

Evaluation of Broad Based Training

Final Report

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Executive Summary

Introduction and evaluation aim

Patient demographics and healthcare services are changing. In accord with a move towards broader based general training, the Academy of Medical Royal Colleges (AoMRC) introduced the two-year broad-based training (BBT) programme in 2013. At the same time, they also commissioned a programme evaluation, funded by Health Education England. The principal aim of our study was to evaluate whether the BBT programme better prepares trainees for the next step in their training compared with those following conventional pathways.

Methods

We adopted a longitudinal, mixed-methods approach collecting data from annual questionnaire surveys (from BBT trainees and comparator groups), focus groups, semi-structured, one-to-one interviews and Q-sort methodology. Our primary focus was two groups of BBT trainees (BBT2013 and BBT2014; total n at baseline = 62) whom we followed for three years.

We submitted regular interim reports throughout the evaluation. The intention of this final report is to review the evidence on the extent to which BBT has achieved its aims, drawing comparisons with data from trainees following conventional training pathways and highlighting unintended consequences.

Results

Specialty complementarity

Relevant programme aims:

- to deliver a more broad-based practitioner who is likely to be able to bring a wider perspective to healthcare provision both now and for the predicted future NHS
- to promote greater integration and understanding within the specialties involved in the programme for both trainers and trainees

From questionnaire data, BBT trainees were *significantly* more confident that their training would result in: wider perspectives, understanding how specialties complement one another and application of learning across specialties. BBT trainees welcomed the additional time spent training. Importantly, our data also revealed that comparator groups were open to undertaking an additional six-months training in the BBT specialties.

Experience from all four BBT specialties was noted to benefit trainees in caring for patients in their chosen specialty. They suggested that BBT experience enabled them to better understand referrals and to tailor discharges appropriately. From focus group data, it was apparent that experiencing the four specialties fostered greater tolerance and understanding of the pressures and limitations experienced by colleagues in different specialties.

Possible unintended consequences of developing a wider perspective included the risk of feeling isolated or like an 'outsider' during BBT training compared to those on traditional pathways. However, feelings of isolation were just as prevalent amongst

comparator groups. A lack of understanding of the BBT route was raised by trainees in post-BBT interviews. During training, other trainees shared experiences of being 'overlooked for procedures' as traditional trainees' needs were prioritised. In contrast, special treatment from trainers who wished to recruit to the specialty could result in enhanced learning opportunities.

Recruitment, career conviction and progression

Relevant programme aims:

- to provide service an opportunity to recruit trainees into potentially under subscribed or expanding specialties
- to develop trainees who are well-equipped to progress successfully into any specialties concerned at CT/ST2 level on successful completion of the BBT programme
- to allow trainees to develop career conviction in their choice of career pathway

Most BBT trainees chose to exit into GP, supporting the aim of providing the service with the opportunity to recruit into priority areas. Moreover, in comparison with the previous year, larger proportions of those exiting from the second cohort (BBT2014) chose GP and Psychiatry.

Trainees from comparator groups indicated that they decided on their career specialty much earlier than BBT trainees. However, BBT trainees displayed significantly greater satisfaction with their choice of specialty compared to comparators at the same point (two years post Foundation training). This seems to suggest that for some on conventional pathways, training experience can diminish initial certainty about career choice.

BBT provides trainees with extra time to decide on an onward career specialty. Although BBT can be an important option for the undecided, taking longer to decide should not simply be associated with indecisiveness or lack of commitment. For many, their choice to follow the BBT route was to acquire confidence, contentment and conviction in their decision-making. For example, being able to confirm a career choice or experience specialties for the first time enabled them to make an "informed decision".

BBT and comparator trainees were similarly confident that their training equipped them to progress into their chosen specialty. However, some BBT trainees experienced difficulties in transitioning; this primarily concerned those exiting into Paediatrics and Psychiatry and centred on exams and particular areas of clinical experience. More generally, the broader experience benefited BBT trainees. In interviews, post-BBT, they spoke of increased confidence in managing patients in comparison with their traditional route colleagues.

Patient-related aspects

Relevant programme aims:

- to develop practitioners who are adept at managing complexity within patient presentations and the associated risk assessment and management
- to ensure that trainees have a firm grounding in the provision of patient focused care

BBT trainees were notably more confident that their training would lead to being able to manage complex patients and provide patient focused care. Exposure across the specialties enabled them to better understand the patient journey through the healthcare system and foster a more patient centred approach. By considering the psychological, as well as physical needs of patients, trainees felt able to take a holistic approach that appreciated the whole patient journey, rather than a discrete part of it. The 10% time could be particularly valuable here. A more holistic approach was reiterated in post-BBT interviews (with former BBT trainees and their Educational Supervisors). It was evident that the trainees were utilising the knowledge they had acquired in different specialties to help them take a more holistic approach to the care of their patients.

The Q-sort analysis suggested that the BBT programme attracted and developed a broad spectrum of trainees, not only those with a generalist disposition but also those with an open-minded specialist leaning and/or those who value a work-life balance.

Negotiating the 10% time contributed to one notable unintended and welcome consequence, namely that BBT trainees became more self-directed and demonstrated leadership and management skills. Less welcome was the impact of a lack of knowledge about BBT amongst others that could result in BBT trainees being treated more like Foundation trainees on occasion.

Conclusions

Our evaluation benefits from multiple data sources at regular points over time. We can demonstrate a consistent and detailed response which overwhelmingly shows that the BBT programme developed trainees who bring a wider perspective to health care, promote specialty integration, who adopt holistic, patient-centred approaches to care, are able to manage patients with complex presentations, and who have conviction in their choice of career.

BBT trainees talked enthusiastically about the way their training would help them meet the demands faced by the NHS in the future. They spoke confidently about how their wider perspective and cross-specialty skills equipped them to work with growing numbers of patients with complex health needs. BBT was shown to foster deep understanding of the workings and limitations of different specialties.

As a programme, BBT provides the service with an opportunity to recruit trainees to under subscribed or expanding specialties and suits the needs of the changing health service. The generalist outlook is critical to the outcomes of patients with multiple chronic diseases that straddle the boundaries between traditional specialties. However, the perceived lower status of generalists relative to specialists is a potential issue. Changes are needed to ensure UK statutory education and training agencies improve national and local awareness of generalism and, where relevant, the BBT programme.

Introduction

Changes to healthcare provision

Patient demographics and healthcare services are changing (Hamm et al 2012; Barnett et al 2012). Hospitals, for example, are being asked to introduce GP triaging, where doctors on the frontline direct patients with minor illnesses and injuries to other places where they can get help (Triggle, 2017). NHS England has promised that half the population will have access to evening and weekend GP services by March 2018, with the rest of the country following a year later (NHS England 2016). Over the evaluation period, pressures on the NHS system have been well documented. Trainees are well aware of mounting pressures and increasing uncertainty of the NHS as an organisation and their place within it. This has been apparent with reactions to the junior doctor contract (DH 2016), the move to increase numbers of student doctors (Triggle 2016) and more recently, the progress report on the five-year strategy for service, launched in 2014, where it is acknowledged that demand is rising at a quicker rate than expected and compromises are needed (NHS England 2017).

It is in this changing context that the broad-based training (BBT) programme, and our evaluation of it, was introduced.

The BBT programme

The Academy of Medical Royal Colleges (AoMRC) introduced the two-year BBT programme in 2013. BBT follows Foundation training, and allows trainees to gain experience in a range of related specialties. It fits with the themes from the Shape of Training Review (Greenaway 2013), specifically, a move towards broader based general training for the first four or five years after graduation from Medical School, and longer placements that support enhanced relationships with clinical teams. The two-year BBT programme was approved for pilot by the GMC and funding granted for a rigorous, longitudinal evaluation of this new initiative.

BBT aims

In the curriculum (RCGP/RCPCH/JRCPTB/RCPSYCH, 2012: 3), the stated aims of the BBT programme are to:

- Deliver a more broad based practitioner who is likely to be able to bring a wider perspective to healthcare provision both now and for the predicted future NHS.
- Develop practitioners who are adept at managing complexity within patient presentations and the associated risk assessment and management.
- Promote greater integration and understanding within the specialties involved in the programme for both trainers and trainees.
- Develop trainees who are well equipped to progress successfully into any of the specialties concerned at CT/ST2 level on successful completion of the BBT programme.
- Allow trainees to develop conviction in their choice of career pathway.
- Provide the service an opportunity to recruit trainees into potentially under subscribed or expanding specialties.

- Ensure that trainees have a firm grounding in the provision of patient focused care.

Evaluation Aims

The principal aim of the research was to evaluate whether the BBT programme provides doctors in initial postgraduate training with learning opportunities that better prepare them for the next step in their training compared with those who experience the existing programme. For most, the next stage of training following BBT is speciality training joining the second year of core or specialty training (CT2/ST2).

In our protocol, we posed the following questions:

1. How does the BBT programme compare with traditional training in terms of preparation for the next stage in training, specifically specialty training in general practice, psychiatry, paediatrics and medicine?
2. To what extent does the BBT programme meet its aims and does this change over time?
3. How does the implementation of BBT vary across regions? What works well? What are the barriers and enablers of successful implementation and outcomes?
4. How can the success or impact of the BBT programme be measured?
5. How do views on the success of the programme vary by specialty (general practice, psychiatry, paediatrics and medicine), role (trainee, Clinical Supervisor, Educational Supervisor, Training Programme Director), and over time?
6. What are the implications of the findings for the future development of the BBT programme?

Our findings have been reported extensively in interim reports (see Appendix 1 for a listing). In this final report, we look across the data collected and review the extent to which the aims of the BBT programme have been met.

