Title: How doctors involve patients with dementia in decisions to initiate treatment: Effect on patient acceptance, satisfaction, and medication prescription.

Authors:
Dr Jemima Dooley\textsuperscript{a} (Corresponding Author) jemima.dooley@bristol.ac.uk
Dr Nick Bass\textsuperscript{b} n.bass@ucl.ac.uk
Professor Gill Livingston\textsuperscript{b} g.livingston@ucl.ac.uk
Professor Rose McCabe\textsuperscript{c} r.mccabe@exeter.ac.uk

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Abstract

**Background:** Shared decision making is advocated but may be affected by cognitive impairment. Measures of shared decision making provide global descriptions of communication without detailed analysis of the subtle ways in which doctors invite patient input.

**Aims:** To explore medication decisions in dementia using a standardised Treatment Recommendation Coding Scheme.

**Methods:** 71 video recorded dementia diagnostic meetings from 9 memory clinics were analysed. Recommendations were coded as: pronouncements (“I will start you on medication”), proposals (“shall we try medication?”), suggestions (“would you like to try medication?”), offers (“I can prescribe medication”) or assertions (“there is medication”). Patient responses were coded as acceptance (“I’d like to have that”), active resistance (“I’m not very keen”) and passive resistance (minimal or no response). Cognitive test scores, prescription rates and satisfaction were assessed and associations explored.

**Results:** Doctors used suggestions in 42% of meetings, proposals in 25%, assertions in 13%, pronouncements in 11% and offers in 9%. Over 80% of patients did not indicate clear acceptance. Patients were most likely to actively resist after suggestions. There was no association between cognitive impairment and recommendation format. Patients were less satisfied with pronouncements. Patient preference did not influence whether medication was prescribed.

**Conclusions:** Doctors initially nominate people with dementia as decision maker, which is not affected by cognitive impairment. Over 80% of patients resisted starting medication, mostly through passive resistance, the most common form of disagreement in communication. Medication still tended to be prescribed, indicating factors other than patient preference affect prescription.

**Declarations of Interest:** None
Introduction

Involving patients in decisions about their psychiatric treatment has been shown to increase patient satisfaction, treatment adherence and improve clinical outcomes (1). There has been little research observing how doctors communicate with people with dementia when making decisions about anti-dementia medication (2) but there is an indication that shared decision making may be low (3). Cognitive impairment in dementia, alongside the increasing role of family, has been shown to impact on patient involvement (4). However, people with dementia, like other illnesses, want to be involved in discussions about their care (5).

Most research on shared decision making has used scales which offer a global picture of patient involvement, such as whether doctors ask patient preferences or list options (6, 7). However, analysis of how, rather than whether, doctors discuss medication with patients is vital for a more nuanced understanding. How doctors recommend treatment is particularly vital: it is at this point that the patient is identified either as the primary decision maker or a passive party (8). Recently, a novel approach examining how doctors format treatment recommendations in more or less authoritative ways has been developed (9). As Stivers and colleagues point out, there are clear differences between “I'm going to start you on X”, “We can give you X to try” and “Would you like me to give you X”. As these different formats are more or less authoritative, they afford patients different degrees of autonomy to decide whether or not to accept or resist treatment recommendations. Furthermore, just as medication recommendations are subtly different, subtle differences in patient responses also reflect different degrees of acceptance or resistance. A well-established body of studies on agreement and disagreement in interaction have shown that while acceptance occurs quickly and directly, resistance occurs with delay and can be either passive or active (10-12). Passive resistance involves a delayed or withheld response, a minimal verbal response (e.g. mhm) or non-verbal response such as a nod (10). Exposing disagreement is socially problematic, even more so in medical consultations given doctor authority, and thus most disagreement in communication takes the form of passive resistance (13). This social delicacy in disagreement means active resistance (explicit statements of non-agreement or questioning) is occurs more infrequently (10).
The aim of this study was to examine how doctors involve patients with dementia in decisions to start medication through a detailed analysis of the subtle ways in which doctors invite patient input and how this affects on patient acceptance of medication. Associations with patient cognitive functioning, satisfaction and prescription were also explored.

**Materials and Methods**

Camden and Islington National Research Ethics Committee approved the project (13/LO/1309). The data was collected as part of the NIHR RfPB funded Shared decision making in mild to moderate Dementia study (ShareD - PB-PG-1111-26063). This was an observational study collecting video recordings from routine memory clinic diagnostic feedback appointments where patients were told whether or not they had dementia.

