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Abstract

The Royal College of Surgeons (2016) has argued that health professionals must abandon a ‘paternalistic’ approach to consent in favour of ‘informed choice’. We engage critically with these guidelines through analysis of neurology consultations in two UK-based neuroscience centres, where informed choice has been advocated as good practice for over a decade. Based on 223 recorded consultations and related questionnaire data, we used conversation analysis (CA) to identify two practices for offering choice: patient view elicitors (PVEs) and option-lists. This paper reports further, mixed-methods analyses, which combined CA with statistical techniques to compare the two ‘choice’ practices with recommendations. We demonstrate that recommendations were overwhelmingly more common. There was little evidence that patient demographics determined whether choice was offered. Instead, individual neurologists tended to have a ‘style’, making it partly a matter of chance which decisional practice(s) patients encountered. This variability matters for the *perception* of choice: neurologists and patients were more likely to agree a choice had been offered if a PVE or option-list was used. However, these practices were associated with a risk: while recommendations nearly always ended in agreement to undertake the proffered course of action, option-lists and PVEs did so only about two-thirds of the time. We argue that – insofar as neurologists tailor their approach – they are engaging in a complex balancing act between their ‘duty of care’ and the demand for patient choice. We question the appropriateness of a ‘one size fits all’ model of consent.

Keywords: UK; patient choice; doctor-patient interaction; neurology consultations; conversation analysis; mixed-methods; decision-making.

1. Introduction

Recent, widely-publicized Royal College of Surgeons' (RCS, 2016) guidelines on consent specify that "the aim of the discussion about consent is to give the patient the information they need to make a decision about what treatment or procedure (if any) they want" (p. 4). The guidelines are positioned as responsive to the 2015 Supreme Court case of Montgomery vs Lanarkshire Health Board in which a woman was awarded damages because her obstetrician had not fully explained the risk of vaginal birth in her particular circumstances (small pelvis, large baby) and her baby was born with cerebral palsy. This case emphasizes patients' rights to self-determination and according to the RCS, marks a quite radical shift in how the consent process is conceptualized:

> From one in which the surgeon would explain the procedure to the patient and obtain their consent to proceed, to one in which the surgeon sets out the treatment options and allows the patient to decide (p. 15).

While recognizing that the General Medical Council has "consistently supported patient autonomy", the RCS argues that "established clinical practice – and a large body of case law – followed a more paternalistic approach" (p. 3). The Montgomery case thus necessitates "a change in attitude from surgeons in discussions about consent" (p. 3). Moreover, the RCS guidance is offered to "other healthcare professionals" (p. 4), implying that similar changes may be needed in other specialties.

In this paper, we engage critically with these guidelines through our investigation of decision-making in neurology – a specialty where the RCS guidance should already be embedded in clinical practice, given that The National Service Framework (NSF) for long-term conditions, (DH, 2005), in place for over a decade, specifies several evidence-based markers of good practice, including that patients “receive appropriate information before starting medication to enable informed choice” (p. 27). Although the NSF allows for more leeway than the RCS guidelines– acknowledging that “not everyone with a long term neurological condition will want to participate actively in their own care” (p. 21) – the documents share an emphasis on providing information about different treatment *options*. Neurology offers an excellent site, therefore, for investigating how (and to what extent) health professionals are already acting in accordance with the consent process proposed by the RCS.

Our wider project – funded by the UK’s National Institute for Health Research – sought to explicate interactional practices used by neurologists to initiate decision-making with patients. Here, we compare three such practices: recommending, option-listing and patient view elicitors (PVEs). We argue that, relative to recommending, the latter two practices invite patients to take a more active role in decision-making, and align more with the RCS guidelines. It is striking, therefore, that we found that recommendations were overwhelmingly more common than option-listing or PVEs, even in neurology.

2. What we already know about real-time decision-making in the clinic

Our project builds on previous research on real-time decision-making in the clinic. Much of this has focused on the treatment recommendation. Although recommendations may be designed in various ways, it is well-established that clinicians and patients understand recommendations to be proposals. This means they are subject to the patient's acceptance rather than 'doctor's orders', and patients are capable of resisting them (Costello & Roberts, 2001; Koenig, 2011; Stivers, 2007). Nevertheless, there is extensive evidence regarding the ways in which clinicians may persuade patients to accept the course of action they think is best (Quirk, et al., 2012). Hudak, Clark, and Raymond (2011), have shown how surgeons may build their recommendations to try to ward off resistance (and see Clark & Hudak, 2011). Stivers (2005) found that parents were less likely to resist a non-antibiotic treatment recommendation for their child if this was framed as a positive recommendation (for a specific alternative medication), rather than as a negative recommendation (against antibiotics). Opel et al. (2013) showed that significantly fewer parents resisted vaccine recommendations for their children when the healthcare provider used a "presumptive initiation format" as opposed to a "participatory" one (p. 1040). "Presumptive formats were ones that linguistically presupposed that parents would vaccinate… [while] participatory formats were ones that linguistically provided parents with relatively more decision-making latitude" (p. 1039). This distinction maps closely onto the focus of the present paper.