Methodology

Design

We understand education as a complex and volatile social process and as such, causal links between a training experience and its impact on participants' behaviour are not susceptible to ready assessment. The 'hard' performance and outcome data from assessments that the trainees undertake provides only a partial picture of programme effect and our philosophical approach has recognised the importance of inclusivity of all stakeholder accounts and viewpoints. We adopted a longitudinal, mixed-methods approach collecting 'soft' data from questionnaire surveys (from BBT trainees and comparator groups), focus groups, semi-structured one-to-one interviews and used Q-sort methodology.

Numbers of trainees in BBT cohorts were small which lent itself to the inclusion of qualitative approaches to data collection, thus facilitating the production of rich, thick descriptive accounts from the participants themselves, to illuminate aspects of impact. We attached importance to ensuring close collaboration with the trainees and training programme directors (TPD), developing those relationships at the six-monthly national meetings. The process of access and data collection were negotiated with the BBT Governance Group.

We followed three groups of BBT programme trainees (see Table 1 for an overview of data sources). The BBT2013 intake and a comparator group of a similar number of CT1/ST1 trainees in the four specialities, were followed longitudinally for three years. Data were collected by means of baseline and annual ('follow-on') questionnaires during the course of the BBT programme, focus group discussions, Q-sort, ARCP outcomes, and an exit questionnaire, which included data on destinations. Similar data were collected from the BBT2014 intake and comparator groups (who at baseline were of CT1/ST1 trainees) in the four specialities. We also interviewed a sample of trainees and their Educational Supervisors post-BBT, during their CT2/ST2 training. Data were collected from the BBT2015 group for a brief time period (during their first year of BBT) to facilitate exploration of programme change over time.

Views of TPDs and members of the BBT Governance Group were collected via focus group discussions at two points annually (at the national BBT meetings).

Table 1: Summary of data sources

Participants	Data source	Collection period
BBT 2013 (Cohort 1)	Baseline and annual questionnaires for BBT Y1 (Q1 and follow-on Q2), Y2 (exit Q3) Q-sort (BBT Y2). Focus groups (Y1x2, Y2x2) Assessment data (ARCPs) Destinations data	Nov 2013 (BBT Y1) Sept 2014 (BBT Y2) May-June 2015 (exit) Nov and May: 2013/14; 2014/15; Aug 2015
Comparator group of trainees	Baseline and annual questionnaires (Q1, Q2, Q3)	Nov 2013 (CT1/ST1); Sept 2014 (CT2/ST2); Jun/Jul 2015 (CT2/ST2)
BBT 2014 (Cohort 2)	Baseline & annual questionnaires for BBT Y1 (Q1 and follow-on Q2), Y2 (exit Q3) Q-sort (BBT Y2); Focus groups (Y1x2, Y2x2) Assessment data (ARCPs) Destinations data	Sept 2014 (BBT Y1) Aug 2015 (BBT Y2) July 2016 (exit) Nov and May: 2014/15; 2015/16; Aug 2016
Comparator group of trainees	Baseline & annual questionnaires (Q1, Q2, Q3) Q-sort (CT1/ST1; CT2/ST2)	Sept 2014 (CT1/ST1) Aug 2015 (CT2/ST2) Jun/Jul 2016 (CT2/ST2)
BBT 2015 (cohort 3)	Baseline & annual questionnaire for BBT Y1 (Q1, Q2)	Aug-Sept 2015 (BBT Y1) May-Jun 2016 (BBT Y2)
Comparator group of trainees	Baseline & annual questionnaires (Q1, Q2)	Sept 2015 (CT1/ST1) Jun/Jul 2016 (CT2/ST2)
TPDs and Governance group	Focus groups x6	Nov and May: 2013/14; 2014/15; 2015/16;
Post-BBT trainees and Educational Supervisors	Interviews with post-BBT trainees and their Educational Supervisors in chosen specialities	Nov 2015 - Feb 2016 Oct 2016 - Feb 2017

Methods

Questionnaires

Questionnaire research is a practical way to collect large amounts of data over time. Our initial (baseline), annual (towards the end of BBT year 1, referred to as 'follow-on') and exit questionnaires, which included questions on trainees' learning, motivations, experiences and career aspirations, contributed significantly to addressing the research questions. The questionnaires contained a mix of open and closed questions. The design of the questionnaires was informed by the programme aims, the wider literature and through discussion with the research team and piloting. Questionnaires were administered either face-to-face (paper-based) or through Bristol Online Survey (BOS).

Focus Groups

Focus groups are particularly useful for exploring perceptions and experience. The method allows for a very flexible approach and is one in which the data have high face validity. We used this approach to explore in depth with trainees, TPDs and members of the Governance group, the themes generated in the data from our other sources relating to experiences and attitudes across the period of the evaluation.

One-to-one interviews

Semi-structured interviews were conducted with a sample of the trainees post-BBT to explore their experience of the programme and to examine implications of BBT for their next stage of training. The interviews offered an opportunity for the trainers and trainees to talk about issues that they considered important to their experience of education and training and for the trainees to reflect on their career choice.

Q-sort

Q-sort is a method used to determine the subjective viewpoints of participants (Watts & Stenner 2005; Cross 2005). The Q-sort approach makes use of a set of prepared written statements. The statements we used were derived from the BBT programme aims, wider literature and discussion with stakeholders. A long list of statements was pilot-tested. In the Q-sort exercise, participants ranked 40 statements which were possible responses to the question, *what does it mean to be a good doctor?*: for example, 'having excellent communication skills', 'being an expert', 'having a breadth of medical knowledge'. The process entailed participants sorting and ranking the statements along a normal distribution, according to their individual preferences.

All data gathering instruments have been included in relevant interim reports.

Analysis

The qualitative data (from one-to-one interviews and focus groups) were analysed using a basic coding frame (matrix) of *a priori* themes developed from programme documentation and the wider literature. The process of data analysis entailed: (1) independent coding by the evaluation team member leading on the collection of data at that point, using the coding frame (this involved populating the matrix with extracts from the transcripts); (2) identification of further (sub) themes, resulting in an expanded coding frame; (3) discussion within the project team, leading to the

integration of themes; (4) a validation process which consisted of feedback of interim findings to key informants.

Questionnaire data were analysed using SPSS software, and the Q-sort data analysis used principal components analysis to reveal distinct sorting patterns onto which participants loaded.

The questionnaire data enabled us to report BBT trainees' *expectations* about the programme's achievement of its aims (for example, that BBT will furnish them with wider perspectives and understandings of how specialties complement one another) which we compared with the views of our sample of trainees following conventional training pathways. Data from the focus groups provided us with an indication of their *experience* and *reflections* on experience. The interviews with trainees post-BBT and with their Educational Supervisors provided an indication of *outcomes*. These data sources also enabled us to comment on unintended consequences.

Participants and sampling

The initial BBT programme pilot attracted 42 trainees from seven English LETBs in 2013. We invited all to participate and identified a comparator group of the same number from the 2013 CT1/ST1 cohort of trainees in the four specialties (general practice - GP, Psychiatry, Paediatrics and core medical training - CMT) in the same Local Education and Training Boards (LETBs). Thirty trainees joined the programme in 2014 from six English LETBs. To avoid attrition, we over-sampled and collected responses from 219 CT/ST1 trainees in the same six LETBs. From these respondents, we selected a sample from the four specialties that had twice the number of BBT 2014 trainees to allow for some expected attrition over time (n=48). In 2015, the BBT programme attracted 67 trainees from 10 English LETBs; Kent Surrey and Sussex who were part of the first cohort in 2013, chose not to recruit in 2014 but re-joined in 2015. An additional three LETBs joined the programme for the first time in 2015: Mersey, Peninsula and Thames Valley. As before, we over-sampled for the comparator group and collected responses from 232 CT/ST1 trainees. Of these, 200 were CT/ST1 trainees across 7 LETBs (East Midlands, Kent, Surrey and Sussex, North East, North Western, South West and the West Midlands), from the four specialties. In our comparative analysis we used sub-samples of respondents from the comparator groups (see Table 2; more detail is provided in Appendix 2).

Table 2: Questionnaire data used in analysis

	Cohort 1		Cohort 2		Cohort 3	
	BBT2013	Comparator 2013	BBT2014	Comparator 2014	BBT2015	Comparator 2015
Baseline	38 (90%)	42 (CT/ST1)	24 (83%)	48 (CT/ST1)	59 (88%)	134 (CT/ST1)
Follow-on	36 (90%)	24 (CT/ST1)	24 (100%)	48 (CT/ST1)	53 (79%)	62 (CT/ST1)
Exit	31 (86%)	31 (CT/ST2)	23 (96%)	48 (CT/ST2)		

NOTES: Blue: All baseline data. Comparing trainees at similar training levels:

Green - BBT2013 approaching CT/ST2 and Comparator2014 follow-on where trainees are at the end of CT/ST1

Peach - BBT2014 approaching CT/ST2 and Comparator2015 follow-on where trainees are at the end of CT/ST1

Other stakeholders include TPDs, and Educational and Clinical Supervisors and these were sampled from each of the specialty groups and across a range of Trusts.

Research governance and ethics

Appropriate ethical approval was sought and granted (from Cardiff University). The study did not necessitate NRES application. Consent to participate was sought at each stage. Participation was voluntary and participants were free to withdraw at any time. Whether a participant chose to take part had no bearing on their engagement with the training programme and its assessments. Data analysis focused only on those who gave consent. All data were held confidentially and all participants were anonymised. Data were managed by the evaluators; they alone had access to the raw data, which were stored securely at all times.

Project advisory group

The BBT Governance Group performed the role of the project advisory group. The Group comprised representatives from the AoMRC, TPDs, Educational and Clinical Supervisors, doctors in training, and lay representation. Soundings were also taken locally from the Wales Deanery. Face-to-face meetings of the Governance Group were convened at six-monthly intervals across the project and complemented by email consultation as needed.

