

Patterson, F., Prescott-Clements, L., Zibarras, L. D., Edwards, H., Kerrin, M. & Cousans, F. (2015). Recruiting for values in healthcare: a preliminary review of the evidence. *Advances in Health Sciences Education*, doi: 10.1007/s10459-014-9579-4



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Original citation: Patterson, F., Prescott-Clements, L., Zibarras, L. D., Edwards, H., Kerrin, M. & Cousans, F. (2015). Recruiting for values in healthcare: a preliminary review of the evidence. *Advances in Health Sciences Education*, doi: 10.1007/s10459-014-9579-4

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3 **Recruiting for values in healthcare: a preliminary review**
4 **of the evidence**

5 **Fiona Patterson · Linda Prescott-Clements · Lara Zibarras ·**
6 **Helena Murray · Maire Kerrin · Fran Cousins**

7 Received: 15 August 2014 / Accepted: 16 December 2014
8 © Springer Science+Business Media Dordrecht 2014

9 **Abstract** Compassion, benevolence, respect and dignity are important for any healthcare
10 professional to ensure the provision of high quality care and patient outcomes. This paper
11 presents a structured search and thematic review of the research evidence relating to
12 **AIQI** values-based recruitment within healthcare. Several different databases, journals and
13 government reports were searched to retrieve studies relating to values-based recruitment
14 published between 1998 and 2013, both in healthcare settings and other occupational
15 contexts. Limited published research related to values-based recruitment directly, so the
16 available theoretical context of values is explored alongside an analysis of the impact of
17 value congruence. The implications for the design of selection methods to measure values
18 is explored beyond the scope of the initial literature search. Research suggests some
19 selection methods may be appropriate for values-based recruitment, such as situational
20 judgment tests (SJTs), structured interviews and multiple-mini interviews (MMIs). Per-
21 sonality tests were also identified as having the potential to compliment other methods (e.g.
22 structured interviews), as part of a values-based recruitment agenda. Methods including
23 personal statements, references and unstructured/‘traditional’ interviews were identified as
24 inappropriate for values-based recruitment. Practical implications are discussed in the
25 context of values-based recruitment in the healthcare context. Theoretical implications of
26 our findings imply that prosocial implicit trait policies, which could be measured by
27 selection tools such as SJTs and MMIs, may be linked to individuals’ values via the
28 behaviours individuals consider to be effective in given situations. Further research is

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29 required to state this conclusively however, and methods for values-based recruitment
30 represent an exciting and relatively uncharted territory for further research.

31 **Keywords** Values based recruitment · Selection · Healthcare · Review

33 Introduction

34 Historically, selection into healthcare-related education and training (e.g. medicine, nursing,
35 midwifery) has been based primarily on prior academic attainment (Ferguson et al. 2002).
36 Previous reviews conclude that academic indicators are far from perfect predictors of per-
37 formance (accounting for approximately 23 % the variance in performance in undergraduate
38 medical training and 6 % in postgraduate education and training, Trost et al. 1998). It is
39 argued that academic ability is necessary but not sufficient to ensure that trainees become
40 competent healthcare professionals, as other qualities, attributes and values may need to be
41 present from the start (Patterson et al. 2000, in submission; Patterson and Ferguson 2010).

42 There exists a large body of international research exploring the impact of caregivers' core
43 values of compassion, empathy, respect and dignity on patients' experience of health and
44 social care services. As an illustration within the UK, although the values and behaviours
45 expected of health and social care professionals are preserved in the National Health Service
46 (NHS) Constitution (2012), recent government enquiries (Cavendish 2013; Francis 2013)
47 have highlighted major concerns about the decline in compassionate care within all health-
48 care roles, which has relevance internationally. These reports, although UK-based, high-
49 lighted the critical role that the workforce plays internationally in ensuring the provision of
50 high quality and safe healthcare services and, in particular, the significance of staff values and
51 behaviours on the quality of patient care and patient outcomes. Undoubtedly, an important
52 first step is ensuring that the right individuals with the appropriate values to work in healthcare
53 are appointed to any educational course, training place or healthcare role.

54 Given the need for education providers, trainers and employers to refocus selection in this
55 way, an important question is: which selection methods are robust for attracting and selecting
56 individuals whose values and behaviours align with the values necessary to work in health-
57 care? There will inevitably be significant differences in the design of attraction and selection
58 systems at these various levels with regard to the level and specialisation of knowledge.
59 Crucially, however, the values of candidates should be consistent at all points of entry, as
60 providing high quality, safe and compassionate care remains important throughout education,
61 training, and at the fully-qualified/professional level. As such, attraction and selection at all
62 points of entry to healthcare must be designed to ensure that individuals applying to be future
63 or current healthcare providers have the appropriate values to work in this context.

64 This structured search and thematic review aims to examine the research evidence
65 regarding which recruitment methods might best address values-based recruitment (VBR)
66 within healthcare settings. Before reviewing this evidence, it is important to consider how
67 values are defined in the research literature, and explore how values relate to other con-
68 cepts that are often discussed simultaneously (e.g. personality, motivation and behaviours).
69 This is particularly important in the context of recruitment, as there may be important
70 implications regarding the selection methods available to assess each of these constructs.

71 Within the literature, values are consistently defined as a set of *enduring beliefs* which a
72 person holds about what is good or desirable in life; people hold numerous values and



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73 some may be important to one person but not to another (Schwartz 2012). In general,
74 values research has ascribed to one of two basic models (Ravlin and Meglino 1987):
75 “values as preferences” (or work values) which are seen as attitudes that indicate the
76 preferences individuals have for various environments; and “values as principles” (or
77 personal values) which are guiding principles regarding how individuals feel they ought to
78 behave. In the context of VBR, it is likely that personal values are just as important to
79 consider as work values. In summary, values are *evaluative*, in that they guide individuals’
80 judgments about appropriate behaviours both for oneself and for others; *general*, since they
81 transcend specific situations, and *ordered by importance*, such that one will tend to act
82 according to the more important value when two values are in conflict (Schwartz 1992).

83 Research suggests that values develop initially through social interactions with role
84 models such as parents and teachers. Because values are learned, there tend to be simi-
85 larities in values patterns within cultures, as shared values are passed from generation to
86 generation (Meglino and Ravlin 1998; Oishi et al. 1998). Values are shaped during ado-
87 lescence but are relatively stable in adulthood (Kapes and Strickler 1975). However, since
88 values are learned initially through social interactions, being exposed to a new social
89 environment can sometimes facilitate changes in one’s values structure. This explains why
90 socialisation efforts in organisations can sometimes change newcomer’s values to become
91 more like those of the organisation (Cable and Parsons 2001).