Collins et al. (2005) drew a related distinction, demonstrating a continuum of approaches to decision-making, ranging from 'unilateral' (or clinician-determined) to 'bilateral' (or shared). Illustrating the 'bilateral' approach, they showed how clinicians sometimes replace the more conventional treatment recommendation with efforts to:

> actively [pursue the] patient's contributions, providing places for the patient to join in, and building on any contributions the patient makes: e.g. signposting options in advance of naming them; eliciting displays of understanding and statements of preference from the patient (Collins et al., 2005, p. 2625).

Extending this research, our primary study used conversation analysis (CA) to identify two key practices whereby clinicians might invite patients to contribute, actively, to decision-making about possible treatment, investigation or referral options. We have called these 'option-lists' and 'patient view elicitors' PVEs (Anonymous). In brief, option-listing consists of an explicit listing of alternatives, from which the patient may choose one or more. It often includes an initial announcement by the neurologist that there is a decision to be made, and heralding a list of options. For example:

> Neu: And there's two ways of dealing with this. If you don't feel that things are absolutely back to normal… then I can give you some steroid treatment for a short while.
>
> Pat: Mm hm. …
>
> Neu: Alternatively I could arrange for you to be seen by one of our MS specialists.
>
> Pat: Uh huh.

> Neu: … see if they think that the inflammation…would benefit from some other forms of treatment (G01805)

(The identifiers used here (e.g. G01805, above) show where the recording was made (Glasgow or Sheffield), the number of the recording (numbered consecutively at each site from 001), and a two-digit number for each clinician).

The term 'patient view elicitor' incorporates a range of turn designs, which invite the patient to express a preference (e.g. "Well um do you want to try a new drug, is that what you would ideally like?" (G07504)), how they "feel" about an option, their "thoughts" on a proposed course of action, and other variants on this theme (e.g. "Is that bad enough that you'd want to change drugs?" (S06004)). What holds these together is their explicit invitation to the patient to *express a view* or *make a choice based on their view*. To varying degrees, both option-lists and PVEs orient to the decision as lying in the patient's domain. By contrast, recommendations designedly make explicit which option the neurologist thinks is best (e.g. "We need to record some of these turns" (G00804) or "I think because you've had that seizure… we should increase your pregabalin a bit more" (S10905)) and seek the patient's agreement.

Thus, as we have argued previously, although option-lists and PVEs seldom set up an entirely open (or neutral) decision, they can be said to offer the patient more of a say in the decision-making process than recommendations (Anonymous). This is for two, interrelated reasons. First, recommendations seek acceptance of a conclusion already reached by the clinician. Second, although recommendations can be formulated to carry different levels of deontic force (Stevanovic & Peräkylä, 2012) – ranging from a pronouncement that a particular treatment is necessary, through to a highly mitigated suggestion that a treatment might be helpful (Anonymous) – recommendations unavoidably position the patient as having to respond to 'expert opinion'. To resist a recommendation is to go against that expertise.

As a practice for initiating decision-making, then, recommendations fall decidedly on the 'old' side of the RCS's distinction: the approach to consent "in which the surgeon would explain the procedure to the patient and obtain their consent to proceed" (p. 15). Option-listing, by contrast, maps closely onto the strongly advocated 'new' approach, "in which the surgeon sets out the treatment options and allows the patient to decide" (ibid.). PVEs lie closer to the 'new' end of the continuum, in that they also seek the patient's decision, but without proffering a range of options first. In our primary, CA-based study, we focused on how these two practices could be used to facilitate choice for patients. However, that study was neither designed to investigate their distribution across our dataset, nor to compare them with the alternative practice of recommending. We therefore obtained follow-on funding to code our dataset for quantitative analysis. Our intention, following the example of Opel, (2013), Robinson, (2007) and Stivers (2015) was to reduce the interactional data - for quantitative analysis - without sacrificing the sensibility of CA. We therefore worked iteratively from the recordings themselves and retained as much interactional information as possible by, for example, maintaining sequential ordering and capturing patient resistance and acceptance in a range of responses including 'no audible response', 'acknowledgement' and 'goes for option'. In the rest of this paper, we report findings from the follow-on study.

After a description of our methods, we map out the distribution of the three practices across our dataset. Next, we report findings regarding neurologist- and patient-perception of choice. We then explore the relationship between the three practices and a range of geographic, demographic, and clinical factors, as well as considering individual differences amongst clinicians. Finally, we examine whether any of the practices was more likely to lead to patients' acceptance of the proffered course of action by the end of the consultation.

3. Methods

3.1 Recruitment and data collection

Our primary dataset of 223 audio/video recordings of neurology outpatient appointments was collected in 2012 in two major clinical neuroscience centres (in Glasgow and Sheffield). In addition, participating neurologists and patients completed questionnaires before and after their recorded consultation. Fourteen neurologists (seven at each site), 223 patients (114 in Glasgow, 109 in Sheffield), and 120 accompanying others (63 and 51, respectively) took part. Details of data collection method, consent procedure and ethical approval have been published previously.