We have submitted regular interim reports (see Appendix 1). The intention of this final report is to review the evidence on the extent to which BBT has achieved its aims, drawing comparisons with data from trainees following conventional training pathways.

Results

Specialty Complementarity

Relevant aims

The two BBT aims relevant to our review of the evidence that BBT develops an understanding of how specialties complement one another, relate to the development of trainees who bring a wider perspective and promote specialty integration, namely:

- to deliver a more broad-based practitioner who is likely to be able to bring a wider perspective to healthcare provision both now and for the predicted future NHS.
- to promote greater integration and understanding within the specialties involved in the programme for both trainers and trainees

Achievement of aims

Our evaluation provides clear evidence that BBT is achieving these aims. This is confirmed from the varied data sources: from questionnaires, focus groups and interviews with Educational Supervisors and former BBT trainees. Statements on questionnaires reflected intended BBT outcomes and some of these relate to specialty complementarity:

- *brings a wider perspective to healthcare provision*
- *understands how specialties complement one another*
- *can apply learning across related specialties*
- *understands common themes between the four specialties*

The first three statements were included on questionnaires to both BBT trainees and comparator groups (Table 3). The last statement was included only on questionnaires

to BBT trainees (Table 4). Comparing responses of the BBT trainees to the first three statements towards the end of the programme (BBT2013 and BBT2014 at exit) with comparator groups of trainees with two years post-Foundation training (Comp2014 and Comp2015) shows that BBT trainees were *significantly* more confident that their training would result in such outcomes: wider perspectives, understanding how specialities complement one another and application of learning across specialties. Looking at the percentage of those rating 8 or more on the 10-point scale show differences of at least 43% between the BBT trainees and Comparators; the BBT trainees were much more confident that their training would lead to a wider perspective, understanding how specialities complement one another and being able to apply learning across specialties. The mode rating for BBT trainees was higher and the Mann-Whitney U tests were significant ($p < 0.000$) for each statement¹. We can also report that results were consistent across cohorts.

Table 3: Comparison of responses to statements: BBT trainees and Comparators

Outcomes	Cohort	Confidence % (n)			Mode (range)
		1-4	5-7	8-10	
A broad-based practitioner who will bring a wider perspective to healthcare provision	BBT: 2013&14 exit	-	19% (10)	81% (43)	9 (6-10)
	Comp: 2014&15	22% (40)	50% (90)	27% (49)	7 (1-10)
Trainees with an understanding of how the four BBT specialties complement one another	BBT: 2013&14 exit	2% (1)	15% (8)	83% (44)	10 (4-10)
	Comp: 2014&15	13% (24)	47% (84)	40% (71)	7 (1-10)
Trainees who can apply learning from one BBT specialty to another BBT specialty	BBT: 2013&14 exit	-	15% (8)	85% (45)	10 (5-10)
	Comp: 2014&15	10% (18)	54% (97)	36% (64)	7 (1-10)

For the other statement, our data are from BBT trainees only. Table 4 shows consistent results across BBT cohorts and over time. Most commonly respondents were very confident (rating at least 8 on a 10-point scale) that their training would result in their understanding common themes across specialties.

Table 4: Comparison of responses to statements: BBT trainees over time

Outcomes	Cohort	Importance % (n)			Mode (range)
		1-4	5-7	8-10	
Understand common themes between the four specialties	BBT:2013&14 baseline	7% (4)	25% (15)	69% (42)	10 (1-10)
	BBT:2013&14 exit	8% (4)	17% (9)	75% (40)	8* (1-10)

*multiple modes exist; the smallest is presented.

BBT trainees welcomed the additional time spent training. Importantly, our data also revealed that comparator groups were open to undertaking an additional six-months

¹ (1) ($Mdn = 9$), $W = 18,110.50$, $z = -6.48$, $p < .000$, $r = -.48$

(2) ($Mdn = 9$), $W = 17,767.50$, $z = -7.29$, $p < .000$, $r = -.54$

(3) ($Mdn = 9$), $W = 17,374.00$, $z = -8.20$, $p < .000$, $r = -.61$

training in the BBT specialties. For both Comp2013 and Comp2014, more than half would consider an extra six-months in Paediatrics. The proportions were similar for GP and CMT, and near 40% would consider six-months training in Psychiatry. Open comments on the questionnaires gave reasons why respondents thought additional time spent training was an advantage:

Experience is never something to be discounted.... Junior doctors need more time to explore and enjoy different specialties. (Comp2013 Baseline Qu.m)

Understanding the links between specialties was a theme identified in the coding of open comments from the BBT questionnaires. At exit, BBT trainees identified benefits from their training:

I will be able to draw upon my experience from my Paediatrics, Psychiatry plus Medicine rotations to help me while working in GP in future. (BBT2013 Exit Qu)

Another explained how experience in other specialties was of value to Psychiatry, their chosen specialty:

GP (10%) time... gave me opportunity to spend time with mental health nurses working in GP practices and to look at the link between General Practice and Psychiatry.... I have also been able to use my 10% time to gain experience in perinatal psychiatry, CAMHS, general adult and old age psychiatry. I have also been able to spend some time in community paediatric clinics where I have discovered there is a huge crossover between Paediatrics and child psychiatry. This has been useful experience for me, to take some of the experience I have gained in Paediatrics into Psychiatry. (BBT2014 Exit Qu)

The benefit of wide experience was also noted in the open comments from those in comparator groups. In terms of things they wanted to improve in their own training, some explicitly suggested the value of more “exposure to specialties that you don’t work in” (Comp2013 Exit Qu) and “more experience of other specialties to increase breadth and depth of knowledge” (Comp2014 Exit Qu).

From our data of 31 interviews with 22 trainees post-BBT, whilst in their ST2/CT2 posts and nine of their Educational Supervisors, experience from all four BBT specialties was noted to benefit trainees in caring for patients in their chosen specialty. For example, one trainee described the experience during their psychiatry and CMT posts as benefiting their work now in care of the elderly:

Having done six months in Psych and then General Medicine...have come in really useful in the care of the elderly job. (BBT2013.Post Intv.f)

Another working in old-age psychiatry commented on the value of their general medicine and primary care experience, describing them as “extremely useful” (BBT2013.Post Intv.m). Educational Supervisors highlighted the value of experience in other specialties, one explaining that in his view, BBT allowed trainees “to join up the dots a bit across specialties” (EdSup Intv.m). Another commented that BBT trainees were “more rounded” than those entering a specialty directly from Foundation training.

Knowledge of primary care was highlighted as particularly beneficial by trainees, who found that they had a greater appreciation for the abilities and limitations of GPs. They suggested that this enabled them to understand why certain things are referred to secondary care, and to tailor discharges and communication so that GPs are only asked to take on the elements of the patient's management that are feasible and appropriate. Secondary care also appeared to benefit in this regard; many trainees felt that they had an improved understanding of other specialties within their secondary care setting and a greater ability to communicate with them.

That experience in Paediatrics was very helpful because it enabled me to know how the Paediatric wards function...the kind of things that Paediatricians would want to be referred...the kind of things they wouldn't want to be referred. Just being able to feel comfortable having a conversation. (BBT2014.Post Intv.f)

I think now when I'd be writing discharge letters...it's given me a better understanding of the problems that they face and what's practical and what's not... I don't think I'd have known that otherwise. (BBT2014.Post Intv.f)

'Adding skills to the team' was a key theme from the post-BBT interviews. The knowledge, confidence and patient-centred approach that the trainees demonstrated in their career specialty appeared to have tangible benefits for the wider team. For example, one trainee explained how they used their skills developed in Psychiatry for the benefit of the Paediatrics team:

A lot of Paediatric doctors don't have any experience with Psychiatry and they're not really sure how to cope with it...find it difficult to communicate with them [children with mental health problems] and ask the right questions...I've been happy to liaise with the Psychiatry team...you just feel more comfortable with that kind of discussion than the people who haven't done any Psychiatry. (BBT2013.Post intv.f)

The ability to apply knowledge from other specialties and the positive consequences of this for patient care were also described in the focus groups. We have specific examples of trainees reporting patient care benefits arising from their knowledge of other specialities: improved understanding of psychiatric patients encountered on acute medical wards; their work as a GP; and their care of young adults.

I now think it's amazing that you can go and be a general physician having never done a GP job, and the amount of times you'll discharge a patient to the care of their GP having never been in a GP job yourself. Ditto if you work in Adult Medicine, you're obviously going to get some people transitioning from Paediatrics to adult care. I think if you've never worked in Paediatrics it's really hard to have a really good understanding of how that patient's care has been up to that point. (BBT2015 May 2016 FGA)

I think we're probably... safer doctors.... So if you're in Acute Medicine and you get a patient come in from the Psychiatric ward and if you've done Psychiatry you understand what's going on with that patient a lot better, and you're able to treat them better. I think patients get better care. (BBT2014 Nov 2015 FGA)

The beginning of this last extract gives an interesting insight into the thoughts and concerns of trainees when dealing with patients with multiple problems. Another trainee narrated a story which expressed concerns about a highly specialist mindset:

I'm on a cardiology ward... Over 50% of the in-patients on our ward have not come in with cardiology problems and their [cardiologists'] faces when you present the patient in the morning, 'oh this is a little old lady who lives on her own and she fell over and that's why she's here' and they're going like 'oh'... They're very specialist and they want to stick a catheter in her and open up the artery.... I am stereotyping, but it's really true. (BBT2014 Nov 2016 FGA)

Another commented on the breadth of knowledge they developed through BBT “that perhaps trainees that are fixed in one thing are lacking sometimes” (BBT2013 May 2014 FGA). Having a broader perspective on patient care, the trainees hoped, would enable them to communicate more effectively themselves and to “understand what needs to be done to make sure this patient gets the best” from their medical treatment:

So in Acute Medicine I understand the GP's view. ... So I know what to put on the discharge summary... to make sure this patient gets the best out of community. The same for GP... I understand... the Acute Medical team and what needs to be done from their point of view.... I think that's really, really important understanding, from both sides, especially with complicated patients which are a lot of the patients that we see. (BBT2014 Nov 2015 FGA)

These examples demonstrate that experiencing the four specialties fostered greater tolerance and understanding of the pressures and limitations experienced by colleagues in different specialties:

I've seen things in a completely different perspective having worked in them now... Going into GP I'll actually be able to give my patients a very informed understanding of what's going to happen to them, and actually use the services appropriately. (BBT2013 Nov 2014 FGD)

The BBT experience enabled trainees to apply learning in one specialty to other settings. From experience in Psychiatry, for example, they gained insight into how mental health factors could influence physical health (BBT2015 Nov 2015 FGC; BBT2015 May 2016 FGA). From experience in Paediatrics trainees mentioned practices like “doing a proper ENT exam to look for a source of sepsis”, “using reviews” or “amazing hand-overs”. Trainees in both cohorts intended to use their experience in Psychiatry to be mindful of the emotional as well as physical burdens facing patients encountered elsewhere in the health service:

Going from Psych to Medicine...I feel more equipped for ... mental health conditions on the ward...I've got a better...overall picture of that patient's mind-set and the journey that they might be taking, and what they need having had that kind of psychiatric experience (BBT2014 May 2015 FGC)

During the focus group discussions there were, however, occasional voices that questioned the link between some of the specialities and spoke of the challenge of applying learning from other specialities:

Paediatrics links very well with General Practice but it doesn't link very well with either of the other two. (BBT2013 May 2014 FGC)

This was not the view of all BBT trainees and some felt that Paediatrics can work well, in some instances, with Psychiatry.

Unintended consequences

Possible unintended consequences of developing a wider perspective included the risk of feeling isolated or like an 'outsider' during BBT training compared to those on traditional pathways who had 'a real sense of community together' (BBT2014 Nov 2014 FGB). In the early days of BBT, trainees reported that others could be uncertain about the nature and 'level' of BBT: "People are still unsure what we do and what we should be achieving at our level" (BBT2013 Exit Qu); "we often get confabulated into GP trainees or assumed we will become GPs" (BBT2013 Exit Qu). For some, this lack of understanding could be difficult:

I feel that there is a lack of understanding about what level of training BBT doctors are at and what training we are doing. It is difficult not being part of a group of trainees where everyone understands what stage they are at and what the end goal is. (BBT2013 Exit Qu)

A lack of understanding of the BBT route was raised by trainees in post-BBT interviews. Trainees often found themselves having to explain their previous BBT experience to their seniors and expressed frustration at the lack of knowledge of what was required for their ST2/CT2 portfolio and repeating tasks for their portfolio that had already been completed during BBT:

It's kind of the similar problems that I had all the way through BBT...sort of explaining yourself and explaining what you've done... (BBT2013.Post intv.f)

There were real issues both locally and at the Deanery... knowing how much she needed to do in the CT2 year. (EdSup.m)

The Educational Supervisors who spoke of this issue explained that their lack of understanding of BBT trainees' needs was because they had not been given sufficient access to portfolio data. They felt that improved knowledge of previous BBT training experience would have allowed them to make the relevant changes.

Some trainees reported that they struggled to fit in and did not feel they were "really part of anything" (BBT2015 Nov 2015 FGC). However, we noted that issues of isolation were mostly raised by trainees in earlier cohorts (specifically Cohort 2). There was evidence that others' lack of understanding of BBT was changing over time and it being viewed favourably:

Initially it felt you were judged as a lower degree of doctor as I feel BBT just wasn't known about. Now it is becoming better understood, I feel there is a lot of respect for BBT trainees and junior and senior doctors are much more interested and enthusiastic about BBT and often say how they wish that they had been able to do it. (BBT2014 Exit Qu)

Feelings of isolation tended to be most notable during the 10% time, often because they had insufficient time to establish relationships with others:

I just turned up...sat there and did the clinic and left. (BBT2013 May 2014 FGA)

You just feel like you're completely just a black sheep in the herd. (BBT2013 Nov 2014 FGD)

A sense of being “an outsider” was not helped by unbanded posts. Regardless of cohort, that posts were unbanded could have a negative impact on their sense of belonging:

I am unbanded at the moment, which, for me, I don't feel like a CMT trainee because I'm just doing Monday to Friday. (BBT2015 Nov 2015 FGC)

Another trainee described a division in Paediatrics between those who had committed to that specialty and those who hadn't:

In Paediatrics...it's surprising how differently they treat you...like you're second class....because you're not that specialty. (BBT2013 Nov 2014 FGD)

Other trainees shared experiences of being ‘overlooked for procedures’ (BBT2013 Nov 2014 FGD) as traditional trainees’ needs were prioritised. For example, one reported that ST1s on a Paediatric rotation had been allocated their clinic hours before BBT trainees:

... we're meant to be treated like the other trainees but it still was like 'well, you know, they need to go [to clinic] because they're completing'. Well I might end being a Paed trainee and then be even more behind. (BBT2013 Nov 2014 FGD)

Another example came from questionnaire open comments:

Seen as 'not needing to know things' as not going into that specialty. Frequently left off lists for presentations/training etc. On a few occasions told I could not go to clinic as the CTs wanted to. (BBT2013 Exit Qu)

Some of these unintended consequences were included in opinion statements on BBT exit and comparator group questionnaires (see Table 5).

Table 5: Comparison of responses to statements: BBT trainees and Comparator groups

Statement	Cohort	% (n)		
		Never/ rarely	Sometimes/ often	Most of the time/always
I have felt isolated	BBT: 2013&14 exit	54% (29)	44% (24)	2% (1)
	Comp: 2013&14	58% (63)	33% (36)	9% (10)
It has been easy to feel part of the team	BBT: 2013&14 exit	11% (6)	24% (13)	65% (35)
	Comp: 2013&14	17% (18)	24% (26)	60% (65)
I have questioned my identity as a trainee doctor	BBT: 2013&14 exit	61% (33)	37% (20)	2% (1)
	Comp: 2013&14	54% (58)	39% (43)	7% (8)

From the responses, we note that sizeable proportions (46%) at least sometimes feel isolated but that these proportions are very similar to the comparator groups and seem to be reflective of a widespread feeling. The responses of the BBT trainees to a statement about feeling part of the team are also very similar to comparator groups;

here we see that proportionally more of the comparator group never or only rarely found it easy to be part of the team (17% for the comparator groups; 11% for BBTs). Also, more of the comparator groups had at least sometimes questioned their identity as a trainee doctor (46% for the comparator group; 39% for the BBTs). None of the differences in responses to these three statements between comparators and BBT groups were statistically significant.

Being treated differently could have distinct advantages for the BBT trainees. Special treatment from trainers who wished to recruit to the specialty could result in enhanced learning opportunities:

If you're a GP trainee doing, I don't know, Psychiatry or Paediatrics, it's very much, 'oh you're going to be a GP. You're different'. Whereas the broad based trainee you're seen as, like a potential convert. So you get a fantastic experience because of that. They take a lot more of an interest. (BBT2015 May 2016 FGB)

Because they [supervisors] know that you haven't kind of committed to a specialty yet, they're quite enthusiastic and they're going to sell you their specialty.... So when I'm doing Paeds they say 'go and do a week in neonates. Go and do some clinics' and other wonderful stuff.... Psychiatry is the same. She's like, 'go to the recovery group. Go to maternity psyche', because they all want you to be part of their specialties. (BBT2015 Nov 2015 FGA)

However, special treatment meant BBT trainees needed to justify what they were doing at times.

I get a lot of resentment for taking the 10% time... [it] has been educationally great, but they basically were blaming me for not being on the ward (BBT2014 May 2015 FGC)

This led some trainees to feel 'guilty' about their 10% time, seeing it as a 'privilege' not afforded to regular trainees (BBT2014 May 2015 FGC). Others felt less conflicted about their entitlement to 10% time: 'this is my time, I'm going to use it...I don't care whether they resent it or not' (BBT2014 May 2015 FGC).

Another unexpected benefit arising from BBT was how exposure to more specialties provided a competitive advantage.

In my experience BBT trainees are well thought of as they have more experience in different areas and a year's extra training at the same level. (BBT2014 Exit Qu)

It should be noted that some argued that this was only useful for those intending to be GPs and also that BBT was not the only way to gain experience of different specialties.

Recruitment, Career Conviction and Progression

Relevant aims

Three of the BBT aims are relevant to our review of the evidence related to career conviction and progression and recruitment to under-served specialties, namely:

- to provide service an opportunity to recruit trainees into potentially under subscribed or expanding specialties
- to develop trainees who are well-equipped to progress successfully into any specialties concerned at CT/ST2 level on successful completion of the BBT programme
- to allow trainees to develop career conviction in their choice of career pathway

Recruitment to under-served specialties

The programme was designed to include four specialties experiencing recruitment issues (GP, CMT, Paediatrics and Psychiatry). Upon successful completion of BBT, trainees exiting the programme were guaranteed entry into their choice of one of these specialties. Recruitment into these specialties, particularly GP, remains a priority; trainees with guaranteed placement upon successful completion provided each specialty with the opportunity to gain from the BBT programme. As discussed in the previous section, trainees indicated receiving special experiences as each specialty took the opportunity to 'sell' their specialty to the trainees.

The overview of destination specialty choice of the BBT trainees (as provided by the BBT coordinators) is not dissimilar to the general proportions of workforce within these specialties (see Table 6). Most BBT trainees chose to exit into GP, supporting the aim of providing the service with the opportunity to recruit into priority areas. Moreover, in comparison with the previous year, larger proportions of those exiting from the second cohort (BBT2014) chose GP and Psychiatry, with a reduction in those choosing to exit into Core Medical Training or Paediatrics.

