Medical student and trainee doctor views on the 'good' doctor: deriving implications for training from a Q-methods study

Short title: Student and doctor views on the 'good' doctor.

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Abstract

Purpose
In contexts of changing patient demographics, this study explores what doctors and medical students believe being a 'good' doctor means and identifies implications for training.

Method
Using Q-methodology, a purposive sample of 58 UK medical students and trainees sorted 40 responses to the prompt "Being a 'good' doctor means…" into a quasi-normal distribution. Participants explained their array choices in a post-sort questionnaire. Factor-groups, consensus and distinguishing statements were identified using Principal Competent Analysis in R.

Results
Three factor-groups best described shared and divergent perspectives, accounting for 61.64% of variance. The largest, "patient-centred generalist" group valued patient wellbeing and empowerment, compassion and complex needs. They prioritised knowledge breadth and understanding other specialities. The "efficient working doctors" group valued good work-life balance, pay and did not seek challenge. Some believed these made a stressful career sustainable. The "specialist" group valued skills mastery, expertise, depth of knowledge and leadership. Participant-groups were distributed across these factor-groups, all agreeing early specialisation should be avoided.

Conclusions
The largest factor-group perceptions of holistic, patient-centred care align with Royal Colleges' curricula adaptions to equip doctors with generalist skills to manage multi-morbid patients. However, curriculum designers should acknowledge implications of generalist approaches for doctors' formulation of professional identities.

Key words
Q-methodology, Q-sort, doctors training, generalist doctors, patient-centred care, broad-based training

Practice Points
- Recent curricula reforms recognise the importance of training doctors with generalist skills to manage multi-morbid patients and our Q-sort study of what being a 'good doctor' means endorses this move.
- Three factor-groups were identified, the largest of which gave prominence to patient-centred generalism.
- The other factor-groups we labelled "efficient working doctors" who valued work-life balance, and "specialists" who valued skills mastery and expertise.

- All agreed early specialisation should be avoided.

Introduction

With medical and technological advances, populations are living longer (Gaw 2016). Worldwide, the number of people aged 60 years and over will increase from 900 million to 2 billion by 2050 (WHO 2018). Within this ageing population the prevalence of multiple co-morbidities is increasing significantly (Gaw 2016). This is accompanied by rising patient expectations of the healthcare service (Greenaway 2013). Although these issues have been recognised for some time, in the UK the NHS has been slow to evolve from existing models based on individual specialties treating single diseases (Barnett et al. 2012). The *Shape of Training Review* called for an integrated approach to manage the complex needs of an ageing population (Greenaway 2013). It recognised a need to train "more doctors who are capable of providing general care in broad specialties across a range of different settings" (Greenaway 2013). Following the publication of the UK Shape of Training Steering Group report (UKSTSG 2017), Royal Colleges have adapted their curricula to ensure future doctors are equipped with generalist skills to manage patients with complex comorbidities. Indeed, a report for the Health Foundation on the care needs of people with multiple conditions points to the need for greater collaboration between specialists and more patient-centred, joined-up care; one of six steps they recommend to improve care is "redesigning secondary care around those with multiple conditions" (Stafford 2018 p22).

The Broad Based Training (BBT) programme, designed by Academy of Medical Royal Colleges, was one manifestation of these changing perspectives on the intended outcomes of medical training (AOMRC 2012). It implicitly embodied an idea of the qualities a 'good' doctor should exhibit in future. The two-year BBT postgraduate training programme followed completion of the Foundation years which in the UK is a two-year period of training after graduation from Medical School. At a point when trainees usually focus on one specialism, BBT provided training across four different specialties (general practice, general medicine, paediatrics and psychiatry). The first cohort entered the BBT programme in England in August 2013. Our evaluation of BBT indicated that trainees developed a broad-based knowledge, prioritised holistic care and understood links between specialties and patient pathways across specialties (Muddiman et al. 2016a, Bullock et al. 2018) However, as it was seen to detract from recruitment to general practice, the programme ceased recruiting in England in 2015 (Rimmer 2015) and was later suspended in Wales. Although now only operating in Scotland and Northern Ireland, the BBT programme provided a unique and potentially contrasting cohort of trainees who had actively chosen to pursue a programme designed to support a more holistic approach to patient care.