3.2 Coding the recordings

This study was designed to compare three focal decisional practices – neurologists' recommendations, option-lists and PVEs. Based on our previous qualitative findings (for a description see Anonymous), we produced a coding scheme through an iterative bottom-up process to adequately capture what was going on in the interactions themselves. Hence, we developed a set of inclusion criteria based specifically on the three focal decisional practices (excluding for example, patient-initiated decisions) and three ubiquitous types of decisions: treatment, investigations and referrals. We then developed a codebook and extraction form (both available on request from the corresponding author). Working directly from the audio recordings (because we had those for all cases) in conjunction with their verbatim transcripts, the following were identified:

- All *decisions* about treatments, investigations or referrals (or some combination of these) initiated by the neurologist using one of our core practices: option-listing, PVE or recommending.
- Many of the decisions entailed extended sequences, with multiple *decision-points* (e.g. a recommendation followed by an option-list, followed by a PVE). We coded every option-list, PVE or recommendation that occurred across each decision type that met our inclusion criteria. Our coding retained the sequential ordering, allowing us to compare first decision-points with later ones for a single decision.
- For each decision-point, we identified how the patient and/or accompanying other *responded* – ‘no opportunity for a response’, ‘no audible response’, ‘acknowledges’, ‘seeks information’, ‘goes for option’, ‘doesn’t go for option’ or ‘patient and other respond differently’. These categories were designed to handle the fact that we were not necessarily comparing like-for-like e.g. we used ‘goes for option’ to include agreement with a recommendation, acceptance of an offer and selection of a proffered option.
- For each decision, we noted whether one or more of the possible courses of action had been *agreed upon* (in principle) by the end of the consultation.

> Coders could select ‘yes’, ‘no’ or ‘decision deferred’. To handle recommendations against doing something, we recorded ‘yes’ if the decision was in favour of a ‘negative’ course of action (e.g. agreeing not to change a current medication).

The resulting spreadsheet contained interactionally-grounded quantitative codes for each core decisional type (treatment, investigation or referral) that was initiated by a neurologist using one of our three core practices (option-listing, PVE or recommending), together with the sequential ordering of these practices, patients’ responses and whether or not there was agreement in principle for every decision that met our inclusion criteria.

3.3 Inter-coder reliability

To test the reliability of our coding, three coders independently coded 20 consultations, sharing 10 with each of the others (totaling 30 consultations, or 13.5% of the dataset). Inter-coder agreement of the 39 first decision-points across the 30 consultations was checked. Agreement on when the first decision-point occurred was 74% - a large majority of cases. Percentage agreement and Kappa scores were calculated for each variable. Of the variables pertinent for this paper, agreement was 79.4% for the classification of decision-points (Kappa = 0.70) and 97.4% for the agreed outcome variable (Kappa = 0.92). This shows that there was some disagreement, indicative of the nuanced ways that decisions are initiated. However the kappa values indicate ‘substantial’ ‘outstanding’ agreement respectively (Landis & Koch, 1977), sufficient for quantitative analyses.

Coders subsequently negotiated agreements on all aspects of coding for the 30 cases before the remainder of the coding was conducted. The resulting quantitative data were then recoded into forms suitable for analysis. Dummy variables describing whether a consultation included a recommendation, an option-list, a PVE or not were derived. A binary variable, contrasting all the consultations with a PVE and/or an option-list with the consultations only involving recommendations, was also derived.

3.4 Coding the questionnaires

Participant demographics and variables recording aspects of the patient's condition were derived from the patients' and neurologists' questionnaire responses. These included the extent to which neurologists considered patients' symptoms to be medically explained ('completely/largely explained', 'partly explained/partly unexplained' and 'completely/largely unexplained') and how certain they were of the diagnosis (rated on a ten-point scale ranging from very uncertain (1) to very certain (10)). We employ variables that record the length of the consultation, which neurologist provided the consultation, and whether it took place within a general neurology or specialist clinic (e.g. Multiple Sclerosis, Headache, or Epilepsy clinics). The six neurologists who recorded fewer than eight consultations each were combined into 'remainder' groups from Glasgow (three consultants) and Sheffield (three consultants). In post-consultation questionnaires, patients were asked: 'Did the doctor give you a choice about any tests or treatment you might have or the next step in the management of your condition', and neurologists were asked: 'Did you give the patient a choice about treatment or further management?' A variable that described patient and neurologist agreement on whether choice had been offered was derived. Descriptive details for all these variables can be seen in Tables 3, 4, and 5.

3.5 Analytical approach

Quantitative analysis consisted of a three-stage descriptive, exploratory process. First, we mapped the distribution of the three practices across consultations, decisions, and decision-points (Figure 1 and Table 1). Second, the bivariate links between interactional practices and demographic and medical variables were investigated (Tables 2, 3, 4, and 5, and 7) and two binary logistic regression models were estimated (Table 6), using Generalized Estimating Equations Modelling to adjust for the clustered nature of the data. The dependent variable in both models is the binary variable classifying each consultation as either containing at least one PVE and/or option-list or only containing recommendations. For independent variables, we included all demographic and clinical variables showing an association (at the 0.2 level) with interactional practices, in order to identify independent predictors of these practices. Specification 1 includes all relevant variables, whereas Specification 2 excludes the variables with greater than 5% missing values from the analysis, in order to preserve a higher N. Third, we investigated the bivariate links between practice and outcomes to explore the extent to which different practices may lead to differing levels of take-up of the options proffered by the neurologist (Table 8). Bivariate associations were investigated using contingency tables, Chi square tests, ANOVA, and correlation, as appropriate.