Table 6: Destinations

Specialty	BBT 2013 Exit specialty (n=32)	BBT 2014 Exit specialty (n=27*)
GP	42% (13)	52% (14)
CMT	16% (5)	7% (2)
Paediatrics	29% (9)	19% (5)
Psychiatry	13% (4)	19% (5)
Other specialty	3% (1)	4% (1)

*This exit data includes information from three BBT2014 trainees who left early

Although the great majority of trainees exited into CT/ST2, there were six trainees from BBT2013 who chose to enter at the CT/ST1 level. Participants indicated 'other' where they intended to enter a non-BBT specialty. One resigned and one was on maternity leave at the time of the survey (Addendum Nov 2016).

Our evidence from post-programme interviews indicates that those exiting into Psychiatry chose this specialty as a direct result of the experience they had through BBT training. It is of note that there are current proposals to improve mental health provision and primary care, so as to increase early intervention, shorten wait time for

treatment and expand crisis services. The NHS England 'improving health – closing the health and wellbeing gap 2016/2017 (Business Plan NHS England, 2016) recognises that mental health problems are widespread and that services have been underfunded.

Career conviction

Marked differences between BBT and comparators were evident in relation to when trainees felt able to decide on career specialty. Comparators indicated deciding on their career specialty much earlier than BBT trainees. Decisions about career pathways were made later by the BBT trainees: 59% (BBT2013) and 71% (BBT2014) were not sure which specialty to pursue at the outset of BBT, compared with most in the two comparator groups (2013, 2014) deciding in Foundation Year 2 (55%, 50% respectively), and sizeable proportions deciding during their undergraduate training or before (39%, 37% respectively).

BBT trainees' overall confidence that their training would result in career conviction was high. However, we observed a significant difference between BBT trainees at baseline to exit with the proportion being confident about career conviction falling over time². Having said that, the mode remained high (point 8) and the range reduces (see Table 7). More notable is the contrast between the results from BBT trainees and the comparators. BBT trainees rated significantly higher (point 8-10) that their training would develop trainees with conviction in their choice of career pathway compared to comparator groups: BBT2013/2014: 80% at baseline compared to Comp2014/2015: 31%.³ This is perhaps surprising in light of comparator trainees deciding on their career specialty much earlier; seemingly for some, training experience can diminish initial certainty about career pathway.

Table 7: Comparison of confidence ratings: BBT with Comparators and BBT over time

Outcome	Cohort	Confidence % (n)			Mode (range)
		1-4	5-7	8-10	
Allow trainees to develop career conviction in their choice of career pathway	Comp:2014&15 baseline	18% (33)	51% (91)	31% (55)	6 (1-10)
	BBT:2013&14 baseline	3% (2)	16% (10)	80% (49)	9 (1-10)
	BBT:2013&14 exit	4% (1)	28% (15)	68% (36)	8 (2-10)

Time to decide

It has frequently been noted that BBT provides trainees with extra time to decide on an onward career specialty compared to conventional CT/ST pathways. It can all too easily be assumed that 'time to decide' for these trainees confers an indecisiveness or lack of commitment. Although providing an important option for the undecided, our data from focus groups and open comments on questionnaires provides greater insight into what this means for trainees opting for BBT, and the implications.

² (Mdn = 8), $W = 2,723.50$, $z = -1.89$, $p < .05$, $r = -.18$

³ (Mdn = 8), $W = 2,723.50$, $z = -1.89$, $p < .05$, $r = -.18$

More experience for the undecided

Uncertainty about future speciality choice and wanting greater experience were key motivations for many applying to BBT. Respondents illustrated this in their responses to open comments, for example:

Great as not yet ready to decide on current specialty. (BBT2013 Baseline Qu)

As I am unsure about where I where would like to head, it is valuable time so I am more confident in my choice. In reality it is only one extra year and I am in no particular hurry. (BBT2014 Baseline Qu)

Gives me more time to consider my options. Only adds one year overall. (BBT2015 Baseline Qu)

These sentiments were reiterated in later post-BBT interviews:

Essentially the reason that I went into BBT was because I was deciding whether it would be more suitable for me to go into Paediatrics or GP training. (BBT2013.Post intv.f)

I think the reason I did it in the first place was because I wasn't sure between Medicine and GP and I hadn't done GP until my final job in F2... So it's a perfect choice for me. (BBT2013.Post intv.f)

Having an opportunity to extend my training and gain that experience and have a little bit longer to make my choices about my career was actually really important, because otherwise I fear that I would have just gone into the wrong specialty. (BBT2013.Post intv.f)

The extra time also appeared to offer trainees an alternative to taking time out of training or going abroad:

I was potentially going to take a year out after F2 because I just wasn't really sure what to apply for. (BBT2013.Post intv.f)

The cost of prolonging eventual career progression for BBT trainees was considered worthwhile in order to gain conviction in choice of career speciality. This view was expressed by many comparator trainees who appreciated additional training time as a useful feature for those who were unsure of their career speciality:

Advantageous to those who are still unsure and would like greater exposure before making a fixed decision. (Comp2015 Baseline Qu)

The value of additional time to decide was seen as limited by those who had already decided on an onward speciality. A key reason for comparator trainees *not* opting for BBT was their certainty in future speciality. When asked 'why didn't you choose BBT?' around half of those responding from Comp2014 and Comp2015 baselines (47% and 51% respectively) stated they had 'already determined which speciality to pursue'. Open comments provided some elaboration:

I can't see the advantage unless you are unsure of which specialty you wish to pursue. (Comp2013 Baseline Qu)

I already had a strong desire to pursue Paediatrics as a career and therefore the additional 12 months doing other specialties I viewed as a negative. (Comp2014 Baseline Qu)

A good idea of you are not sure what you want to do, however if I was sure I wanted to be a physician, I'd been keen to complete training as soon as possible. (Comp2015 Baseline Qu)

Although comparator trainees recognised the value of additional training time for trainees who were undecided, they suggested that for the decided, extending training could slow their career progression.

Decision-making with confidence, contentment and conviction

For many respondents, an important element in their choice to follow the BBT route was to acquire confidence, contentment and conviction in their decision-making. For example, being able to confirm trainees' original career choice, "making it more concrete" (BBT2013 May 2014 FGC); experiencing specialties for the first time to "see what it's like" (BBT2014 May 2014 FGA), to enable them to make an "informed decision" (BBT2015 May 2016 FGC). In open comments on questionnaires, respondents related their career choice to the long-term:

I think that it is a great advantage for me to take the time to make a careful decision about my future specialty. I certainly won't look back on my career in 40 years wishing that I had been a consultant or GP for another year. (BBT2014 Baseline Qu)

This sentiment was held by many on the BBT programme and also shared by some on the conventional training programme:

Huge advantage – more experience and more conviction in eventual chosen career path. (Comp2013 Baseline Qu)

BBT also enabled trainees to change their mind. In some cases, trainees ended up going into a specialty that they had not considered before BBT. Some wished to avoid making a decision they might later regret, for example by excluding specialties where they had unpleasant experience or specialties they had not yet had a chance to experience:

Thank you so much for giving me the opportunity to participate in this programme. I would have chosen paediatrics as an F2 if BBT wasn't an option so delighted that I have been able to make an educated decision that suits me. (BBT2014 Exit Qu)

One trainee taking part in a focus group described having difficult experiences of medicine during their undergraduate training but later discovered they enjoyed it:

I've been in GP and hated it at Med School, and I thought well I'm going to have to try it out. And now I want to do it. (BBT2015 May 2016 FGC)

BBT gave trainees more experience which could change their minds about specialty choice:

I initially felt that GP would be my final specialty ... but after further time in Paediatrics I feel that this is the best suited specialty for me. (BBT2015 Follow-on Qu)

Responses such as these are indicative of the appreciation that BBT trainees have for this broad experience. Findings from exit questionnaires for both BBT2013 and BBT2014 cohorts appear to show that BBT fostered high levels of satisfaction with specialty choice (see Table 8). At exit the vast majority of BBT trainees rated high satisfaction (80% rating 8-10). In the context that at baseline the majority of BBT trainees indicated not being ready to decide upon a specialty, these findings display a major shift in conviction and decision-making for these trainees. Furthermore, BBT trainees displayed significantly greater satisfaction with their choice of specialty compared to comparators at the same point.⁴

Table 8: Comparison of responses to statements: BBT trainees and comparators

Outcome	Cohort	Confidence % (n)			Mode (range)
		1-4	5-7	8-10	
Satisfaction with choice of specialty	BBT: 2013&14 exit	4% (2)	17% (9)	80% (43)	10 (1-10)
	Comp: 2014&15	5% (5)	21% (23)	74% (81)	10 (1-10)

Progression

Successful progression into a chosen specialty is influenced by training experiences. At various points in the evaluation, we asked both BBT and comparator trainees to rate their confidence that their training would produce trainees well equipped to progress successfully into their chosen specialty. Findings show that trainees' confidence in transitioning to onward specialty improved from baseline to exit. The majority of responses from BBT2014 exit trainees were positive and present an increase on those from BBT2013 in relation to confidence about onward progression: BBT2013 55%, BBT2014 61%.

When cohorts are combined at baseline and exit, we observe that BBT trainees' ratings of confidence that 'training would produce trainees who are well equipped to progress', remained fairly static and above the midpoint (see Table 9).

Table 9: Comparison of confidence ratings: BBT with comparators and BBT over time

Outcome	Cohort	Confidence % (n)			Mode (range)
		1-4	5-7	8-10	
Well-equipped to progress successfully into their chosen specialty	Comp:2014/15 baseline	11% (19)	44% (78)	46% (82)	8 (1-10)
	BBT:2013/14 baseline	11% (7)	39% (24)	49% (30)	8 (2-10)
	BBT:2013/14 exit*	11% (6)	43% (23)	45% (24)	7 (1-10)

*Differences in total number of respondents between BBT baseline and exit are due to early departures, or non-response to the questionnaire or to this specific question.