Given changes to demographics and training programmes, it is timely to investigate the perspectives of trainees and medical students, as the future generation of doctors, on the qualities of a 'good' doctor. Understanding current beliefs allows evaluation of whether undergraduate and postgraduate education is preparing

doctors who will be able to better manage the population's changing needs. In this context, the aim of this study was to explore and compare the beliefs of doctors and medical students on what being a 'good' doctor means and to identify implications for training.

Methods

Q-methodology is designed to capture the subjective viewpoints of individuals in a systematic manner, such that groupings of similar viewpoints can by identified using statistical techniques (Steven 1993, Watts and Stenner 2005, Cross 2005, Ramlo 2015, Harris et al. 2021). Participants are asked to rank-order (or "sort") a set of stimuli, within a fixed framework, under a particular condition. A key feature of Q-sort method is that many stimuli can be ranked relative to one another, in an ipsative manner (Ho 2017). These placements are recorded and subject to a by-person dimension reduction analysis, distinguishing Q-methodology from other survey methodology which tends to take an item-based approach to analysis (Watts and Stenner 2005, Stephenson 1953). This by-person approach attempts to retain the holistic nature of participants' viewpoints and allows the identification of common and distinct perceptions of the phenomena under investigation. It aims to capture the depth, range and variety of viewpoints on a topic, rather than create generalisable findings (Cross 2005, Amin 2000). Q-methodology has seen increasing promotion and use in health research, including medical education and professional identities (Cross 2005, Hensel 2013). This study follows in this vein, using Q-methodology to identify shared and divergent viewpoints on trainee doctor and medical student perceptions of what makes a 'good' doctor.

The development and execution of Q-methodology studies tend to follow a series of steps: the development and selection of a set of stimuli (the *Q-set* drawn from a population of possible stimuli known as the *concourse*; the recruitment of a purposive sample of participants; participants' rank-ordering of the stimuli (*Q-sorting*); by-person dimension reduction data analysis (using factor or principal components analysis); the identification and interpretation of distinct viewpoint groups. These steps are detailed in relation to the current study, along with a post-sort questionnaire which aided the interpretation of the identified viewpoint groups.

Q-set

The Q-set in this study was a set of 40 written statements which were possible responses to the question, "what does it mean to be a good doctor?", a full list is included in Table 2. This sample of statements was drawn from a concourse informed by a review of the extant literature and qualitative focus group data (Muddiman et al. 2016a, 2016b). From this concourse, members of the research team independently selected a set of statements they considered representative of the concourse, discussing their selections with the rest of the team, before agreeing on a 40-item list. Following piloting (with 11 medical trainees), two items were replaced with