92 Until recently there has been limited understanding of how personality and values are related
93 to one another, much less how they might jointly impact on behaviour. Parks and Guay (2009)
94 provide a detailed review of the personality and values literature in terms of how these con-
95 structs are distinct, and how each relate to motivation and behaviour. In overview, personality
96 relates to *enduring dispositions*, whereas values relate to *enduring goals*. Values and person-
97 ality both describe components within individuals, and are both believed to impact on
98 behaviour, decision-making, motivation, attitudes, and interpersonal relations, hence the two
99 are inextricably linked. Yet, there are also important differences. Values include an evaluative
100 component not found in personality. Values relate to what we *believe we ought to do*, while
101 personality relates to what we naturally *tend to do* (dispositions). Personality traits do not
102 conflict with one another (i.e. one can simultaneously express the personality traits of Extra-
103 version and Conscientiousness), yet values do conflict as some are pursued at the expense of
104 others (Parks and Guay 2009). These are important distinctions when considering selection
105 tools and measures of values. Indeed Fig. 1 highlights how personality and values differentially
106 influence goal striving and goal accomplishment, whilst also being closely related. This
107 highlights the importance of assessing the correct construct during a selection process.

108 Despite the recognised importance of ensuring individual values align with those
109 required within healthcare education and organisational contexts, there has been no review
110 of this concept relating to recruitment for healthcare to date. This represents a significant
111 gap in the selection and recruitment literature. As such, we aim to conduct a preliminary

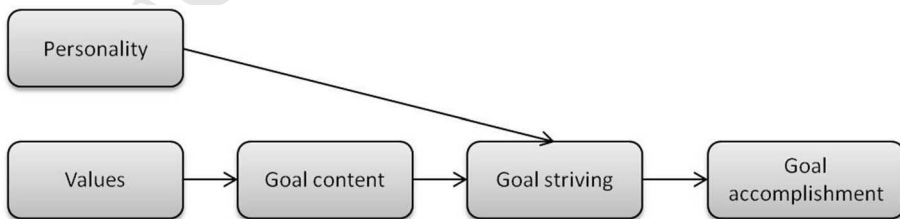


Fig. 1 Model of relationship between personality and values on outcomes (Parks and Guay 2009)



112 review of the emerging literature on VBR, as a first step to synthesise the developing
113 literature in this relatively new area of research. In our review, we set out to explore three
114 key research questions, as follows:

- 115 1. How does values-based recruitment link to existing theoretical contexts?
- 116 2. What is the impact of value congruence on outcomes for education providers/students,
117 trainers/trainees and employers/employees?
- 118 3. What are the implications for measuring and recruiting for values?

119 Method

120 Structured search and thematic review

121 We conducted a structured search and thematic review in the area of VBR within
122 healthcare and the associated wider literature. This methodology was appropriate as we
123 aimed to address broad research questions in order to synthesise the evidence currently
124 available in an emerging area of enquiry. Additionally, the wide scope of the review
125 allowed us to incorporate multiple types of study design and the wider literature to gain a
126 more complete picture of the currently available research relating to VBR (see Grant and
127 Booth 2009 for a description of a structured search and thematic review methodology).

128 Data sources

129 The concept of “values-based recruitment” is relatively new within healthcare and so using
130 this terminology was unlikely to result in a large volume of relevant research evidence.
131 Therefore, to explore the evidence base for VBR we widened the search to other contexts.
132 Additionally, it was anticipated that a search of the academic literature alone may yield a
133 limited number of papers. Therefore, a range of sources were used, including databases (e.g.
134 Medline, Psychinfo, Web of Science), journals (e.g. Medical Education, Medical Teacher,
135 Journal of Applied Psychology), government reports, web searches and expert contacts, to
136 conduct a computer-based search of literature spanning 15 years (from 1998 to 2013). In
137 order to retrieve research relating to VBR and other similar concepts (such as person–
138 organisation fit), search terms included the following key words: *values-based recruitment*;
139 *values-based assessment*; *person–organisation fit*; *professional attributes*. Other terms (e.g.
140 *selection methods*; *values*, *professional standards*; *morals*; *ethics*; *ideals*; *doctor*; *nurse*) were
141 included as additional filters rather than primary search terms. In addition, reference lists from
142 papers were manually checked for other relevant journal articles.

143 Selection of studies and inclusion criteria

144 Fifty-one abstracts were initially identified using the search strategies outlined above. Two
145 researchers (LPC and FP) independently reviewed the abstracts to ensure that they met the
146 inclusion criteria. These inclusion criteria required the papers to be relevant to the iden-
147 tified topic, empirical research, evidence based and peer reviewed; papers were rejected if
148 they were opinion pieces, discussion papers or commentaries. Non-relevant papers were
149 rejected at this stage. After the abstracts were examined, 17 papers were retrieved and
150 reviewed by LPC and FP using a full-text version of each article. A further three papers
151 were identified following a review of the reference list within selected articles.



152 Review procedure

153 A total of 20 independent articles were retained for the final review. As anticipated, there is
154 limited published research evidence relating to VBR directly. Search results showed that
155 where evidence relating to VBR in the healthcare education context does exist, it is largely
156 focused on medical school admissions. Although largely unique to medical education, these
157 aspects of the literature are integrated into this review, as they may be interpreted with
158 relevance to all levels and roles within the healthcare context. The majority of remaining
159 papers addressing VBR were identified within the personnel selection research literature.
160 Specifically, we argue that the notion of ‘*value congruence*’ between an employee and the
161 organisation (also known as ‘person–organisation fit’), also has relevance when considering a
162 student/trainee’s fit with their education/training provider, respectively.

163 Despite the literature pertaining to medical school selection, there was an absence of a
164 significant body of evidence from within the context of healthcare education specifically. Given
165 the contextual differences in this literature, results should be interpreted with some caution
166 because outcome criteria may not be directly generalizable to a healthcare context. Whilst the
167 drivers for implementing VBR in the healthcare education context are focused around the need
168 to ensure the best possible care for patients across professional, institutional and geographical
169 boundaries, the literature on individuals’ values in other contexts may have different aims, for
170 example to improve job satisfaction and productivity, or to reduce staff turnover. Nonetheless,
171 the existing body of research regarding VBR across organisational contexts remains pertinent to
172 this review, as the research literature identified provides several important insights regarding
173 the impact of value congruence between students/trainees/employees and education or training
174 providers/organisations respectively, relevant to the implementation of VBR in healthcare. We
175 were able to answer our first two research questions by conducting a thematic review of the
176 papers identified during the structured search, in combination with the wider research literature.
177 We structure the findings under the following headings:

- 178 1. What is values-based recruitment and how does it link to existing theoretical contexts,
179 including (1a) attraction and socialisation of students/trainees/employees with
180 appropriate values, and; (1b) value congruence and “fit” theories;
- 181 2. What is the impact of value congruence on outcomes for education providers and
182 students, trainers and trainees, and employers and employees?
- 183 3. In answering ‘What are the implications for measuring and recruiting for values?’ we
184 were able to identify evidence from the papers identified during the structured search
185 regarding measurement tools for values but little else regarding the implications for
186 measuring and recruiting for values. We felt that there were further issues to consider
187 here, and therefore have summarised the wider literature regarding three related issues:
188 (3a) *The importance of role analysis*; (3b) *Which evaluation criteria should be used*
189 *for VBR?* (3c) *Which selection methods might be useful for VBR* and as such have
190 outlined some key points under these headings.