Some participants did not fully complete the questionnaires. Additionally, not all consultations contained a decision, as defined by our coding scheme. To deal with missing data, we took the 144 recordings with at least one decision as our working sample, and used listwise deletion for the remainder of our analyses. The frequency of missing values for each of the different variables is shown in Tables 3 and 4.

4. Findings

4.1 Decisions and decision-points

Most consultations (144/223 or 65%) included at least one decision initiated by the neurologist through option-listing, PVE or recommendation. Figure 1 shows the frequency of decisions across the 144 consultations with at least one decision, and the frequency of decision-points per decision. The number of decisions per consultation ranged from 1 to 4 (median 1), with single-decision consultations making up 51.4% of consultations. Decision-points per decision ranged from 1 to 11, with a median of 2. A large majority (96.4%) included 5 or fewer decision-points. At a gross level, the number of decision-points can be indicative of patients' resistance and neurologists' pursuits. The longest chain – 11 – for example, involved a patient's resistance to, and neurologist's pursuit of a recommendation for further investigations. For the sake of space, we do not here report analyses of decision-points (for these please see Anonymous). However, it is worth noting that option-lists have a higher average number of follow-up points (2.53 per decision) than recommendations (1.55) and PVEs, which have the lowest number of follow-up decision-points (1.17).

Figure 1 to go here

4.2 Distribution of the practices across consultations, decisions, and decision-points

Table 1 shows the distribution of option-listing, PVEs and recommendations across the sample. By far the most common practice was the recommendation, followed by the PVE, and then the option-list, which was comparatively rare. This was the case regardless of whether looking at the percentage of consultations, decision types, or decision-points.

Table 1 to go here

4.3 Distribution of practices across decision types

Our study included decisions about treatment, investigation and referrals. Treatment decisions were most common (over 60%), 29% were investigation, and less than 10% referral decisions. Only a very small proportion of decisions (n=2, 0.8%) included more than one decision type (coded as 'multiple' – for example decisions including option lists where one option is an investigation and another is treatment). Table 2 shows the distribution of the decisional practices across decision types, at decision level. Cases with multiple types of decision are excluded from this analysis because of the low numbers. Table 2 reveals that recommendations were the most common practice across all decision types and that option-lists were the least common. However, the proportions of the three decisional practices used for different decision types differed significantly. Investigations were characterised by very high numbers of recommendations, whereas treatment and referral decisions were relatively more likely to include option-listing and PVEs.

Table 2 to go here

4.4 Perception of choice

Table 3 shows relationships between interactional practice and patient- and neurologist-perceived choice. The analysis indicates that both neurologists and patients were more likely to report that a choice had been offered in consultations containing at least one option-list or PVE. There is a particularly strong relationship between perception of choice and use of option-lists or PVEs when the participants *agreed* choice was offered. These findings indicate that the understanding of option-lists and PVEs as mechanisms for offering choice is not just an analytic judgement; participants themselves typically perceived PVEs and option-lists as offering choice, and recommendations as not offering choice.

Table 3 to go here

4.5 Geographic, patient demographic and clinical factors

Tables 4 and 5 show the links between decisional practices and geographic, patient demographic, and clinical factors (N.B. there were too few neurologists to conduct tests based on demographic characteristics of clinicians). More PVEs and Option lists were used in the Sheffield consultations and more recommendations in the Glasgow consultations. We do not report other geographical differences in tabular form because we have done so previously for the full sample (n=223) (Anonymous) and the characteristics of the working sample (n=144) are very similar to the full sample. To briefly summarize the differences between the two sites, Glasgow consultations were more likely to be held in general clinics and tended to be shorter in duration. Symptoms were more likely to be medically explained in Sheffield consultations.

Table 4 to go here

Tables 4 and 5 demonstrate that the type of practice employed was largely unrelated to patients' demographic characteristics. Different practices were no more or less likely to be employed based upon patients' gender, ethnicity, educational level (which can be seen as a proxy for social class (Galobardes, Lynch, & Smith, 2007)) or work status. However, one of the two multivariate analyses (Specification 2, Table 6) indicates that younger patients were more likely to be given option-lists or PVEs, after other variables were controlled for.

By contrast, clinical factors and factors relating to the type of consultation were much more commonly related to the practice employed. Bivariate analyses show neurologists were more likely to use option-lists or PVEs when they were more certain about a diagnosis and when the symptoms were medically explained. They were also more likely to use these two practices in follow-up (rather than first) appointments and in specialist (rather than general) clinics. There was no relationship between length of consultation and the decisional practice employed. Most of these associations do not remain significant after controlling for other variables (Table 6), but PVEs or option-lists were still more likely to be employed in consultations where neurologists were more certain of their diagnoses.