Table 2 Group arrays

	Statement	Group 1	Group 2	Group 3
1	*Having a particular mind-set.*	-3	-3	-3
2	*Focusing on how my specialty can help the patient.*	-1	0	0
3	Keeping abreast of medical developments across different related specialties.	+1	-1	-2
4	Having a depth of medical knowledge in my specialty.	+1	+2	+2
5	Having a breadth of medical knowledge.	+3	+3	+1
6	*Paying attention to the overall wellbeing of individuals.*	+3	+2	+3
7	Bending the rules when necessary.	-3	-2	-2
8	Mastering specific skills.	-1	-1	+1
9	Knowing how to care for patients with complex care needs.	+3	+1	+3
10	Consulting with others when I don't have the answer.	+2	+1	+2
11	Making appropriate referrals.	0	+1	0
12	*Making clinical decisions on a case-by-case basis.*	+2	+2	+1
13	Empowering patients to make decisions regarding their treatment.	+3	+3	0
14	Acting on the individual needs of my patients.	+2	+3	+3
15	Understanding the community to which my patient belongs.	+1	+1	0
16	*Adapting to changes in the NHS.*	-1	-1	-1
17	Orchestrating care for patients with multiple conditions.	+2	+1	-1
18	Re-training if necessary to match service demand.	-2	-3	-3
19	Understanding the links between specialties.	0	-1	-2
20	Reaching consultant/partner status.	-3	-2	-2
21	Understanding the limitations faced by those working in other specialties.	0	0	-1
22	*Being open to ideas about doing things differently.*	0	0	+2
23	Focusing exclusively on my specialty at an early stage in my training.	-4	-4	-4
24	Thinking about the overlaps between different specialties.	0	0	-2
25	Understanding how medical conditions outside my own specialty impact on my patients	+1	-1	0
26	Being able to deal with diagnostic uncertainty.	+1	+1	+1
27	Being able to isolate the issue at hand.	0	0	-3
28	Taking the lead.	-2	-2	0
29	Having a good work-life balance.	-2	**+4**	+1
30	Acting confidently even when I am unsure.	-2	-2	-1
31	Being well remunerated.	-4	0	-3
32	Being respected by others.	-1	-1	-1
33	*Having the final say in the multidisciplinary team.*	-3	-4	-4
34	*Acknowledging the expertise of others in the multidisciplinary team.*	+2	+2	+2
35	Being an expert.	-2	-3	+2
36	Prioritising my NHS practice over private work.	-1	-3	-1
37	Having excellent communication skills.	**+4**	**+4**	**+4**
38	Acting with compassion.	**+4**	+3	**+4**
39	Constantly challenging myself.	-1	-2	+3
40	*Attending to the emotional aspects of my patients' experiences.*	+1	+2	+1

alternative statements from the concourse, establishing the final Q-set. Areas covered by the Q-set include specialism and generalism, inter- and multi-disciplinarity, team working, patient-centeredness, and managing complex care needs.

Participants

Participants in this study comprised of a purposive sample of trainee doctors and medical students (n=78). Twenty-four trainees were recruited from the second year of BBT in England. A further 26 trainees were recruited from those following conventional training pathways in general practice, general medicine, psychiatry and paediatrics (the four specialties in the BBT programme). Recruited as part of our evaluation of the BBT programme, these trainee doctors participated in either 2015 or 2016 and were at the time in their first or second year of post-Foundation training (known as core or specialty training) (Bullock et al. 2018). In addition, 28 medical students from Cardiff University were recruited and completed the Q-sorting exercise between November and December 2016. Ethical approval was granted by the School of Postgraduate Medical and Dental Education Research Ethics Committee for the data collection with doctors (2/10/13) and medical students (2/11/16).

Q-Sorting Procedure

Participants were asked to read through all the Q-set statements, sorting them into three separate piles which represented whether they agreed, disagreed or were unsure/ambivalent about how that statement represented their understanding of what it means to be a good doctor. This allowed participants to become familiar with the statements and, by recording the numbers sorted into each pile, provided the research team an insight into the overall agreeability towards the statements in the Q-set. Once this initial sort was complete, participants completed the Q-sorting exercise which involved the sorting of the statements into the grid shown in Figure 1. As shown in the figure, the header reminded participants to rank each statement in terms of how much they agreed or disagreed that it completed the phrase 'A good doctor is…', whilst thinking about their future career. The shape and scale of the sorting grid is typical of Q-methodology studies, with fewer positions available at the extremes (in this case, disagree and agree) (Cross 2005). Once all of the statements had been placed, participants could alter placements until they were happy that the order on the grid best represented their viewpoint of what being a good doctor means. Their Q-sort statement positions were then recorded.