191 Results and discussion

192 In this section we outline the findings from the structured search and discuss these,
193 combined with other more established concepts in the literature in order to contextualise
194 the findings and synthesise the existing research (Grant and Booth 2009). This allows us to



195 provide a more complete picture of the literature, in relation to each of our research
196 questions.¹

197 1. What is values-based recruitment and how does it link to existing theoretical contexts?

198 (1a) Attraction and socialisation of students/trainees/employees with appropriate
199 values
200

201 Eleven papers were identified that explored attracting applicants with appropriate val-
202 **AQ4**ues. One of these was a review article, with another being a conceptual report. The rest
203 were empirical studies; and of these, only two studies were in the context of healthcare
204 (nursing and allied health profession staff); eight were based in other professional contexts
205 (e.g. banking, finance, utilities, engineering) and one paper used students as their sample.

206 There are two main theories in the personnel selection literature that relate to employee
207 values within organisations, which would also apply to students and trainees in the context
208 of an education or training provider, respectively. These are Schneider's Attraction-
209 Selection-Attrition (ASA) theory (Schneider et al. 1995; Schneider 1978) and socialization
210 theories (e.g. *Chao et al. 1994). The ASA theory is based on the notion that 'the people
211 make the place' (Schneider 1987), where, over time, the values and personalities of the
212 workforce become increasingly homogeneous. This occurs as individuals are 'attracted' to
213 an organisation based on their values; 'selected' due to value congruence; and where value
214 congruence is low, 'attrition' will occur. Consistent with Schneider's proposal, *Billsberry
215 (2007) found that only applicants with familiarity, proximity and previous exposure to an
216 organisation are *attracted* to it. Conversely, Billsberry found that candidates applied for
217 jobs on the basis of *type* of role (their vocation), rather than attraction to the organisation as
218 such. Implications of these findings within the context of healthcare may be that indi-
219 viduals with previous knowledge of the healthcare organisation to which they are applying
220 (e.g. family working in healthcare, or student placements) may pre-judge its values prior to
221 education, training or employment, and may be attracted (or not) accordingly.

222 Motivations for choosing education, training or jobs can also be influenced by social
223 and personal circumstances, however they may also be attractive based on extrinsic
224 rewards such as long-term job security and income (*Hollup 2012), rather than on the basis
225 of the organisation and its perceived values. In support of this proposition, researchers in
226 the UK (*Arnold et al. 2003) explored perceptions of the National Health Service (NHS)
227 among 231 potential nursing and allied health professions recruits, and concluded that such
228 individuals do not necessarily personally identify with the NHS's values; rather they
229 wished to pursue their chosen profession regardless of organization: for some people the
230 images and reputation of the NHS may be less crucial in their decision of whether to work
231 for it than the activities and missions associated with their desired occupation (*Arnold
232 et al.; Audit Commission 2002). In terms of VBR, the picture painted by the current
233 research evidence is therefore unclear regarding the extent to which the perceived values of
234 the organisation play a role in attracting students, trainees and employees.

235 Socialisation theories, which relate to individuals' adaptation to an organisation or role,
236 have been linked to the development of values within an organisation following recruit-
237 ment (*Bauer et al. 1998; *Cable and Parsons 2001; *Chao et al. 1994). Small changes in
238 individuals' values have been demonstrated following initial employment (*De Cooman
239 et al. 2009; *Meglino and Ravlin 1998) where 'value internalisation' and 'behavioural
240 modelling' impact on an individual's values after entry (*De Cooman et al. 2009;

1FL01 ¹ Research articles identified by the structured search are identified by an asterisk.



241 *Maierhofer et al. 2000; *Ostroff et al. 2005). Value internalisation is the subtle change in
242 an individual's values over time as a result of experiences; and both trainers/managers and
243 peers/colleagues have an impact on new recruits as role models (*Maierhofer et al. 2000).
244 In terms of VBR, individuals with optimal values for the delivery of high quality, com-
245 petent and compassionate care who are recruited into education, training or fully-qualified
246 roles, may be at risk of changing their behaviours through either socialisation (value
247 internalisation) (*Cable and Parsons 2001), or attrition if placed within teams where
248 suboptimal values for working within healthcare are evident. In the context of influencing
249 values within an education/training provider or organisation, the evidence shows the need
250 for a multifaceted approach beyond recruitment alone, for example the use of values-based
251 education and training once in the role to reinforce the core values and principles of the
252 education/training provider or organisation (*Rapping 2009). In summary, the evidence
253 suggests that VBR should only be one part of an approach to embed the values of high
254 quality, safe and compassionate care in a healthcare context.

255 (1b) Value congruence and "fit" theories

256 Five articles were identified that address the issue of value congruence and "fit" the-
257 ories. One was a review article, and the others were empirical studies, all of which focused
258 on contexts outside of healthcare: banking, consulting and teaching.

259 "Value congruence" represents the extent to which an individual's values are con-
260 cordant with those of the organisation in which they work. This construct is used to
261 measure the level of "fit" an individual has with number of aspects of an organisation, or
262 education/training provider. For example, the extent to which an individual "fits" with the
263 organisation, its culture (values) or the values of the other employees within it, is known as
264 'Person-Organisation' (P-O) fit (*Kristof-Brown 2000). Value congruence with colleagues
265 has been described as 'Person-Group' (P-G) fit, or 'Person-Person' (P-P) fit, and in terms
266 of fit between an individual's knowledge, skills and the attitudes required for the job, the
267 term 'Person-Job (P-J) fit is often used (Ostroff and Zhan 2012). It is likely that these
268 different types of fit are related. Some researchers argue that organisations do not have
269 'values' as such, but rather the organisational values are actually represented (and mea-
270 sured) by the workforce (or students and trainees in the case of education and training,
271 respectively) (*Meglino and Ravlin 1998; *Ostroff et al. 2005; *Van Vianen 2000).
272 However, *De Cooman et al. (2009) found that individuals do not distinguish between the
273 values of the organisation, and those of its members, upon entry, but after 2 years within
274 the organisation they were able to distinguish between these entities. Furthermore,
275 employees have been shown to be operating between two different subcultures (concerning
276 their managers and their co-workers) in some instances (*Ostroff et al. 2005; *Van Vianen
277 2000).