Tables 5 and 6 to go here

4.6 Individual differences between neurologists

Table 7 shows the differences between neurologists regarding their use of the three practices. We have insufficient sample size to validly employ inferential statistical (chi square) tests to investigate the differences between neurologists for one or more option-list *vs*. no option-list. Nevertheless, it is clear from the descriptive statistics and from the comparisons between 1 or more PVE and no PVE that there were large differences between neurologists regarding how often they employed PVEs, and how often they used recommendations. Two contrasting cases highlight the way in which individuals may exhibit a 'style' of decision-making: Sheffield 4 recorded no consultations containing only recommendations, and employed PVEs in all 19 consultations, whereas Glasgow 1 used recommendations in all 14 consultations, and used a lower combined proportion of PVEs and option-lists than any other neurologist.

Table 7 to go here

One potential explanation is that certain subspecialties may be more suited to certain forms of decision-making. However, a specialism–based explanation of individual differences does not appear to offer a good account for the patterning seen here, because, as Table 4 shows, there is no significant link between specialism and decisional practices. Specific examples again illustrate this point: both Sheffield 4 and Glasgow 1 are MS specialists.

4.7 Outcome: is the proffered course of action going to happen in principle?

Table 8 shows the links between practices and an important outcome measure: whether agreement was reached that a course of action made available by the neurologist was going to be acted upon by the patient. Crucially, when only recommendations were used, nearly all (98.6%) decisions concluded with the recommended course of action agreed in principle. By contrast, such agreement was reached in only 68.6% of cases with a PVE or option-list. Thus, rejection of the proposed course of action – or deferral of a decision – was far more likely when PVEs or option-lists were employed (although, as we discuss further below, the direction of causality is not known).

The proportion of decisions that reached an agreement-in-principle to undertake the proffered course of action was very similar when at least one PVE was used and when at least one option-list was used. However, PVEs were more likely to precede the course of action being rejected, whereas option-lists were more likely to lead to the decision getting deferred (although caution is needed here because the number of option-lists is fairly small and statistical testing was therefore not conducted for this comparison).

Table 8 to go here

5. Discussion

The recent RCS (2016) guidance on consent proposes, in effect, that surgeons and other health professionals should (largely) abandon recommending and instead adopt option-listing together with a PVE to invite the patient's selection from the list. Our findings show that, despite long-standing guidance (DH, 2005) that patients should be enabled to make an "informed choice" (DH, 2005, p. 27), recommending remains the primary means through which doctors initiate decision-making in neurology. Moreover, option-listing was rare: there were around 13 recommendations for every option-list. On our measures, patients were offered choice in only about half the recorded consultations. Current practice in neurology thus appears to map far more closely onto the 'old' approach articulated by the RCS – where clinicians explain the procedure and seek consent – rather than the practice advocated: where clinicians set out the options and let patients decide. This coheres with a range of findings regarding the inconsistency of participatory decision-making more broadly (e.g. Couët et al., 2015; Elwyn et al., 2013; Jones et al., 2014), and in neurology specifically (e.g. McCorry, Marson, & Jacoby, 2009; Palace, 2013; Pietrolongo et al., 2013).

We explored whether our findings might be explained with respect to clinician bias, as has been argued elsewhere (cf. Aelbrecht et al., 2015; Waitzkin, 1989; Willems et al., 2005). However, with the exception of younger patients being more likely to be given choice – which might reflect an assumption that young adults prefer choice and elderly people prefer to be told what is best (e.g. Levinson, et al., 2005) – we found no significant relationships between use of the three practices and patient demographics. Specifically, gender, educational qualifications, and work status were not found to be significant predictors of decisional practice. Rather, three key factors seem to be most relevant:

1) Clinic location – option-listing and PVEs were more commonly used in Sheffield than Glasgow;
2) The individual clinician;
3) A set of clinical considerations – option-listing and PVEs were more commonly used for treatment than investigation decisions, if there was greater certainty about the diagnosis, and the symptoms were medically explained. These two practices were also most likely in follow-up and specialist clinic appointments.

Although further research could reveal 'cultural' differences between the two centres in our study, the evidence points towards the first factor - geographical differences - being at least partly explained by factors 2 and 3 – the individual clinician involved and the clinical factors (both of which contribute to skewing the distribution of practices in favour of more 'choice' in Sheffield).

These findings therefore suggest that the evidence for individual decision-making 'styles' among neurologists is strong, even within sub-specialties, and that whether patients are offered a choice is partly based on which neurologist they see. This is key in the UK context of secondary care, which operates on a practitioner referral system in which patients have limited choices about which doctor they see. Furthermore, if this is the case in neurology, where the 'informed choice' agenda is well established, we might speculate that decisional practices used across the NHS are partly contingent on individual approaches to decision-making.