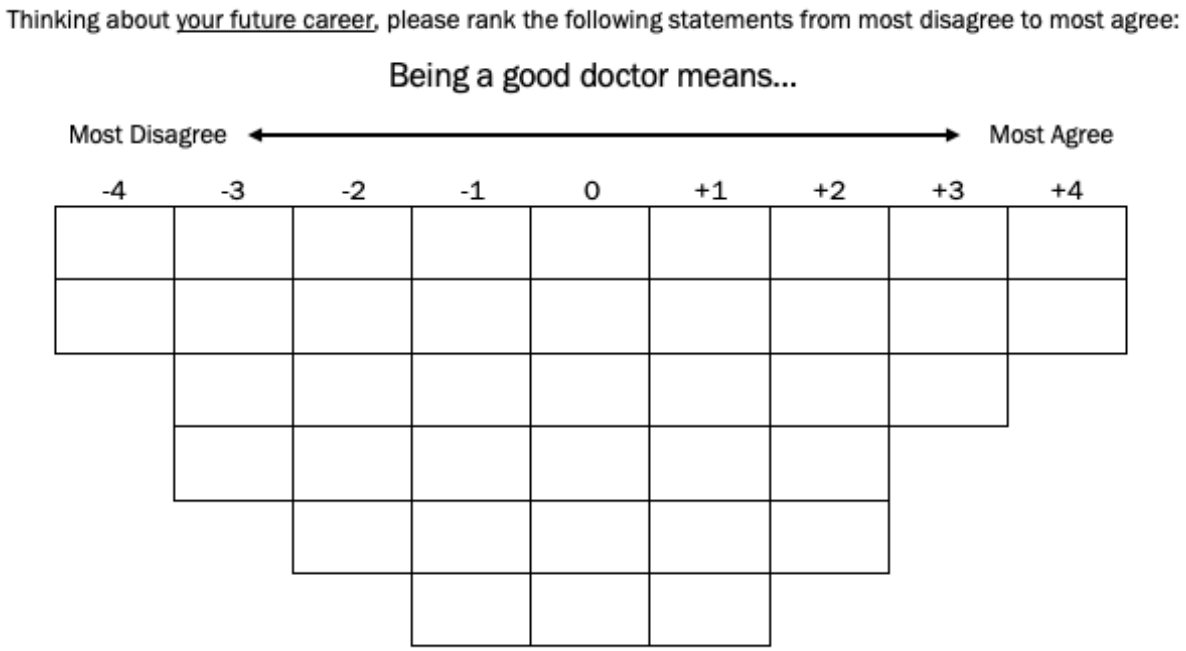

Figure 1 The 40-statement sorting grid

The trainee doctors and medical students largely followed the same procedure although the mode of data collection differed between them. The trainee doctors completed the sorting procedure physically, sorting statement cards onto a printed grid (which was then recorded by a member of the research team), whereas the medical students completed the procedure online using specially designed software (Q-Sortware; http://qsortware.net/).

Post-sort questionnaire

Directly following the Q-sort procedure, participants were asked to complete a questionnaire which contained a mix of open- and closed-response questions, collecting some basic demographic details and inviting comment on their completed Q-sort. In particular, they were asked them to comment on their reasoning for placing items in the 'extreme' ends of the sorting grid: the items that they most agreed and most disagreed with. These open-ended responses offered insight into individual respondents' viewpoint as well as aiding in the interpretation of the viewpoint groups extracted through statistical analysis of the completed Q-sort grids.

Data analysis

We build on Muddiman et al's (2019) analysis of medical trainee perspectives by drawing on a different sample of participants, including medical students, and employing different factor extraction techniques to further contribute to the increasingly important discussion around medical generalism. The completed Q-sort from each participant was entered and analysed in R, using the qmethod package (Zabala 2014). The data were analysed using inverted or by-person intercorrelation and Principal Components Analysis (PCA), a dimension reduction technique (Valenta

and Wigger 1997). PCA allows for patterns of similar responses (groups) to be identified, without assuming an underlying structure to the data. As is common in dimension reduction studies, the Kaiser-Guttman rule-of-thumb to retain groups with an eigenvalue of 1 or more, was utilised. Other considerations informed the decision of how many groups to extract from the data, including the amount of variation explained by the groups individually and in combination, and the number of participant Q-sorts associated with each group. Participant Q-sorts are said to be associated with (or load onto) a group if their association is higher than the given threshold (and statistically significant at $p=<0.05$), and/or the square of their Q-sort loading is higher than the sum of square loadings for the same Q-sort in all other groups (Watts and Stenner 2005). Finally, the groups were subject to varimax (atheoretical) rotation to maximize the variance between each group, thereby enhancing the interpretability of the results.