278 2. What is the impact of value congruence on outcomes for education providers and 279 students, trainers and trainees, and employers and employees?

280 A key objective of this review is to explore the evidence base underpinning the
281 effectiveness of value congruence and how this relates to important outcomes; in particular
282 demonstrating care and compassion towards patients. However, most of the literature
283 retrieved describes the impact of value congruence (P-O fit) on other outcomes (largely
284 from the employee perspective in organisations) such as job satisfaction, organisational
285 commitment and employee turnover (*Amos and Weathington 2008; *Hoffman and
286 Woehr 2005), with very little research focusing on educational attainment, training/job
287 performance or specific behavioural outcomes. Nine papers were identified that explore the



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288 impact of employee congruence on various outcomes. Three of these were review articles
289 and one was a meta-analysis. The rest were empirical studies. Of these, two used student
290 participants, and the other professions represented were teachers, bankers, and engineers.

291 Research shows that when an individual's values closely match those of the organisa-
292 tion (as defined by co-workers or supervisors) they report a significant increase in job
293 satisfaction, satisfaction with the organisation (*Amos and Weathington 2008; *Kristof-
294 Brown et al. 2002; *Meglino and Ravlin 1998; *Saks and Ashforth 2002) and organisa-
295 tional commitment (*Hoffman and Woehr 2005; *Saks and Ashforth 2002). In terms of an
296 individuals' *commitment* to an organisation, their perception of the degree of similarity
297 between the organisational values and their own values is key (*Finegan 2000; *Hoffman
298 and Woehr). There are three aspects of organisational commitment; *affective* (where a
299 person is emotionally attached to an organisation), *normative* (where an individual has
300 feelings of obligation towards an organisation) and *continuance* (where an individual is
301 committed as a result of accumulating investments in the organisation) and these are each
302 predicted by different clusters of values, with 'humanity' values (defined in this study as
303 courtesy, consideration, co-operation, fairness, forgiveness and integrity) being most
304 associated with affective commitment to an organisation (*Finegan).

305 *De Cooman et al. (2009) showed that where perceived value congruence between an
306 individual and the organisation was low, the individual was more likely to leave that
307 organisation over time. The negative relationship between value congruence and intended
308 turnover or attrition is also evident in other studies (*Amos and Weathington 2008;
309 *Meglino and Ravlin 1998). This is relevant when considering the transition between being
310 a student/trainee to then entering employment in healthcare.

311 Few studies explore the impact of value congruence on performance outcomes (*Morse
312 and Popovich 2009). *Ostroff et al. (2005) reported that value incongruence was likely to
313 lead to frustration, difficulty in team-working and a lack of role clarity from the perspective
314 of the employee/trainee/student. In addition, values have little impact on actual perfor-
315 mance or work behaviours if task or situational variables exist that restrict the behaviour
316 from taking place (*Meglino and Ravlin 1998).

317 Therefore an appropriately designed VBR system may have benefits for retention and
318 wellbeing of staff, trainees and students in healthcare settings, which in turn could reduce
319 student/trainee/employee dropout rates, and associated turnover costs.

320 3. What are the implications for measuring and recruiting for values?

321 (3a) The importance of role analyses

322
323 Role analyses are vital to producing an effective selection process (Koczwara and
324 Ashworth 2013), since the aim is to accurately identify appropriate selection criteria. A
325 thorough job analysis helps to identify the key knowledge, skills, values and behaviours
326 associated with competent performance and P-O fit within the target role, and can also be
327 mapped to the agreed organisational or education/training provider's values so that these
328 are clearly represented in the selection system. Having defined these criteria at a level
329 appropriate for the career stage, this information is used to guide choice of selection
330 methods. Role analysis studies conducted in UK healthcare context (Patterson et al. 2000,
331 2008) have identified a wide range of attributes and values beyond clinical knowledge and
332 academic achievement that are required for success in healthcare roles. These need to be
333 considered and measured at the point of selection to ensure that healthcare workers learn,
334 train and work within a profession for which they have a particular aptitude (Patterson
335 et al. 2008). These findings support the notion that core values common to all roles in the



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336 healthcare environment could be identified. Role-specific competencies that differentiate
 337 between different roles and professions in a healthcare context may also inform the
 338 development of robust selection criteria and provide the basis of a reliable, valid and
 339 legally defensible values-based selection system (Patterson et al. 2008).

340 (3b) Which evaluation criteria should be used for values-based recruitment?

341 Several evaluation criteria with which to judge the effectiveness of various selection
 342 methods are apparent from our review of the research literature. Table 1 outlines sixteen
 343 key evaluation criteria relevant to a VBR agenda. These criteria are not mutually exclusive,
 344 and it is also possible for some to be at odds with one another. For example, a highly
 345 reliable and valid selection tool may be very expensive. Similarly, a highly valid tool may
 346 not be acceptable to key stakeholders and may generate negative candidate reactions. As a
 347 result, it is important that the consideration of these criteria should be weighted depending
 348 on the recruitment context and the priorities for the education/training provider or
 349 organisation.

350 Feedback from validation studies is important to continually improve accuracy and
 351 fairness, and to review the original selection criteria and choice of selection methods.
 352 However, research in the healthcare context has tended to focus on the predictive validity
 353 of various cognitive factors (e.g. prior academic performance or knowledge tests), rather
 354 than values, with respect to subsequent exam performance in educational settings (Fer-
 355 guson et al. 2002). Best practice selection must also be a two-way process: in order to
 356 attract the best students/trainees/employees, education/training providers and employers
 357 should assess candidates' reactions to the selection process, particularly in relation to
 358 perceptions of fairness (Patterson et al. 2011).

359 (3c) Which selection methods might be useful for values-based recruitment?


360 Please refer to Patterson et al.'s systematic review (in submission) for a comprehensive
 361 overview of the literature on currently used selection methods within medical education

Table 1 Evaluation criteria relevant to the VBR agenda

Evaluation criteria	
Accuracy and effectiveness	1. Evidence of reliability 2. Evidence of validity 3. Arrangements for on-going validation, evaluation and development are in place 4. Susceptibility to coaching 5. Fairness, promotes diversity/widening access 6. Legality
Costs and efficiency	7. Scalability for high volume recruitment 8. Efficiency 9. Utility 10. Generality of use
Practicalities and implementation	11. Practicality (ease of administration) 12. Expertise required for analysis of information generated by the tool 13. Ease of interpretation
Stakeholder acceptance and feedback	14. Positive employee/trainee/student perceptions 15. Generates appropriate feedback 16. Educational impact/value



362 and training, with regard to the evaluation criteria outlined in Table 1. A summary, and
363 where applicable a brief discussion, of the use of selection methods for VBR in healthcare
364 is provided here.

