP programme. Currently, it is not clear whether these components are suitable for spread and scale individually, or if these should (or could) be packaged as a whole. Through our ongoing evaluation we are working to better understand what the core offer of EQUIP and what is optional in order to achieve results. Our logic model (Appendix 1, Appendices E) is central to this.

At the moment, our **spread** is focused on uptake of change bundles, reduction in variation and wider cultural change outside the processes we are measuring and changing, whilst our **scale** is very much focused on informing strategy and methodology at North East London level.

Practically speaking, in the immediate this will involve:

- Sharing our original coaches to work across the North East London as we train and upskill in-house coaches.
- Sharing data platforms across the entire geographical area.
- Continue work to align EQUIP outcome measures with the Tower Hamlets Together outcomes framework[26]. By doing this we clearly articulate the role of EQUIP in delivering wider system outcomes.
- Ongoing use of operational data and statistical modelling to drive work on reducing unwarranted variation.

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Appendix 1: Resources and appendices

You can find a link to our programme website here.

Newsletter homepage is also here.

Attached digitally.

Appendices A – Completed Life QI project reports.

Appendices B – Difference-in-difference – Practice 1.

Appendices C – Difference-in-difference – Practice 2.

Appendices D – EQUIP Programme Update, November 2018.

Appendices E – EQUIP Logic Model.

Appendices F – Practice readiness and maturity assessments.

Appendices G – Sample EQUIP communications newsletter.