The resultant groups were expressed in the same terms as the original data collection; by a (weighted) average Q-sort of those associated with that group. These composite Q-sorts – created by combining the individual sorts of participants to provide an exemplar or summary of the perspectives of that group - are known as 'factor arrays' (Watts and Stenner 2005).

Interpretation

To interpret the results of the Q-sorting process, the research team examined the factor arrays of each of the groups identified in the analysis, looking at the relative location of the statements within each group Q-sort. Consideration of 'consensus' and 'distinguishing' statements (Donner 2001; McKeown and Thomas 1988) enabled the team to identify key differences and similarities between groups. Participant responses from the post-sort questionnaire were then used to better understand individual viewpoints associated with each group (Stainton 1995), and to identify any key demographic differences amongst participants associated with the groups. Each group was awarded a name, with the aim of capturing the essence of the shared viewpoint expressed in that group: 'the patient-centred generalists'; 'the efficient working doctors'; and 'the specialists'.

Results

Three groups were identified by the analysis as best summarising and describing the shared and divergent perspectives of the participants. Fifty-eight out of the 78 participants loaded onto at least one of the groups: 19 BBT trainees; 19 'other' trainees (following conventional training programmes); 20 medical students (see Table 1). This three-group solution accounted for 61.64% of the variance.

Table 1 The loading of participants onto groups

	BBT trainees	Other trainees	Medical students	Totals (% variance explained)
Group 1	10	10	10	30 (25.83%)
Group 2	5	5	4	14 (20.48%)
Group 3	4	4	6	14 (15.33%)
Not loaded	*5*	*7*	*8*	*20*
Total	***24***	***26***	***28***	***78 (61.64%)***

Table 2 displays the average group Q-sorts for the three groups and shows the ranking of all 40 statements. The highest ranked statements are highlighted in bold and lowest ranked statements are underlined. Nine of the 40 statements were sorted similarly by all participants, (see italicised statements in Table 2), indicating a level of consensus across the three groups in terms of their relative agreement on which statements best describe a 'good' doctor. Across all three Q-sort groups, participants strongly disagreed that 'good' doctors should focus on their chosen career specialty early in their training (statement 23 was ranked as -4 'most disagree' on the 9-point scale across the three groups, s23: -4. See Table 2). They also felt that doctors should not have the final say in a multi-disciplinary meeting and should acknowledge others' expertise (s33: -4/-3; s34: +2). Participants across the three Q-sorting groups also demonstrated a relatively strong focus on holistic care, attending to the emotional and overall aspects of care, making decisions on a case-by-case basis and having good communication skills (s40: +1/+2; s6: +2/+3; s37: +4).

Group 1: The patient-centred generalists

The first group, labelled 'the patient-centred generalists', explained 25.83% of the variance within the data, with 30 participants' Q-sorts associated with it (Table 1). This group consists of equal numbers of BBT trainees, other trainees and medical students. Participants in this group were very patient focused: they valued the overall wellbeing of patients (s6: +3), wanted to empower them (s13: +3), and to consider their complex needs (s9: +3). This is attuned to their belief that acting with compassion is very important (s38: +4). As one participant put it:

> "I try to practice the way I or my family would want to be treated and cared for. Without compassion, I don't think someone will/can strive to do the best for their patients." Othersort40

Relative to both other groups, those in this group were more concerned with understanding the links and limitations of other specialties (s19: 0, s21: 0). They valued breadth of knowledge (s5: +4) and disagreed that being a good doctor means focusing on their specialty to help their patients, ranking this lower than both other

groups (s2: -1). In offering reasons for rating breadth of knowledge highly, one participant commented:

> "Need to have a breadth of knowledge to understand the patients' medical problem in the context of their other medical conditions and propose the best treatment for them." BBTsort1

Additionally, those in this group were less focused on career progression (s20: -3) and developing a depth of knowledge compared to the other groups (s4: +1).