365 As the evidence base supporting the impact of VBR is limited, considering approaches
366 to measuring values is important, as selection systems should be designed to make explicit
367 that an individuals' values should fit with those of the target . Some researchers (*Van
368 Vianen 2000) question whether self-report measurement tools for values (e.g. personal
369 statements) should be included during recruitment, since values may be 'fakeable' in a
370 selection process. Conversely, research by *Rankin (2013) suggests that rejecting candi-
371 dates on the basis of a self-report questionnaire could potentially be unfair; however these
372 types of tools could be more effective for self-selection at the attraction and shortlisting
373 stages of VBR, rather than for making final decisions about candidates' suitability for the
374 role.

375 Shortlisting methods

- 376 1. *Personal statements* Despite widespread use of personal statements and autobio-
377 graphical submissions in selection, the research evidence suggests they have poor
378 predictive validity (Ferguson et al. 2000), low reliability, and are not likely to reflect
379 candidates' true nature (Oosterveld and ten Cate 2004), as they may present them-
380 selves in ways that they believe are favourable or expected, rather than as an accurate
381 reflection of themselves and their values (White et al. 2012).
- 382 2. *References* Although references are used widely in selection across a variety of
383 occupations (Zibarras and Woods 2010) including healthcare, large-scale empirical
384 studies consistently show that references tend to be unreliable, biased and ineffective
385 at predicting educational, training and job performance (Ferguson et al. 2003;
386 McCarthy and Goffin 2001; Poole et al. 2009; Stedman et al. 2009). Moreover,
387 Prideaux et al. (2011) question whether references measure anything additional to
388 interviews.
- 389 3. *Situational judgment tests (SJTs)* SJTs are an established method of selection for use in
390 high volume selection for many occupational groups, and have been used to reliably
391 select for a range of professional attributes (Lievens and Patterson 2011; Patterson
392 et al. 2012). SJTs offer a standardised method of objectively assessing a broad range of
393 attributes for large numbers of applicants, whilst having face validity since scenarios
394 are based on job-relevant situations. SJTs can also be used in settings where applicants
395 have no prior job specific experience (e.g. entry to University, Motowidlo and Beier
396 2010).

397 Longitudinal studies within the healthcare context have shown that an SJT measuring
398 empathy, integrity and resilience (used to select candidates applying for training in UK
399 General Practice) is the best single predictor of subsequent job performance and licensing
400 outcomes compared to other selection methods (Lievens and Patterson 2011; Patterson
401 et al. 2013). Similarly, an SJT has been used successfully to measure applicants' inter-
402 personal awareness in medical and dental school admissions in Belgium (Lievens 2013).
403 Not only might SJTs offer an objective way of reliably assessing these attributes, but they
404 are less susceptible to group differences than other selection methods (Clevenger et al.
405 2001).

406 Finally, although the initial design of SJTs may be costly, they are machine-markable
407 and can be delivered on-line to large numbers of candidates, offering significant long-term



408 cost savings compared to assessments hand-scored by assessors. This is particularly ben-
409 efiticial given that in the past it has been difficult to measure attributes and values on the
410 scale required to assess the large numbers of applicants to Universities and into employ-
411 ment (Cleland et al. 2012).

412 4. *Personality tests* Using personality tests within recruitment has been a widely debated
413 issue within the research literature (Patterson et al. in submission; Landers et al. 2011;
414 Morgeson et al. 2007a, b). Critics of personality assessment argue that tests have both
415 low predictive validity (Tett et al. 1999; Morgeson et al. 2007a, b), and low face
416 validity (Steiner and Gilliland 1996). Some researchers suggest that in high stakes
417 settings there are concerns that “faking” can compromise the validity of personality
418 assessments (Birkeland et al. 2006). Morgeson et al. (2007a) suggested that faking
419 cannot be avoided in self-report personality tests, and as such their use in selection
420 contexts should be reconsidered. However, Tett and Christiansen (2007), and Ones
421 et al. (2007) argue that of those predictive validity studies conducted in real-life
422 settings, results demonstrate that faking, even if it does have an effect on validity, does
423 not significantly reduce operational validity of personality testing. Although Rankin
424 (2013) posits that rejecting candidates on the basis of self-report measures could
425 potentially be unfair, Ones et al. argue that writing off all self-report measures of
426 personality would be counterproductive and research consistently shows that certain
427 domains, such as conscientiousness to be significantly correlated with subsequent
428 performance, both in education settings and in the workplace (see Lievens et al.
429 (2009)).

430 It should be noted however that a wide range of personality tests exist, designed to tap
431 into a broad range of traits, which is likely to be a contributing factor to the continued
432 debate. Within education in healthcare, the Personal Qualities Assessment (PQA, Powis
433 et al. 2005) has been used to measure traits considered to be relevant to health profes-
434 sionals (Munro et al. 2005), and comprises two tests of non-academic ability. One of these
435 is the Mojac assessment of moral orientation (Bore 2001; Bore et al. 2005a, b). Bore and
436 colleagues suggest that being too liberal or too socially rule-bound would create problems
437 in ethical practice, so optimal candidates would have a balance between the two. The
438 second assessment is the NACE, designed to measure narcissism, aloofness, confidence
439 and empathy as an indication of involvement with others (Munro 1998; Munro et al. 2005).
440 While conceptually the aims of the PQA are to measure attributes relating to individuals’
441 values, research has yet to provide long term evidence of predictive validity. For example,
442 Dowell et al. (2011) found that candidates’ PQA scores did not correlate with fourth year
443 medical school rankings or Objective Structured Clinical Examinations, and Gibbons et al.
444 (2007) found no significant relationship between the PQA scores and the likelihood of
445 passing interpersonal skills assessments as part of a social work degree.

446 Nonetheless, across all occupational groups, several studies have found that the almost
447 universally-acknowledged Big Five personality traits (openness, conscientiousness,
448 extraversion, agreeableness and neuroticism) correlate with various aspects of performance
449 (Salgado et al. 2003; Barrick and Mount 2012), and in healthcare roles specifically (Fer-
450 guson et al. 2000, 2003, 2014; Hojat et al. 2013; Lievens et al. 2002). By extension,
451 personality assessment based on the Big Five are more likely to hold promise for dem-
452 onstrating predictive validity. The widely accepted Big Five template of these traits and
453 their predictive validity across numerous criteria have been converged upon across a large,
454 international body of literature (e.g. Barrick et al. 2001; Hurtz and Donovan 2000;
455 O’Connor and Paunonen 2007; Salgado and Tauriz 2014).