This variability matters significantly for the *perception* of choice, since neurologists and patients were far more likely to report that a choice was offered if option-listing or PVEs were employed. This is important not only as validation of our coding system – that recommendations are perceived differently to option-lists and PVEs by the participants themselves – but because it has a clear ‘good practice’ implication: if the aim is to let patients know they have a choice, then option-listing and/or PVEs are an effective interactional tool. However, our findings also highlight a risk: while recommendations nearly always ended in agreement that the proffered course of action would go ahead, option-lists and PVEs ended in such agreement only about two-thirds of the time.

Our data do not allow us to draw definitive conclusions regarding the direction of causality. On the one hand, it may well be that option-lists and PVEs are doing more than providing the *perception* of choice; they may be enabling patient choice *in practice*, resulting in a more even split between agreement and refusal relative to recommendations, where patients might be more likely to ‘go along with’ the expert opinion regardless of their personal view. This interpretation is supported by Opel et al.’s (Opel et al., 2013; Opel et al., 2012) finding that more ‘participatory’ approaches were less likely than ‘presumptive’ approaches to lead to parents agreeing to vaccinate their children (the option considered by clinicians to be best). On the other hand, it is possible that doctors are more likely to use option-lists and PVEs when they already have reason to think patients might resist the proffered course of action (e.g. they know the patient's treatment preferences due to a long-standing clinical relationship or discussion earlier in the consultation). Moreover, since our study was not designed to assess the relative clinical significance of the decisions being made, we cannot be sure whether the neurologists – insofar as they departed from their individual styles – were selecting practices on the basis of some form of risk/benefit analysis.

However, we would argue that the evidence suggests a complex balancing act, in which neurologists attend to a potential conflict between their 'duty of care' – to deliver the best healthcare possible based on their clinical expertise – and the increasingly strong expectation that they should minimise the exercise of their medical authority by avoiding telling patients what to do and offering them choice instead. Our finding that the decisional practices were differentially associated with a set of clinical factors implies that neurologists – perhaps based on an intuitive/experiential understanding that recommendations are more likely to secure agreement – may be more likely to recommend when they have more reason to worry about the outcome of the decision-making process and more likely to offer choice when they believe there is less reason to worry. This is not to say that offering choice is abandoning a duty of care but rather the opposite; that choice is offered in circumstances of more certainty about the consequences of any decision a patient makes. In this sense, it is perhaps not surprising that the neurologist who offers most choice works in a specialist clinic, with patients whose symptoms are medically explained.

Our ongoing qualitative analysis provides further support for this, with anti-epileptic drug decisions offering a good example. We have observed a two-step process, whereby the neurologist recommends (often strongly) that a patient with poorly controlled epilepsy try a different drug, but then switches to option-listing to facilitate patient choice about *which* drug to try. This is a clear example of choice being offered where the diagnosis is certain and medically explained, typically in a specialist clinic, at a follow-up appointment, with a patient who may well have experience of choosing between a range of anti-epileptics in the past. Nevertheless, choice is typically only offered for that part of the decision for which the neurologist has: a) less evidence regarding which option is best, and b) good reason to seek the patient's views given that different drugs have different risks. With respect to the decision to change drugs, however, the neurologist prioritises the 'duty of care' over the offer of choice. This aligns with Quirk et al.'s (2012) finding that there was a somewhat higher level of risk associated with the more pressured and directed decisions they identified in UK psychiatric consultations than with those that they found to be more open.

The particularly strong tendency for neurologists to recommend when making decisions about investigations (as opposed to treatments and referrals) also points to this balancing act. Given that patients have as much legal right to refuse investigations as they have to refuse treatment (DH, 2015) one might expect no such relationship between decisional practice and decision type. However, it seems that neurologists are routinely prioritising their 'duty of care' over the 'informed choice' policy when diagnostic uncertainty means that they are not yet able to weigh up the risk/benefit ratio of placing the decision more explicitly in the patient's hands. Thus, we see a complex interplay between the exercise of epistemic (Heritage, 2012) and deontic authority (Stevanovic & Peräkylä, 2012). This balancing act may also be understood as another instantiation of the 'risk-choice paradox', compellingly demonstrated in maternity care (Symon, 2006), where there is, simultaneously, a very strong emphasis on avoiding risk and on enabling choice for the woman in labour.

To our knowledge, our study is the first to map out, across a relatively large dataset of recorded consultations, the relationship between recommendations and practices that are demonstrably understood as offering choice, and a complex array of demographic and self-report variables of clinical relevance. This has allowed us to develop a nuanced understanding of how neurologists initiate decision-making in real-time interaction with patients. The study does, of course, have its limitations, including those imposed by sample size (e.g. we were unable to conduct inferential analyses of neurologists' demographics), and the nature of our dataset. For example, we were able to only judge 'outcomes' based on conversational and self-report data. We have not tracked what happened following the consultations and we do not have measures of physical or mental health that might have been a consequence of the decisions taken. Further research in this area is clearly warranted.