Group 2: The efficient working doctors

Fourteen participant Q-sorts loaded onto the second group and explained 20.48% of the variance (Table 1). Those in this group – labelled 'the efficient working doctors' - were strongly focused on a good work-life balance (s29: +4), alongside being well paid (s31: 0). They were less concerned with challenging themselves (s39: -2). Taken together, these responses suggest a desire to work efficiently and to equip themselves to manage a potentially stressful career. This was reflected in participants' post-sort comments:

> "Work-life balance is what will make my career sustainable in the long run. To me irregular hours are acceptable as long as compensatory time off given." BBTsort9

To support this efficiency, they valued making appropriate referrals (s11: +1) and asking for help when unsure (s10: +1).

> "Many of the children I look after have multiple issues and require the expertise of many other team members - I would be doing them a disservice by pretending I had all the answers myself." Othersort26

> "You could really make a difference by helping to solve problems in the patient's life both health, social and economic, which would always affect their health too. For example, by making appropriate referrals to other services or removing stresses." Studentsort70

Relative to the two other groups, participants in this group appeared to be less concerned with prioritising their NHS work (s36: -3). They ranked highly compassion (s38: +3) and overall wellbeing of the patient (s6: +2), but not as highly as either of the other groups.

Group 3: The specialists

Fourteen participant Q-sorts loaded onto group 3, accounting for 15.33% of the variance (Table 1). These participants, 'the specialists', were distinct for ranking mastering skills (s8: +1) and becoming an expert (s35: +2) highest out of the three groups. This focus on specialisation was supported by their high level of agreement that depth of knowledge is important (s4: +2) in contrast to breadth, which they

ranked lower than both other groups (s5: +1). However, those in this group did tend to agree that specialisation should not happen early on in training (s23: -4).

The participants in this group appeared to value the qualities of leadership and expertise, ranking statements about taking the lead (s28: 0), constantly challenging oneself (s39: +3) and acting confidently when unsure (s30: -1) higher than those in other groups. This was also reflected in these participants' post-sort comments:

> "Being constantly challenged and pushing myself to be better is important to me in order to stay motivated and continually find enjoyment in what is likely a stressful career path." Studentsort60

Whilst wanting to lead, they respected teamwork, indicated by strong disagreement with the idea doctors should have the last say in a multidisciplinary team (MDT) (s33: -4), a sentiment echoed across all three groups.

Although those in this group valued personal challenge, they did not appear to be strongly focused on progressing their career, placing reaching consultant/partner status in a low rank (s20: -2). They were not keen to retrain (s18: -3), but were open to different ways of doing thing (s22: +2):

> "It is important to be open-minded about patients' needs and wishes, not stereotype or being money focussed or not be adaptable to others' views and input, adapt and learn from experience." BBTsort4

> "A good doctor in one speciality will not necessarily be a good doctor in another. Service demands might well change in the time it would take to re-train." Studentsort61

Gender distributions

We examined the distribution of gender (Table 3) across the groups. The majority of those loading onto the efficient working doctor group were female. The group captured about a third of the women, compared to just 10% of the men. However, this difference was not statistically significant.