456 A key issue however is the extent to which there exists a relationship between various
457 personality dimensions and important outcome criteria, and to what extent this relationship
458 is linear. For example, Knights and Kennedy (2006) found that the Hogan Development
459 Survey (HDS) may identify negative personality characteristics (such as paranoid, anti-
460 social, sceptical and avoidant) in medical students that have been found to have negative
461 correlations with subsequent performance, that were not detected in the selection inter-
462 view. Knights and Kennedy (2007) concluded that measures of dysfunctional personality
463 types could usefully and cost-effectively be incorporated into medical student selection,
464 although they did not provide any direct evidence for this assertion. However, there is a
465 dearth of research evidence supporting the long-term validity of such personality traits as
466 negative predictors of role performance within healthcare and beyond. Indeed, some
467 research suggests that 'dark side' traits may also correlate positively with a number of
468 positive performance outcomes, including leadership success (Bollaert and Petit 2010;
469 Harms et al. 2011; Ouimet 2010; Rosenthal and Pittinsky 2006).

470 Cleland et al. (2012) conclude that when assessing the usefulness of personality
471 assessment, studies relying on early outcome criteria may have underestimated the pre-
472 dictive value of personality. However, it is evident that further research is required to
473 explore the long-term predictive validity of personality traits in healthcare. Where such
474 evidence does exist, results are mixed and paint a complex picture. For example, while
475 Lievens et al. (2009) reported that conscientiousness is an increasing asset for medical
476 students when examining GPA, Ferguson and colleagues (Ferguson et al. 2000, 2014)
477 found that conscientiousness is a significant negative predictor of clinical performance in
478 medical trainees. Thus, closer attention is needed to explore such differential results when
479 exploring different outcome criteria.

480 In summary, at least two explanations for the conflicting evidence of various personality
481 assessments exist: firstly the large range of personality tests available, of potentially
482 varying quality, designed to measure a wide range of different traits; and secondly that
483 the association between personality traits and performance in healthcare may be complex and
484 possibly non-linear. Nonetheless, personality and values, while conceptually distinct, are
485 linked (Parks and Guay 2009, as discussed earlier in this review), and thus in principle we
486 argue that personality testing may indeed help recruiters to get closer to examining the
487 values of candidates, especially if personality instruments are combined with other
488 selection tools such as structured interviews/MMIs. As such, in concept, personality
489 assessment may be most appropriately used a complimentary tool to use as guidance to
490 focus values-based interview questions (rather than a stand-alone instrument), although
491 evidently this also depends on the quality of the measure being used.

492 Final stage selection methods

493 5. *Traditional interviews* Unstructured interviews are still widely used for selection in a
494 variety of occupations, despite their low reliability, low predictive validity, and poor
495 legal defensibility (Klehe 2004; Terpstra et al. 1999; Williamson et al. 1997).
496 Unstructured interviews are prone to potential biases and errors, including: (1) *ste-*
497 *reotyping*, (2) *first impressions* (e.g. making a judgment solely on first impressions
498 rather than allowing the candidate a chance to demonstrate their skills (i.e. "I know if
499 they are the right person immediately"), (3) *halo and horns effects* (e.g. selectors being
500 unduly influenced by one positive or negative characteristic of the applicant) and, (iv)
501 *leniency*. All of these aspects are likely to distort interviewer ratings of candidates and
502 their values (Edwards et al. 1990).



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- 503 6. *Group interviews* Recruiters may be attracted to the nature of the group interview,
504 which allows for an assessment of how well a candidate manages interaction with
505 others during the interview itself. In addition, group interviews require less interviewer
506 resource than traditional one-to-one or panel interviews and may therefore be
507 considered more cost effective in terms of interviewer time. However, evidence for
508 reliability and validity is lacking. The evidence suggests that although group
509 interviews could add value over academic indicators alone (Byrnes et al. 2003), they
510 are of less value compared to one-to-one interviews (Tran and Blackman 2006). In
511 addition, there may be an increased likelihood that candidates will perceive group
512 interviews as unfair compared to other interview techniques due to the influence of
513 others, and assessor load, for example (Tran and Blackman 2006).
- 514 7. *Structured Interviews (e.g. competency-based, situational)* Several large-scale meta-
515 analytic studies show that “structured” interviews, with questions developed based on
516 a job analysis, have relatively high levels of validity (Conway et al. 1995; Huffcutt and
517 Arthur 1994; McDaniel et al. 1994). Other studies (Berry et al. 2007; Roth and
518 Iddekinge 2005; Salgado and Moscoso 2002) have examined constructs that interviews
519 actually measure, from cognitive ability to personality. Research suggests that
520 interviews that are better designed and developed specifically to assess particular
521 constructs show greater evidence of construct-related validity (Donnon et al. 2009;
522 Huffcutt et al. 2001).
- 523 8. *Multiple-Mini Interviews (MMIs) and Selection Centres (SCs) using work samples*
524 *(e.g. group exercises, written/in-tray task, presentations, interactive exercises).*
525 Although predominately considered conceptually distinct in the literature to date,
526 MMIs and SCs are considered together here due their similarities of approach, design
527 and implementation. The primary purpose of MMIs/SCs is to overcome problems with
528 the test–retest reliability of traditional panel interview techniques (Eva et al. 2004).
529 The methods allow candidates multiple situations to demonstrate key skills, and to be
530 observed by a number of trained assessors [the multi-trait, multi-method (MTMM)
531 approach, Jansen and Stroop, 2001], allowing a fairer and more reliable assessment to
532 be made. With careful design, the increased reliability of these methods should equate
533 to greater validity and more positive candidate reactions. However, it has been argued
534 that for MMI and SC methods to be valid, the design of stations/tasks should be
535 closely mapped to outputs from a thorough role analysis study and selection criteria
536 (Patterson and Ferguson 2012).

537 Research evidence for the validity of both MMIs and SCs is good. Psychometric evaluation
538 of MMIs internationally shows good reliability and validity evidence when they are
539 designed appropriately (Eva et al. 2004, 2009; Eva and Rosenfeld 2004), and favourable
540 candidate and interviewer reactions (Dore et al. 2010; Hofmeister et al. 2008; Kumar et al.
541 2009; Razack et al. 2009; Humphrey et al. 2008). Compared to the large evidence-base
542 related to MMIs, there is less available evidence for SCs in healthcare, and the majority of
543 evidence is emerging at postgraduate level. For example, SCs used to select trainees for
544 UK general practice have shown good predictive validity (Patterson et al. 2005, 2013).
545 This work has been extended to select doctors for postgraduate training in other specialties
546 such as obstetrics and gynecology, and paediatrics (Randall et al. 2006a, b). SCs have also
547 been piloted in the UK for graduate entry to medical school (Kidd et al. 2006), however no
548 research has directly investigated values per se.