We are also aware that the concept of 'choice' is contested and still relatively poorly understood in interactional practice (Pilnick, 2008). We have focused on option-listing and PVEs because: a) our qualitative work showed how they were used to create explicit moments of choice for patients; b) participants reported perceiving choice in those consultations where these practices were used; and c) option-lists and PVEs map onto the 'informed choice' ideal as articulated in NHS policy and guidance documents. Nevertheless, it seems likely that other practices will play a role in the perception of choice and its facilitation in interaction. Moreover, as our previous qualitative work has shown, these practices do not *guarantee* that patient choice is enabled, and can be used as strategies to pursue the neurologist's agenda (Anonymous). Such complexities, while making further qualitative work necessary, underscore the significance of our quantitative findings: despite the potential for all three practices to be used in atypical ways, the evidence strongly supports our general claim that option-lists and PVEs, but not recommendations, are understood and oriented to as making choice available.

In summary, neurologists do not appear to be adhering, systematically, to the guidelines on patient choice. However, it does not necessarily follow that a rush towards implementing more 'participatory' practices across the board is an appropriate response – not least because it appears that such practices (for whatever reason) are less likely to lead to the acceptance of the option the clinician thinks is best. 'One size fits all' guidance that upholds a particular practice (like option-listing) are, in our opinion, unhelpful. This is not to argue for a return to a paternalistic culture of 'doctor knows best'. Rather, we wish to endorse the substantive body of work advocating for a truly patient-centred approach, where 'patient-centredness' is understood as a process of actively exploring the patient's preferences, not only for clinical courses of action, but with respect to the decision-making process itself. On this model, for a patient who wishes *not* to choose, a patient-centred approach would be to provide an evidence-based recommendation. We would argue that guidelines on choice, themselves, need to be evidence-based and constructed to take account of the tough decisions that clinicians must make when weighing up the potentially conflicting requirements to ensure that patients “receive safe and effective medicines, the use of which has been jointly agreed” (DH, 2005, p. 16).

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Figure caption

Figure 1. Frequency of decisions per consultation (only including consultations with at least 1 decision) (left, n=246) and frequency of decision-points per decision (right, n = 623).

Tables

Table 1. Distribution of the practices across consultations, decisions, and decision-points (row %)

		Recommendations	PVEs	Option-lists	PVEs or option-lists	No PVE or option-list (only recommendations)	Total
Consultations	n	131	77	24	80	64	144
	%	91%	53.5%	16.7%	55.6%	44.4%	n/a
Decisions	n	207	105	27	105	141	246
	%	84.1%	42.7%	11.0%	42.7%	57.3%	n/a
All decision-points	n	439	149	34	183	439	623
	%	70.6%	23.9%	5.5%	29.4%	70.6%	100%
First decision-points	n	173	58	15	73	173	246
	%	70.3%	23.6%	6.1%	29.6%	70.3%	100%

Table 2. Forms of practice used for different types of decisions (column %)

		Investigation	Treatment	Referral	Total
Decisions					
Recommendation	Count	64	124	17	205
	%	**90.1%***	**82.7%***	**73.9%***	84.0%
Option-list	Count	1	20	4	25
	%	**1.4%***	**13.3%***	**17.4%***	10.2%
PVE	Count	17	67	14	98
	%	**23.9****	**44.7****	**60.9****	40.2
PVE or Option-list	Count	17	71	15	103
	%	**23.9%*****	**47.3%*****	**65.2%*****	42.2%

*** p ≤ 0.001

** p ≤ 0.01

* p ≤ 0.05

~ p ≤ 0.1

NB. Statistical tests show comparisons between 1 or more recommendation and no recommendation; 1 or more PVE and no PVE; 1 or more option-list and no option-list; and at least 1 PVE or option-list and no PVE or option-list.

Table 3. Decisional practice and perception of choice (column %)

	Option list or PVE	No Option list or PVE	Total
N	80	64	144
Patient choice	n=75	n=59	n=134
Choice	**81.3%****	**59.3%****	**71.6%**
No choice	**18.7%****	**40.7%****	**28.4%**
Clinician choice	n=78	n=63	n=141
Choice	**83.3%*****	**52.4%*****	**69.5%**
No choice	**16.7%*****	**47.6%*****	**30.5%**
Patient-doctor agreement on choice	n=73	n=59	n=132
Agree choice	**71.2%*****	**33.9%*****	**54.5%**

Agree no choice	**6.8%*** **	**22.0%*** **	**13.6%**
Patient no doctor yes	**12.3%*** **	**18.6%*** **	**15.2%**
Patient yes doctor no	**9.6%*** **	**25.4%*** **	**16.7%**

*** p ≤ 0.001

** p ≤ 0.01

* p ≤ 0.05

~ p ≤ 0.1

<u>NB. Statistical tests show comparisons between at least 1 PVE or option-list and no PVE or option-list.</u>

<u>Table 4. Categorical characteristics of consultations and patients by interactional practices (row %)</u>