Table 3 Gender distribution

	Groups	Patient centred generalists	Efficient working doctor	Specialists	**Total**
Female	BBT trainees	6	4	3	13
	Other trainees	5	5	3	13
	Medical students	6	3	3	12
	Total female	*17(45%)*	*12(32%)*	*9(24%)*	*38*
Male	BBT trainees	4	1	1	6
	Other trainees	5	0	1	6
	Medical students	4	1	3	8
	Total male	*13(65%)*	*2(10%)*	*5(25%)*	*20*

Negligible differences in how the proportions of participant-groups were distributed across the Q-sort groups was found.

Discussion

This study used Q-methodology to explore medical students' and trainee doctors' beliefs about what makes a 'good' doctor. We use the results to explore potential implications for training.

Patient-centred generalists

The patient-centred generalists (Group 1) is the largest group within the analysis, suggesting that this was a widely held perspective of the 'good doctor' amongst our medical student and trainee participants. This is a welcome finding given wider literature reporting that patients desire a holistic approach to care and rate the importance of interpersonal skills over doctors' knowledge (Walsh et al. 2016, Mechanic and Meyer 2000, Taylor and MacRae 2011, Jung et al. 2000, Mercer et al. 2007, Little et al. 2001, Lewin et al. 2001). The perspectives on the provision of holistic care found within our patient-centred generalists group chime with the report of the UKSTSG which concluded that postgraduate medical education and training should be adapted to better fit patient and demographic needs (UKSTSG 2017). This finding also aligns with the remit of the BBT programme.

It is interesting, however, that the participants that loaded onto this group came from across our three participant types (BBT trainees as well as trainees on conventional routes and medical students). This widespread support for a patient-centred approach suggests that the aims of the BBT programme, now defunct in England and Wales, might usefully be reflected in current training pathways. Indeed, Royal Colleges have adjusted their curricula to ensure future doctors are equipped with generalist skills to manage patients with complex comorbidities. For example, following Foundation training, physician training includes three years in internal medicine. The intention of the Joint Royal Colleges of Physicians Training Board (JRCPTB) is for this change to better prepare doctors for managing acutely unwell patients (JRCPTB 2019).

However, designers of training programmes should be alert to the implications of cross-disciplinary approaches for the formulation of doctors' professional identity. Applying social identity theory, doctors working in interdisciplinary settings need to have sense of fit or belonging to a distinct group (in-group) relative to others (out-groups) (Monrouxe 2016). The current structure of the hospital organised into specialty departments, as well as not best suiting the multi-morbid patient, may thwart the formation of a more generalist, patient-focused, intra-professional doctor identity and instead underscore the construction of specialty-specific professional identities and perpetuate traditional structures of patient care (Liberati et al. 2016; Muddiman et al. 2016b). The formation of professional identities takes time and identities are endorsed or challenged by experience. Thus, organisational structures

will affect an individual's developing concept of what it means to be a doctor and what they judge to be the necessary qualities of a 'good' doctor.

The efficient working doctors

Group 2 had a focus on working efficiently to benefit not only patients but also themselves. This is the only group where there was a notable gender difference (with 12 females and just two males), although this difference was not statistically significant. This finding contrasts with a 2006 study which found no difference according to gender and the prioritisation of a good work-life balance (Jovic 2006). Our findings here could reflect the different pressures perceived by male and female medical students/trainees in terms of family and caring responsibilities. Despite various reforms and ongoing cultural shifts, female professionals are still commonly identified as undertaking the majority of housework and caring work relative to their male counterparts (Gauthier and Furstenberg 2002; Craig and Mullan 2010). Conceptualised as the 'second shift' (Hochschild and Machung 2012), this perceived expectation and the associated pressure may contribute to the desire to work efficiently and to safeguard rest time. Alternatively, this finding might indicate that it is more permissible for female students/trainees to articulate their need for work-life balance and the self-care that it implies. Male colleagues may be reticent to express or identify with these narratives that evoke sense of self-nurturance, given the potential association with weakness or lack of leadership.

Tensions between generalism and specialism?