⁴ (Mdn = 9), W = 8,329.00, z = -.2.17, p < .05, r = -.17

However, a slight reduction in high ratings of confidence (points 8-10) was observed at exit and the mode decreased from 8 to 7. Results at baseline for both BBT and comparators, showed BBT trainee confidence in successful progression was marginally greater compared to comparators.

When we consider that comparators displayed a conviction of career specialty much earlier than BBT this is an interesting finding. Furthermore, confidence that training enables successful onward progression requires trainees to use all opportunities to acquire the skills needed for successful progression. This is especially important for BBT trainees who have six-months less experience in their chosen specialty compared to those on traditional pathways. Trainees' ratings of their confidence in relation to their progression in training show no significant differences between BBT and comparator trainees entering at the CT/ST2 level. Ratings of confidence were similar for both BBT and comparator trainees (see Table 10).

Table 10: Comparison of responses to statements: BBT trainees and comparator groups

Statement	Cohort	% (n)		
		Never/ rarely	Sometimes/ often	Most of the time/always
I have felt confident about my progression in the training programme	BBT: 2013&14 exit	6% (3)	57% (31)	37% (20)
	Comp: 2013&14	6% (7)	52% (57)	41% (45)

BBT trainees reported that the additional experience enhanced their confidence to progress:

I've had the Medicine, I've had the Psychiatry, I've had the Paediatrics and I just feel that with all of that and I've had extra GP as well, because of all of that I feel just as confident going in as an ST2, if not more confident than other people going in. (BBT2014 Post intv.f)

Broader experience benefited BBT trainees as practicing clinicians once in their destination specialty. In interviews post-BBT, they spoke of the impact of additional training. They regularly noted a feeling of increased confidence in managing patients in comparison with their traditional route colleagues. Reasons for this included: longer time spent within each specialty rotation, wider breadth of knowledge as a result of the specialties covered, specific skills acquired from those certain specialties (such as managing patients on their own from GP) and simply more experience:

When I do on-calls it's really...the generalist training, because you have to do a lot of physical health out-of-hours on the psychiatric ward. So actually, I'm a lot more confident at managing that because we're basically managing ourselves. That's from GP and probably the medicine rotation as well. (BBT2013 Post intv.f)

I feel a lot more confident than maybe other trainees because I've had more medical experience. (BBT2014 Post intv.f)

Several supervisors agreed with this sentiment; they highlighted that it is beneficial to gain more general clinical experience before entering specialist training:

You have to be good doctors first and then choose the kind of specialty after having a decent experience of other...major sub-specialties. (EdSup Post intv.m)

Judging training to be a success

Respondents were asked how they would judge their training had been a success. At baseline, 'confidence' was the most common outcome that all three BBT cohorts used in judging success. Confidence was linked to career conviction, clinical ability and "more confidence as a doctor and a greater understanding of complex problems" (BBT2015 Baseline Qu.f). Respondents also spoke about being happy in their choice of career specialty and the provision of good patient care:

If I am able to make a confident choice in my chosen career specialty, and if I am at the same level as colleagues at the same stage who have applied via conventional route. (BBT2015 Baseline Qu.m)

If I can successfully slot into ST2 of a GP training programme feeling more confident due to extra year of clinical experience. (BBT2014 Baseline Qu.f)

I can choose my specialty with conviction and remain happy in my choice for the rest of my career. (BBT2015 Baseline Qu.f)

If I feel comfortable in my chosen specialty and feel it is something I could spend the rest of my working life doing then it will have been a success. (BBT2014 Baseline Qu.m)

As illustrated above, BBT trainees took a long-term view of their careers. This was also reflected in the post Q-sort questionnaire: "I want work and life to complement each other rather than be imbalanced" (BBT2015, Q-sort).

Unintended consequences

The unique nature of the BBT programme led trainees to think that they were perceived differently to those on traditional programmes (see Table 11). However, for BBT2014, trainees' perceptions of difference were observed to reduce overtime.

Table 11: Comparison of BBT trainee responses over time

		Follow-on % (n) Yes	Exit % (n) Yes
Do you feel BBT trainees are perceived differently to trainees on traditional programmes	BBT2013	69% (24)	77% (24)
	BBT2014	91% (21)	78% (18)
	BBT2015	81% (43)	-

Furthermore, differences perceived by BBT trainees, particularly in relation to work, were not shared by comparators who had worked alongside them. Although numbers are small, most comparators who had indicated working alongside BBT trainees reported that there was no difference to levels of work assigned to BBT trainees (see Table 12).

Table 12: Comparator group responses to level of work assigned

		Follow-on % (n) No
Do you think there is a difference to the about level of work that is assigned?	Comp2014	82% (9)
	Comp2015	90% (18)

BBT trainees demonstrated motivation to acquire 'top up' skills prior to exiting to their destination specialty. Within exit questionnaires we asked BBT trainees to indicate if they had been 'topping up' on their experience and training during the year in relation to their chosen specialty. Just over a third of BBT2014 (39%) indicated that they had; of these, 44% indicated this was done in their own time. One trainee mentioned exiting into CT/ST1 due to wanting to be confident they were prepared:

One of the reasons I decided not to take the ST2 job was that I was worried that six months of Paediatrics wouldn't be enough to start as an ST2, and that was really my main concern. (BBT2013 Post intv.f)

Though some trainees experienced difficulties in transitioning, this primarily concerned those exiting in Paediatrics and Psychiatry and centred on exams and particular areas of clinical experience:

During CT1 to 3... we have to do some talking therapy. We have to do two cases. A long case and a short case. Certainly the long case it's several months that that goes on. So as I haven't done that in CT1, I'm at a bit of a disadvantage there. (BBT2013 Post intv.f)

Often in teaching sessions they referenced stuff that they've done previously, 'in ST1 teaching we covered this' and I wasn't there for ST1 teaching, but there's only so many catch up sessions you can practically have. (BBT2014.Post intv.m)

These difficulties were temporal and for the most part were worked out within the first few months. Data from focus groups showed that while some trainees were concerned about having six-months less experience in their chosen specialty in comparison to those following traditional routes, others were confident that any disadvantage would not last long:

I think when you enter into that particular specialty after two years of BBT, I think initially you'll have six months' less experience...so potentially yes if you choose to do Paediatrics your skills base may not be as good as the people who have...been blood taking for a year, but you will have a broader perspective to bring to your specialty and you'll quickly catch up because you've got years ahead of you in that specialty to catch up and ultimately experience will just level out. (BBT2014 Nov 2014 FGA)

Patient-Related Aspects

Relevant aims

This section focuses on the two BBT aims relevant to our review of the evidence that BBT develops an understanding of the complexities of patient presentation and adopting a patient focused approach, namely:

- to develop practitioners who are adept at managing complexity within patient presentations and the associated risk assessment and management
- to ensure that trainees have a firm grounding in the provision of patient focused care

We draw on data from questionnaires, focus groups and interviews to report on the achievement of these aims. These data sources also enable us to comment on unintended consequences. We include reflections on the relevance of BBT to future patient-focused management and care and for this we also draw on the Q-sort analysis.

Achievement of aims

On the basis of our data, the headline message is that BBT is achieving these aims. Included on questionnaires were statements related to managing complexity and the provision of patient focused care. BBT trainees expressed confidence that their training was developing practitioners adept at managing patients with complex medical presentations and trainees with a firm grounding in the provision of patient focused care. High levels of confidence were maintained throughout BBT.

Comparing responses of the BBT trainees towards the end of the programme (BBT2013 and BBT2014 at exit) with comparator groups of trainees with two years post-Foundation training (Comp2014 and Comp2015) shows that BBT trainees were much more confident that their training would result in these outcomes (Table 13). Looking at the percentages rating 8 or more on the 10-point scale shows that about a third more of the BBT trainees than comparators rated this highly; the BBT trainees were notably more confident that their training would lead to being able to manage complex patients and provide patient focused care. Having said that, the mode rating across groups were similar and the differences between BBTs and comparators were less marked than responses to other statements (see Tables 3 & 7).

Table 13: Comparison of responses to statements: BBT trainees and Comparators

Outcomes	Cohort	Confidence % (n)			Mode (range)
		1-4	5-7	8-10	
Practitioners who are adept at managing patients with complex medical presentations and the associated risk assessment and management	BBT: 2013&14 exit	2% (1)	30% (16)	69% (37)	8 (6-10)
	Comp: 2014&15	18% (32)	45% (82)	37% (67)	8 (1-10)
Trainees who have a firm grounding in the provision of patient focused care	BBT: 2013&14 exit	-	13% (7)	87% (46)	9 (6-10)
	Comp: 2014&15	6% (11)	40% (73)	54% (97)	8 (1-10)

Trainees reported encountering and managing more complex cases than during their foundation training. Whilst this might not be unique to BBT (since trainees on a CT/ST1 pathway would have the same level of responsibility), enabling trainees to experience the complexities of different specialties at a deeper level was seen by trainees as making a strong contribution to their professional development as doctors.

On questionnaires, BBT trainees were asked about the importance of BBT developing a holistic approach to patient care. Table 14 shows consistent results across BBT cohorts and over time. Most commonly respondents thought it very important (rating at least 8 on a 10-point scale) that their training would develop a holistic approach to patient care.