549 Evidence is mixed on the cost effectiveness of MMIs/SCs. Compared to other methods,
550 they are costly to develop, and are significantly more expensive than machine-marked tests



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551 to deliver (Ziv et al. 2008), However, research suggests that MMIs/SCs may provide
552 greater depth and breadth of information about candidates than structured interviews
553 (Randall et al. 2006a, b), suggesting that their cost effectiveness may therefore be good
554 when balanced against the increased validity (and thus reduced extended training costs)
555 they may offer (Pau et al. 2013; Rosenfeld et al. 2008).

556 Value-for-money may be further improved by examining the number of stations in an
557 MMI or SC, and reducing the number of stations/tasks if reliability remains unaffected.
558 Practically, however, there may be a trade-off between cost and reliability (i.e. the more
559 stations/tasks, the higher reliability, but also increased interviewer/rater time and cost).
560 Dore et al. (2009) acknowledged a key limitation of MMIs (which also pertains to SCs),
561 which is that they may only be administered to a limited number of on-site candidates. In
562 an attempt to address this limitation, the researchers developed the Computer-based
563 Multiple Sample Evaluation of Noncognitive Skills, using the same psychometric princi-
564 ples used in MMI development. The tool correlated .60 with MMI when piloted on a
565 sample of undergraduate medical students. As such, this preliminary work suggests that a
566 psychometrically sound MMI- or SC-style computer-delivered tool may be used to mea-
567 sure non-cognitive attributes at the shortlisting stage, as well as the ‘traditional’, face-to-
568 face MMI or SC at the final stage of selection for healthcare roles.

569 In Table 2 we outline implications of the above evidence for each selection tool, with
570 regards to implementing VBR in healthcare contexts.

571 Implications

572 The research evidence supports the use of VBR as only one part of embedding values in
573 healthcare education and practice and emphasises the need for a multifaceted approach to
574 organisational values beyond recruitment issues alone. The term “values-based recruit-
575 ment” is relatively new which has arisen in this context, and as such the current evidence
576 relating to VBR directly is limited. As such, in line with the structured search and thematic
577 review methodology (Grant and Booth 2009), our review provides links to other more
578 established concepts in the literature that inform our understanding of how to best assess
579 values in recruitment. The design of a selection system to achieve VBR will concern an
580 overall programme of assessment comprising a combination of methods (each with their
581 distinctive psychometric properties) to make decisions about candidate selection. The
582 focus of selection system design is not on how much validity a single assessment method
583 adds, but rather on whether a particular selection method is going to be useful in identi-
584 fying the presence or absence of certain selection criteria in candidates (Lievens and
585 Patterson 2011); that is, which selection methods may identify relevant values in a specific
586 context.

587 Theoretical implications

588 The results of our preliminary structured search and thematic review of the selection
589 literature show that there is a significant research gap in the theory used to inform VBR,
590 and this area warrants further investigation. In understanding how selection methods could
591 measure values however, we propose that section methods that access an individual’s
592 *prosocial implicit trait policies* (ITPs; which are beliefs about the utility of prosocial
593 expressions) will allow a richer understanding of the theory behind selection methods
594 designed to measure non-academic attributes and how selection methods are best



Table 2 Review of selection methods for values-based recruitment

Selection method	Implications of the evidence for implementing VBR
<i>Shortlisting methods</i>	
Personal statements	Candidate acceptability is high, but susceptibility to coaching is also high. (<i>Ineffective method for VBR</i>)
References	Use of references remains widespread despite little research supporting validity or reliability (<i>Ineffective method for VBR</i>)
Situational judgment tests (SJTs)	Improved validity over other selection tools (IQ and personality tests), and can be mapped to organisational values. Whilst SJTs can be relatively costly to design, SJTs are machine-markable & can be delivered on-line, producing cost savings in high volume selection (<i>Effective method for VBR</i>)
Personality assessment	Where there is a high risk of susceptibility to faking and/or coaching, personality assessment is best used to drive more focused questioning at interviews (rather than a stand-alone instrument without verification). (<i>Personality assessment may be more useful at the attraction phases of VBR as part of self-assessment/selection</i>)
<i>Final stage selection methods</i>	
Traditional interviews	Across most evaluation criteria, traditional interviews perform poorly. (<i>Ineffective for VBR</i>)
Structured interviews (e.g. competency-based and situational)	When interviews are structured and based on a thorough role analysis, with standardised questions with trained interviewers, and appropriate scoring they can be reliable and valid. Candidates prefer interviews to other methods although they are relatively resource intensive. (<i>Effective method for VBR</i>)
Group interviews	Whilst group interviews appear more cost efficient in terms of assessor time, evidence for reliability, validity and fairness is lacking. (<i>Ineffective method for VBR</i>)
Multiple-mini interviews (MMIs), selection centres (SCs) using work samples, e.g. group exercises, written/in-tray task, presentations, interactive exercises	When designed appropriately (using a multi-trait, multi-method approach with work samples), SCs and MMIs are valid predictors of job performance. Candidates are positive towards SCs and MMIs as they have multiple opportunities to perform. SCs and MMIs are relatively expensive to design & implement (<i>Effective method for VBR</i>)

595 constructed to achieve VBR (Motowidlo and Beier 2010). Such methods would include
 596 SJTs and MMIs and/or personality assessments in combination with structured interviews,
 597 for example.

598 Theoretically, ITPs are beliefs about the *costs/benefits of expressing certain traits* in
 599 certain situations. Thus, ITPs are related to targeted trait *expression*, and therefore guide
 600 behavior and are related closely to values. Within healthcare education and practice,
 601 prosocial implicit trait policies (ITPs) are beliefs about the professional utility of acts
 602 expressing compassion, caring, and respect for patients. Whilst personality generally



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603 represents the behaviors that come most naturally, and therefore do not require effort,
604 behaviour which is linked to values also requires effort and a personal choice to be made to
605 behave in a certain way. For example, one does not generally think about or choose to be
606 agreeable or disagreeable. However, there is an element of personal choice involved when
607 one behaves consistently with one's own values (Parks and Guay 2009). For example,
608 making a judgment that generally being agreeable in a situation (e.g. towards a patient, a
609 colleague or a supervisor) might be a more successful strategy in dealing with the situation
610 than being disagreeable. It may be possible to measure individuals' ITPs (and therefore
611 their values) using appropriately designed assessments to assess an individual's awareness
612 about appropriate behaviour in given situations.