Despite the prominence of holistic care across the three Q-sort groups, it is important to note the sizeable group of trainee doctors and medical students who valued the importance of specialisation and expertise (Group 3). Superficially, such sentiments may seem to contrast with the call for a more generalist approach. However, specialists will remain central to the mix within the health service: some patients have diseases that are rare and complex, requiring in-depth knowledge, others have more common diseases but which require specialist interventions. Although training more hospital-based generalists and doctors who can work across the primary-secondary care boundary may help with the management and co-ordination of care for the multi-morbid patient, specialist doctors remain essential. There is also a recurring theme in the international literature that medical students want in-depth clinical knowledge (Pfeiffer et al. 2011; Young-mee and Duck-sun 2007).

Our research hints at potentially competing discourses between generalism and specialism in the training of doctors. Given how role-modelling influences the development of professional identities, it is important that medical educators are aware of and reflect upon their own effect on identity construction and student or trainees' sense of what it means to be a 'good' doctor (Cruess et al. 2008). The rising emphasis on generalism and multi-morbidities in medical education might be less familiar or comfortable to senior physicians who may have a strongly specialised

professional identity. It is important for these senior members of the medical community to recognise the value of generalism and to respond positively to those wishing to become generalists, especially when involved in training the next generation of doctors.

A further finding from our study was the widespread disagreement that an exclusive specialty focus should begin at an early stage in training. This was uniformly the lowest ranked statement across all three participant groups. This is a clear endorsement for early-stage broadly-based experience in medical training. There is perhaps some irony that these findings support the aims of BBT programme which has since been abandoned in England and Wales.

There was also uniform agreement on the importance of excellent communication skills (the highest ranked statement across all groups). Given this finding, and in line with the GMC's *Generic Professional Capabilities Framework* (GMC 2017), we suggest that all training programmes review the opportunities provided for the development of communication skills, not only communication with a range of patients (including those with complex needs), but also communication across specialties and with members of the multi-disciplinary team.

Strengths and limitations

A recognised limitation of Q-methodology is that the statements participants sort are pre-selected (Cross 2005, Baker et al. 2006, Stenner et al. 2008). It is unlikely that all 40 statements will be equally relevant to undergraduate students and qualified doctors. Although our selection of statements was informed by the literature and developed through focus groups, undergraduate participants were not included in this process. However, the participants were provided with an opportunity to highlight ambiguous statements and to add any statements they believed should have been included. Very few respondents engaged with this invitation, suggesting overall contentment with the set of 40 statements. Using the same statements also allowed us to compare across the two groups of trainees and medical students. Furthermore, by using pre-selected statements, participants can be asked about perspectives which they may not spontaneously offer otherwise. The cognitive strain placed upon the participants, through having to sort many statements and the time taken to do so, has also received criticism (Baker et al. 2006, Stenner et al. 2008, Ellingsen et al. 2010). To minimise this concern, we imposed no time limit on task completion.

Our participant sampling strategy meant we only selected trainees from BBT and the four related specialities (general practice, general medicine, psychiatry and paediatrics). We acknowledge that our sample is skewed and does not, for example, include those pursuing surgical careers. This is something that could be explored in further research. Another fruitful avenue would be to investigate patient opinions through Q-methodology to discover if their preferences align with doctors' and students' beliefs. In addition, in the context of stressful working environments,

especially in light of the pandemic, the importance of striking a good work-life balance as a mechanism for sustaining a long career is worthy of further study.

Conclusion

We found a high degree of commonality in the distribution of our participant-groups (BBT trainees, trainees on conventional routes and medical students) across the three factor-groups. The largest factor-group, in particular, emphasised the importance of holistic, patient-centred care. This provides a positive and welcome indication of support for the Royal Colleges' adaptation of their curricula to ensure future doctors have generalist skills to manage complex patient presentations. Without denying the place of specialty training, the widespread agreement that specialisation should not begin early underscores the importance of broadly-based experience following Foundation training. However, curriculum designers should be alert to the implications of generalist approaches for the formulation of doctors' professional identities.

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Declaration of interests

Nil.

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