Table 14: Comparison of responses to statements: BBT trainees over time

Outcome	Cohort	Importance % (n)			Mode (range)
		1-4	5-7	8-10	
Develop holistic approach to patient care	BBT:2013&14 baseline	5% (3)	15% (9)	80% (49)	10 (1-10)
	BBT:2013&14 exit	2% (1)	20% (11)	78% (42)	10 (3-10)

Trainees commented on how BBT training had developed their “ability to appreciate patient care holistically” (BBT2013 Exit Qu). This holistic approach was also identified in responses to the question, ‘what’s been the best thing about BBT?’, for example:

The broad experience in all specialties and the opportunity to develop and explore areas within specialties that pique my interest to help me become more holistic and a broad practitioner. (BBT2013 Exit Qu)

Learning such a wide variety of conditions throughout the four specialties... really helps us understand how to manage complexity in physical, social and mental wellbeing. (BBT2014 Exit Qu)

This finding was reiterated in the post-BBT interview data where it was clear from both the former BBT trainees and Educational Supervisors that the trainees were utilising the knowledge they had acquired in different specialties to help them take a more holistic approach to the care of their patients.

The large numbers of BBT trainees who participated in focus groups gave us opportunities for in-depth discussion of patient related issues. As reported from other data sources, BBT trainees were developing skills to help them manage patients with complex health needs. They recognised the importance of seeing links between different aspects of patient care. They commented on how exposure to different specialties enabled them to better understand the patient journey through the healthcare system. By considering the psychological, as well as physical needs of the patient, trainees felt able to take a holistic approach that appreciated the whole patient journey, rather than a discrete part of it.

Trainees in each of the cohorts intended to use their experience in Psychiatry to be mindful of the emotional as well as physical problems facing patients encountered elsewhere in the health service.

You're going to have far more people who have physical health impacted by their mental health, mental health impacted by physical health. ...And you can have specialist generalists who are able to take on some of that responsibility actually that will be better for the patient. (BBT2015 November 2015 FGC)

This has obvious benefits for the care of patients with complex health needs, and is in tune with the generalist approach advocated by Greenaway. The 10% time was particularly valuable here when it enabled trainees to follow patient journeys through the health care system:

I'm on GP at the moment and my 10% is medicine.... In GP I would refer someone say to an endocrinology clinic and then I can decide on Wednesday morning to sit in an endocrinology clinic, and it's almost like I'm following that patient through. It's not the patient I saw, but ... I'll see the GP referral letter and I'll see what the consultant thinks about that patient. (BBT2015 Nov 2015 FGA)

Some found organising the 10% time challenging and could find it hard to get time for this; others reported no difficulty. For the trainees, the 10% time was, perhaps, most beneficial when they had freedom to decide when and where to take it. This enabled them to actively seek out placements that link experiences and help them to better appreciate patient journeys through healthcare services.

The Q sort data allowed for further comparisons between the BBT trainees and core or specialist trainees in their first or second year (CT/ST1&2). The CT/ST group were those who were specialising in one of the four BBT specialties. The analysis of these data identified three main groups: Group A we labelled 'patients at the centre'; Group B, 'the working doctor'; and Group C, 'the open-minded specialist'. Whilst each of these groups obviously link to working with patients, it is Group A that specifically relates to the aims being considered within this section. This group placed items to do with the patient (concern with the overall wellbeing of the patient and patient empowerment) as more important than other aspects. They also regarded other items to do with the patient, such as attending to emotional aspects and working on a case-by-case basis, highly. This focus on the patient was reiterated with compassion considered the most important attribute, along with good communication skills. Along with attributes about the patient, trainees in this group placed items to do with complex cases more highly than the other groups. This was demonstrated by the relatively high placement of caring for patients with multiple conditions and the impact of other conditions, as well as understanding links between specialties and how they might overlap. This appeared to reflect a more generalist understanding than that demonstrated by those in other groups.

Of all the characteristics collected on the participants, statistically significant differences between the groups only concerned the specialties of participants (Table 15). The statistical difference lay in the number of GPs in each group with Group C not having any GP significantly loading onto it compared to 38% of those in both Groups A and B. As Group C was 'the open-minded specialist' then this would be expected as GPs are by definition generalists rather than specialists. Conversely, over half of those in Group C specialised in psychiatry which was statistically significantly different from those in Group A (at 8%).

Table 15: Group loadings by speciality and pathway

		Group A	Group B	Group C
BBT	Core Medical Training	2	0	0
	General Practice	7	3	0
	Geriatric Medicine	0	0	0
	Paediatrics & Child Health	1	0	1
	Psychiatry	1	0	4
	<i>Total</i>	<i>11</i>	<i>3</i>	<i>5</i>
CT/ST	Core Medical Training	7	2	2
	General Practice	2	1	0
	Geriatric Medicine	0	1	0
	Paediatrics & Child Health	3	0	1
	Psychiatry	1	1	1
	<i>Total</i>	<i>13</i>	<i>5</i>	<i>4</i>
Total	Core Medical Training	9	2	2
	General Practice	9	3	0
	Geriatric Medicine	0	1	0
	Paediatrics & Child Health	4	1	2
	Psychiatry	2	1	5
	<i>Total</i>	<i>24</i>	<i>8</i>	<i>9</i>

It is interesting, and perhaps surprising, that the BBT participants were spread across all three groups. Given the generalist drive of the BBT scheme, we may have expected those on the BBT programme to align themselves with the first group along with the majority of the GPs. This may suggest that the BBT programme is not just attracting and developing trainees with a generalist focus but also those who have an open-minded specialist leaning and/or value a work-life balance.

Unintended consequences

One notable unintended and welcome consequence was the finding, from the multiple data sources, that BBT trainees were more self-directed than their counterparts on traditional pathways. In part, their ability to become more self-directed and exercise leadership and management skills, arose from needing to organise some of their own experiences through the 10% allocation. Through BBT trainees developed generic capabilities and transferrable skills that could help them to flourish in the future:

You pick up all the sort of skills that you need later on in your career. So, organisation, management, leadership...and you have a longer time to develop these skills. (BBT2013 May 2014 FGB)

Trainees reflected that they had become more proactive, confident, and able to use their initiative to negotiate with others (both senior staff and fellow trainees) to reach a compromise. Learning to be flexible was highlighted as a potential asset to healthcare provision.

The impact of a lack of knowledge about BBT amongst supervisors, (particularly in the early cohorts) had unwelcome unintended consequences. On occasion, it resulted in undermining BBT trainees' ability to manage complex patient care. This occurred

when lack of knowledge meant some trainees were treated like Foundation trainees or those committed to general practice. This led to some early dissatisfaction amongst BBT trainees in the first cohort. Lack of understanding of their role meant that they were not always given the opportunities to learn about and manage patients with complex needs and problems.

Health Service Needs

Beyond the specific aims of the BBT programme, we also invited trainees to express their views on the current status and future needs of the health service. BBT trainees thought it important to train more generalists and comparator groups also saw their importance:

...especially as junior doctors. Patients are increasingly complex with multiple morbidities that interact. (Comp2014 Exit Qu)

I think we are treating an increasingly older population with complex medical problems that are rarely isolated to one system or disease. I think generalists are incredibly important for providing safe and holistic care to patients. (Comp2013 Exit Qu)

Trainees views on the wider health service context were explored in opinion statements on questionnaires to BBT trainees on exit and comparator groups (Table 16).

Table 16: Comparison of responses to statements: BBT trainees and comparators

	Group	Strongly disagree/Disagree/ Somewhat disagree	Neither agree nor disagree	Somewhat agree/Agree/ Strongly agree
Currently there aren't appropriate systems to manage patients with complex care needs	BBT:2013&14 exit	15% (8)	11% (6)	74% (40)
	Comp:2014&15	41% (44)	18% (19)	42% (45)
Modern medicine has become too specialised	BBT:2013&14 exit	20% (11)	7% (4)	72% (39)
	Comp:2014&15	22% (24)	22% (24)	56% (61)
Generalist doctors have a higher status than specialists	BBT:2013&14 exit	87% (47)	11% (6)	2% (1)
	Comp:2014&15	83% (91)	14% (15)	3% (3)

The BBT aims are particularly relevant to the complex and evolving requirements in our current and future NHS. Management of patients with complex presentations on a daily basis was high for both BBT and comparator trainees. Yet, BBT trainees thought that we do not currently have appropriate systems to manage patients with complex needs (Table 16). Although fewer comparators thought this, a minority (22%) disagreed that 'modern medicine has become too specialised'. However, although too specialised, the great majority also perceived the status of specialists to be higher than generalists. For these two statements, BBT trainees' responses were very similar to comparators and non-statistically significantly different.

Conclusions

Study limitations and strengths

The BBT trainees, of course, were aware of the programme aims. It is possible that they gave responses they thought were socially desirable and what they thought the research team wanted to hear. We suggest that this was not the case for two reasons: firstly, they were willing to raise issues about their training and voice criticism in the focus groups and in questionnaire responses (for example, about banding, the e-portfolio, the organisation of 10% time). Secondly, they provided detailed and specific narratives about their experiences. For example, they talked in great detail about how exactly the specialty disciplines relate to one another and how they could apply in specialities, specific skills they had acquired elsewhere. Examples of links between the different specialties and illustrations of having to look beyond one specialty in caring for a patient sprang readily to their minds.

Our evaluation also benefits from multiple data sources at various points over time. We can demonstrate a consistent and detailed response which overwhelmingly demonstrates that the BBT programme developed trainees who bring a wider perspective to health care, promote specialty integration, who adopt holistic, patient-centred approaches to care and are able to manage patients with complex presentations, and who have conviction in their choice of career.

Summary and relevance to future contexts

BBT has provided the service with an opportunity to recruit trainees to under subscribed or expanding specialties. Some trainees were prompted to think about pursuing previously unconsidered specialties after experiencing them during BBT which adds weight to existing evidence that experience in under-subscribed specialties increases recruitment (Mukherjee et al 2013).