	At least 1 PVE or option-list	No PVEs or option-lists (only recs)
All	55.6% (n=80)	44.4% (n=64)
Location		
Sheffield	**67.1%** **	**32.9%** **
Glasgow	**43.7%** **	**56.3%** **
Clinic type		
Seen in general clinic	**41.7%~**	**58.3%~**
Seen in specialist clinic	**58.3%~**	**41.7%~**
Specialism		
General (n=25)	44.0%	56.0%
Epilepsy (n=37)	54.1%	45.9%
Headache / vascular (n=11)	45.5%	54.5%
MS (n=42)	64.3%	35.7%
Neuromuscular (n=10)	50.0%	50.0%
Other sub specialism (n=19)	63.2%	36.8%
Patient Accompanied?		
Accompanied	54.1%	45.9%
Alone	57.1%	42.9%
First appointment?	n=67	n=45
First appointment	**45.5%***	**54.5%***

Follow-up appointment	**65.8%***	**34.2%***
Symptoms		
Completely / largely explained	**61.8%***	**38.2%***
Partly explained	**44.1%***	**55.9%***
Completely Unexplained	**37.5%***	**62.5%***
Patient's Gender		
Female	53.9%	46.1%
Male	58.2%	41.8%
Ethnicity		
White British	56.1%	43.9%
Other	50.0%	50.0%
Post-school quals? (n=119)	n=67	n=52
Post-school quals	60.0%	40.0%
No post-school quals	53.6%	46.4%
Work status (n=143)	n=79	n=64
In work / education / other	57.5%	42.5%
Not working due to ill health	48.6%	51.4%
Employment		
Employed	61.5%	38.5%
Not employed	52.2%	47.8%

*** p ≤ 0.001

** p ≤ 0.01

* p ≤ 0.05

~ p ≤ 0.1

NB. Statistical tests show comparisons between at least 1 PVE or option-list and no PVE or option-list.

Table 7. Categorical characteristics of consultations and patients by interactional practices (row %)

	At least one recommendation	At least 1 PVE	At least 1 Option-list
All		55.6% (n=80)	44.4% (n=64)

Neurologist			
Sheffield 2 (n=10)		**50.0%****	0.0%[a]
Sheffield 3 (n=14)		**50.0%****	7.1%[a]
Sheffield 4 (n=19)		**100.0%****	36.8%[a]
Sheffield 6 (n= 12)		**41.7%****	25.0%[a]
Sheffield rest (n=18)		**72.2%****	22.2%[a]
Glasgow 1 (n=23)		**30.4%****	4.3%[a]
Glasgow 2 (n=13)		**38.5%****	0.0%[a]
Glasgow 4 (n=12)		**41.7%****	41.7%[a]
Glasgow 5 (n=14)		**35.7%****	21.4%[a]
Glasgow rest (n=9)		**66.7%****	0.0%[a]

[a] Significance testing not employed for this comparison

NB. Statistical tests show comparison between at least 1 PVE or option-list and no PVE or option-list.

Table 5. Continuous characteristics of consultations by interactional practices

		At least 1 PVE / or option-list	No PVE or option-list (only recs)	All
Patient age	Mean	44.5	48.1	46.1
	S.D.	14.1	15.6	14.8
Certainty	Mean	**8.74***	**8.0***	8.41
	S.D.	1.7	1.9	1.8
Duration	Mean	22.3	20.1	21.3
	S.D.	10.9	11.6	11.2

*** p ≤ 0.001

** p ≤ 0.01

* p ≤ 0.05

~ p ≤ 0.1

NB. Statistical tests show comparisons between at least 1 PVE or option-list and no PVE or option-list.

Table 6. Multivariate predictors of decisional practice (Odds ratios of consultation containing at least one PVE or Option list)

		Specification 1 (n= 112)		Specification 2 (n= 144)	
		OR	95% CI	OR	95% CI
Site	Glasgow	0.45	0.17 - 1.31	**0.37***	.15 - .91
Clinic type	General	0.42	0.12 - 1.40	0.68	0.23 - 2.02
Symptoms	Completely unexplained	1.31	0.29- 5.83	2.3	.70 - 7.45
	Partly explained	0.94	.33 - 2.67	1.44	.55 - 3.76
First appointment?	First	0.46	.16 - 1.31	--	--
Certainty		**1.59***	1.20- 2.09	**1.30~**	.97 - 1.7
Age		0.98	.95 - 1.01	**0.91***	.95 - 0.99

*** p ≤ 0.001

** p ≤ 0.01

* p ≤ 0.05

~ p ≤ 0.1

NB. Dependent variable reference category is no PVE and/or option-list (only recommendations).

Table 8. Forms of decisional practice used and whether recommended courses of action are agreed to happen in principle (column %)

	At least 1 PVE or option-list	No PVE or option-list (only recs)	Total
N	105	141	246
Decision deferred	11.4%***	0.0%***	4.9%
No	20.0%***	1.4%***	9.3%
Yes	68.6%***	98.6%***	85.8%

*** p ≤ 0.001

** p ≤ 0.01

* p ≤ 0.05

~ p ≤ 0.1

NB. Statistical tests show comparisons between at least 1 PVE or option-list and no PVE or option-list.

Figure 1. Frequency of decisions per consultation (only including consultations with at least 1 decision) (left, n=246) and frequency of decision-points per decision (right, n = 623).