613 Like values, Motowidlo and Beier (2010) suggest that ITPs are shaped by experiences in
614 fundamental socialisation processes, such as in parental modelling during childhood. This
615 may teach the utility of, for example; *agreeable expressions*, that is, helping others in need,
616 or turning the other cheek; or *disagreeable expressions*, that is, showing selfish preoccupa-
617 tion with one's own interests, holding a grudge/"getting even" or advancing ones own
618 interests at another person's expense. Considering ITPs in the context of education and
619 training in healthcare, the challenge of educational supervisors is to teach students the
620 utility of effective behavior in the role of, for example, nurse or doctor. This socialisation is
621 tutored during supervised clinical practice during education and training, regarding
622 effective behavior by a healthcare practitioner in any given situation. By extension, it is
623 possible that behavior may change if an individual is working within an environment that
624 does not promote the desired values (e.g. care and compassion).

625 Practical implications

626 Key issues in a selection system design for healthcare, where there may be large numbers
627 of applicants, are scalability, utility and cost efficiency. These could seriously constrain the
628 opportunities to use certain (robust) selection methods such as MMIs (Dore et al. 2009;
629 Prideaux et al. 2011). The initial investment in the development of bespoke selection
630 measures however may be expensive at the outset, but in the medium- to long-term, this
631 investment can translate into significant gains in utility. For example, switching from a
632 hand-scored application form personal statement method to a machine-markable and/or
633 computer-delivered test developed in partnership with key stakeholders could significantly
634 reduce costs in the long-term, despite high costs in the short-term (Lievens and Patterson
635 2011; Plint and Patterson 2010). Stakeholder buy-in is also an important consideration
636 (Patterson and Zibarras 2011). At present, there are some selection practices that display
637 little or no predictive validity (e.g. referees' reports), yet these practices continue to be
638 viewed as acceptable by many because various groups of important stakeholders consider
639 them credible.

640 Our review of established evidence on the selection methods available for VBR shows
641 much of the evidence base on selection methods in healthcare comes from the medical and
642 dental recruitment literature with some contributions from nursing. As a result we also
643 draw upon evidence from the broader international occupational research literature. The
644 selection methods reviewed included personal statements, references, SJTs, personality
645 assessments, traditional interviews, group interviews, structured interviews, MMIs and
646 SCs. From our review, it appears that, at the shortlisting stage, SJTs (depending on
647 appropriate design), and to some extent appropriately designed personality assessment,
648 could offer utility in addressing VBR. At interview stage, appropriately designed MMIs are
649 likely to be an effective tool for VBR. There also exists good evidence from healthcare



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650 settings that SJTs and MMIs are reliable methods to evaluate a range of important non-
651 academic attributes (e.g. Lievens and Patterson 2011; Dore et al. 2010).

652 When used in combination with structured interviews, personality assessment
653 (depending on the instrument) could also provide useful information that is complimentary
654 to VBR (e.g. assessing agreeableness and conscientiousness) where applicants' self-
655 reported preferences may help interviewers to focus questions more specifically with
656 regard to candidates' goal choice and goal striving (hence values), for example.

657 Both SJTs and personality assessments can be machine-markable and delivered on-line,
658 and once developed, they can offer significant cost savings for delivery compared to other
659 methods that are hand-scored by trained assessors, such as in interviews and personal
660 statements. However, the design parameters for non-academic assessments linked to values
661 will vary depending on whether the purpose is for attraction versus assessment. In addition,
662 a single tool for all roles is unlikely to be appropriate: although there may be "core"
663 values, it is likely that individual healthcare roles will have more specific value require-
664 ments within the broader values. For example, a learning disabilities nurse may need
665 enhanced values in some areas compared to a nurse working with the general populations
666 of adults. It should also be noted that non-academic selection methods will be effective
667 only if they are developed in a robust way, including being based on a role analysis.

668 At the interview stage of selection, research suggests that MMIs and structured inter-
669 views may be appropriate selection methods for VBR. Evidence implies that MMIs may be
670 more easily implemented and more cost efficient for high volumes of recruitment.
671 Research suggests that appropriately designed structured interviews (such as in MMIs) are
672 likely to be capable of assessing values since interviews have been shown to measure a
673 variety of constructs from cognitive ability to aspects of personality (Berry et al. 2007;
674 Salgado and Moscoso 2002). Further research (Cable and Judge 1997) has also examined
675 the possibility of assessing values during the interview process, where interviewers assess
676 value congruence based on perceptions of applicants' and their own organisation's values.

677 In considering the implementation of a values-based approach for interviews (including
678 MMIs), attention should be given to helping recruiters understand how this differs from a
679 competency-based approach to recruitment. A values-based interview might appear similar
680 to a competency-based interview in that the format will often involve asking applicants to
681 provide examples of behavior they have demonstrated based on past experiences. For
682 example applicants may be asked to "Describe a situation when..." or "Tell me about a
683 time when...". However, it is the probing questions, designed as part of the values-based
684 interview, that are used to elicit detailed evidence in relation to learning and reflection that
685 differentiate it from a competency-based interview, thus providing insight into a candi-
686 date's values or what they consider to be important (NSPCC 2013). Such probing questions
687 should focus on how and why a candidate makes particular choices (goal choice), pro-
688 viding insight into the reasons and motivations for their behavior (values).

689 Practically, any values-based selection method should be carried out by inappropriately
690 trained recruiters/assessors who are well educated in the process and techniques of
691 observing, eliciting and identifying a candidate's values. Whilst it can be observed that
692 values-based selection methods offer considerable benefits to the recruitment process and
693 in ensuring the most suited candidates are selected, it is however important to note that
694 such techniques should not replace the need for other forms of assessment focusing on the
695 technical knowledge, aptitude and skills required for a role. A values-based selection
696 process is therefore likely to represent one element of a broader recruitment process to
697 determine a candidate's overall suitability for a target role, at all levels of entry in both the
698 healthcare setting and beyond.



699 Conclusions

700 This preliminary review of the emerging literature on VBR identifies four key implications
701 regarding selecting for values in healthcare. The first is that it is very important to
702 understand exactly what constitutes a “value” and how this differs from other, possibly
703 similar, constructs such as personality. Understanding this has wide-reaching implications
704 for the measurement of values in a recruitment context. Second, there is limited published
705 research relating to the concept of VBR in healthcare and selection methods that might
706 identify values in a healthcare context; and yet of critical importance is the ability to
707 identify those students, trainees, and employees who will deliver high quality, compas-
708 sionate and safe care. Third, our review demonstrates that this area is a fruitful avenue for
709 future research. There appears to be a significant gap in literature as to how we can
710 accurately measure values during recruitment/selection, and more specifically within a
711 healthcare education context. Fourth, there is very little research *generally* on which
712 selection methods would be most useful to measure values. We put forward some sug-
713 gestions based on current research and literature more widely which indicates some utility
714 in using SJTs, personality assessment, MMIs and SCs. Far more research is required
715 however to state this conclusively, and methods for VBR present both a relatively
716 uncharted territory and exciting for further research.

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