BBT provides an avenue for trainees with more generalist priorities (Muddiman et al 2016) and may facilitate immediate and longer term retention within the NHS by enhancing conviction in career pathway choice and giving trainees longer to determine their pathways (Goldacre et al 2010; Fuller & Simpson 2014). Analysis of data with BBT trainees' shows strong evidence that the programme is aiding conviction in career choice. BBT trainees were significantly more confident that their training would develop doctors who would have conviction in their careers. Experience gained through additional time spent training increased confidence in ability and cemented onward career conviction. While comparator trainees indicated deciding on their career specialty much earlier compared with BBT trainees, their confidence in their training was lower.

Notwithstanding the occasional individual who chose to progress to a CT/ST1 post, the BBT trainees reported being well-equipped to progress onto CT/ST2, with the broader skills and experience providing them with greater confidence in their abilities. In post-BBT interviews trainees described feeling more capable or comfortable in working as part of a team or independently, citing the benefit of experience gained in other specialties. Educational Supervisors suggested that BBT trainees were better equipped to deal with the more complex patients which they linked to their wider perspective. One commented: "They were an answer to the future of the training in my view, or the future specialists". The past tense alludes to the fact that BBT is no longer running in England.

BBT trainees talked enthusiastically about the way their training would help them meet the demands faced by the NHS in the future. They spoke confidently about the way their wider perspective and cross-specialty skills equipped them to work with growing numbers of patients with complex health needs. Their deep understanding of the workings and limitations of different specialties enabled them to appropriately tailor referrals and discharges. The generalist knowledge base allowed trainees to bring together the various facets of a patient's management, and treat them holistically, preventing a "fragmented", single-disease approach (Moffatt & Mercer, 2015; Atmore 2015). The generalist outlook is critical to the outcomes of patients with multiple chronic diseases that straddle the boundaries between traditional specialties. Simon Stevens recently commented upon the need to intensify and spread the uptake of smarter ways of providing services, stating that:

The art of the answer to primary care staffing pressures will involve new care models involving boundary-spanning team work, with a wider range of health professionals. (NHS Business Plan, 2016:p.8)

BBT as a training programme holds particular relevance to future changes. However, although the early Q sort analysis revealed that it is constructive to view specialism – generalism as a continuum, not a dichotomy, the perceived lower status of generalists relative to specialists is a potential issue. Changes are needed to ensure UK statutory education and training agencies improve national and local awareness of generalism, and where relevant, the BBT programme.

Further Research

A more longitudinal study of BBT's impact would show whether the characteristics demonstrated by trainees who have progressed through this route are maintained over time. Further research might also be designed to explore how multimorbid patient outcomes benefit from more generalist approaches.

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Appendix 1: List of Outputs from the BBT Evaluation

Interim Reports

Hampton J, Bullock A, Muddiman E, Allery L, MacDonald J, Webb K, Pugsley L. What makes a good doctor? Report of a Q-sort analysis. March 2017

Webb K, Bullock A, Allery L, MacDonald J, Pugsley L. Summary Results from Questionnaire Data. Addendum: November 2016

Bullock A, Krause G, Muddiman E, Allery L, MacDonald J, Webb K, Pugsley L. Second Report on Analysis of Data from Focus Groups with BBT Trainees. November 2016

Muddiman E, Bullock A, MacDonald J, Allery L, Pugsley L, Webb K. Q Sort Analysis. May 2016

Webb K, Bullock A, Allery L, MacDonald J, Muddiman E, Pugsley L. Summary Results from Baseline Questionnaires. May 2016

Muddiman E, Bullock A, MacDonald J, Allery L, Pugsley L, Webb K. Detailed Analysis of Focus Group Data. November 2015

The Evaluation Team. Headlines from the Evaluation. October 2015

Webb K, Bullock A, Allery L, MacDonald J, Muddiman E, Pugsley L. Summary Results from Baseline Questionnaires. May 2015

Bullock A, Muddiman E, Webb K, Pugsley L, Allery L, MacDonald J. Executive Summary to Date. February 2015

Muddiman E, Bullock A, Webb K, Pugsley L, Allery L, MacDonald J. Key Messages from the Literature and Focus Groups. November 2014

Webb K, Bullock A, Muddiman E, Pugsley L, Allery L, MacDonald J. Summary Results from Follow-on Questionnaire (Cohort 1) Addendum: November 2014

Bullock A, Webb K, Dimond R, Pugsley L, Allery L, MacDonald J, Muddiman E. Evaluation of Broad-Based Training: Interim Report 1 – 6 months (updated June 2014)

Publications

Muddiman E, Bullock A, Allery L, MacDonald J, Webb K, Pugsley L (2016) 'Black sheep in the herd'? The role, status and identity of generalist doctors in secondary care. *Health Services Research Journal* 29(4) 124–131 [Published 2/11/16 DOI: 10.1177/0951484816670416]

Muddiman E, Bullock AD, MacDonald J, Allery L, Webb KL, Pugsley L (2016) "It's surprising how differently they treat you": trainee reflections on a new programme for generalist doctors. *BMJ Open* 6(9):e011239 [Published 6/8/16 DOI:10.1136/bmjopen-2016-011239]

Conference presentations

International Association for Medical Education (AMEE) Annual Conference, Helsinki, 26-30 August 2017

Broad-Based Training for a different type of doctor? A two-group two-cohort analysis of questionnaire data. Webb K, Bullock A, Allery L, MacDonald J, Muddiman E, Pugsley L.

Association for the Study of Medical Education (ASME) Annual Conference, Exeter, 21-23 June 2017

Trainee doctors' career decision-making: a two group analysis of questionnaire data. Webb K, Bullock A, Allery L, MacDonald J, Muddiman E, Pugsley L.

Association for Medical Education in Europe (AMEE). Barcelona, Spain, 27-29 August 2016

Disciplinary boundaries and integrating care: using Q methodology to understand trainee views on being a good doctor. Allery L, Muddiman E, Bullock A, MacDonald J, Webb K, Pugsley L.

Association for the Study of Medical Education (ASME) Annual Conference, Belfast, 6-8 July 2016

Developing a different kind of doctor? Findings from a study of a Broad-Based Training programme. Webb K, Bullock A, Allery L, MacDonald J, Muddiman E, Pugsley L.

Ottawa/ANZAHPE. Perth, Australia, 19-22 March 2016

The Broad Based Training Programme: Workplace-based assessments. Webb K, Bullock AD, Muddiman E, Allery L, MacDonald J, Pugsley L.

Ottawa / ANZAHPE. Perth, Australia, 19-23 March 2016

What Makes a Good Doctor? Using Q Sort to Explore the Interpretations of Trainees in Different Specialties. Muddiman E, Bullock A, Allery L, MacDonald J, Webb K, Pugsley L.

Developing Excellence in Medical Education Conference (DEMEC). Manchester, November 2015

Broad Based Training: Key Messages from an On-Going Evaluation. Muddiman E, Webb K, Allery L, MacDonald J, Pugsley L, Bullock AD.

Association for Medical Education in Europe (AMEE), Glasgow, Sept 2015

Broad-Based Training Pilot: findings from an ongoing programme evaluation in England. MacDonald J, Webb K, Bullock AD, Muddiman E, Allery L, Pugsley L

Association for the Study of Medical Education (ASME) Annual Conference, Edinburgh, July 2015

Broad Based Training: findings from the ongoing evaluation of pilot initiatives in England. Muddiman E, MacDonald J, Allery L, Pugsley L, Webb K, Bullock AD.

5th Annual C21 Curriculum Conference: Gaining Momentum. Cardiff, 27 March 2015.

Broad Based Training. Muddiman E, Bullock A, Webb K, Pugsley L, Allery L, MacDonald J.

Association for Medical Education in Europe (AMEE), Milan, Italy, Aug 2014

'Being in from the beginning and having an input': early thoughts from the Broad Based Training pilot group. Pugsley L, Bullock A, Allery L, MacDonald J, Dimond R.

Association for the Study of Medical Education (ASME) Annual Conference, Brighton, July 2014

Broad Based Training: Evaluation of the pilot initiatives in England. Bullock A, Dimond R, Webb K, Muddiman E, Pugsley L, Allery L, MacDonald J.

Appendix 2: Questionnaire Data Collection and Reporting

	Cohort 1		Cohort 2 (BBT2014)		Cohort 3 (BBT2015)	
	BBT2013	Comp2013	BBT2014	Comp2014	BBT2015	Comp2015
Baseline	n=38	Sub-sample n=42 (Total n=61)	n=24	Sub-sample n=48 (Total n=219)	n=59	Sub-sample n=134 (Total n=232)
Collected	<i>Nov 2013</i>	<i>Nov 2014</i>	<i>Aug 2014</i>	<i>Aug/Sept 2014</i>	<i>Aug/Nov 2015</i>	<i>Aug/Oct 2015</i>
Reported where	Interim reports May 2014; May 2015. AMEE 2015 Oral presentation	Interim reports May 2014; May 2015. AMEE 2015 Oral presentation	Interim report May 2015	Interim Report May 2015	Interim report May 2016	Interim report May 2016
Follow-on	n=36	n=24	n=24	n=69	n=53	n=62
Collected	<i>May/July 2014</i>	<i>June/Aug 2014</i>	<i>May/June 2015</i>	<i>May/June 2015</i>	<i>May/June 2015</i>	<i>May/June 2015</i>
Reported where	Addendum June 2014	Addendum Nov 2014	Addendum Nov 2015	Addendum Nov 2015	Addendum Nov 2016	Addendum Nov 2016
Exit	n=30	n=31	n=23	n=48		
Collected	<i>May/June 2015</i>	<i>May/June 2015</i>	<i>May/June 2016</i>	<i>May/June 2016</i>		
Reported where	Addendum Nov 2015	Addendum Nov 2015	Addendum Nov 2016, ASME & AMEE 2017 abstracts	Addendum Nov 2016 ASME & AMEE 2017 abstracts		