Recruitment was conducted in two sites in the UK – London (urban) and Devon (rural). In London, there were six participating memory clinics across three NHS trusts. In Devon, there were three participating memory clinics within one NHS trust. Recruitment ran from May 2014 to July 2016.

**Recruitment**

We approached all clinicians delivering dementia diagnoses in the participating trusts. The aim was to recruit all consecutive patients attending the memory clinic for diagnosis feedback, except for those needing interpreters due to the added complexity of the communication. Administrative staff sent information sheets with patient appointment letters. Clinicians assessed whether patients had capacity to provide informed consent, and researchers approached patients and their companions to discuss the study. Two patients in this study were judged not to have capacity, and in these cases we followed the Department of Health guidance on nominating a consultee for research involving adults who lack capacity to consent (14).

**Data Collection**

**Treatment Recommendations and Responses**

We filmed patients’ meetings with their clinician using GoPro cameras without the researcher present. The meetings were transcribed verbatim and medication discussions
identified. Detailed, conversation analytic transcription methods were used for the excerpts of the meeting containing treatment recommendations and responses to illustrate characteristics of speech such as pauses, overlap, stress, intonation, and pace (15). For clarity, these symbols have been removed where extracts and quotes have been presented in this paper but are available from the authors on request.

Patient capacity
Patient capacity to make decisions about medication was recorded by clinicians after the meeting. Capacity was recorded as full, partial or no capacity.

Cognitive test score
Cognitive functioning was assessed by clinicians using the ACE-III (16) or MMSE cognitive test (17) as part of usual practice.

Patient satisfaction
After the meeting the patient completed the Patient Experience Questionnaire (PEQ) (18). The communication subscale of the PEQ was used to obtain communication-specific satisfaction ratings. This subscale contains 4 statements (“we had a good talk”; “I felt reassured”; “the doctor understood what was on my mind” and “I felt I was taken care of”) each with a 5-point Likert scale from “Agree completely” to “Disagree completely”. The total possible score is 20.

Prescription outcome
Whether medication was prescribed or not was identified from the recordings. The reason for not prescribing medication was recorded.

Data Analysis

Treatment recommendation
Each recommendation was coded using the “Treatment Recommendation Coding Scheme” (9), which was developed in primary care (U.K. and U.S.), psychiatry (U.K.) and neurology (U.K.) settings. The coding scheme was comprehensively developed using conversation
analytic methods that examined inductively how treatment recommendations are made in practice.

The coding scheme includes 5 recommendation formats as follows:

1. Pronouncements – patients are given no choice, e.g. “I will start you on medication”
2. Proposals – patients are invited to endorse or collaborate with the doctor’s idea, e.g. “How about trying medication?”
3. Suggestions – medication is endorsed by doctors but patients are given the choice, e.g. “Would you like to try medication?”
4. Offers – doctors show a willingness to prescribe for the patient, but do not actively endorse medication, e.g. “Do you want me to give you medication?”
5. Assertions – doctors state the fact that medication exists without endorsement or explicit recommendation, e.g. “There is a medication”.

**Patient Responses**

Using the coding scheme, the patient response was coded as:

1. Acceptance – quick positive acceptance, e.g. “I’d like to have that”.
2. Passive resistance – minimal verbal or non-verbal acknowledgment, e.g. “mhm” or nodding, or no response.
3. Active resistance – questioning the purpose of medication or indicating a wish not to take the medication, e.g. “I’m not very keen, I don’t want to take more tablets”.

Two researchers coded all the recommendation formats and patient responses and discrepancies were resolved through discussion.

Relationships between treatment recommendation, patient acceptance or resistance, and whether medication was prescribed were explored using Fischer’s exact tests. Possible associations between recommendation format and patient acceptance or resistance, cognitive test score, and patient satisfaction were explored using ANOVA. Researchers coding treatment recommendations were blind to patient capacity and whether medication was prescribed.
Results

The consent rate for clinicians in the study was 88%. Of the 215 patient participants (consent rate 51%), 101 were diagnosed with dementia. Of the 101 video recorded meetings where patients received a diagnosis of dementia, 71 were included (Figure 1). In the remaining 30 recordings there were 6 cases of equipment malfunction, 18 vascular dementia diagnoses where medication was not offered, and 1 semantic dementia diagnosis where medication was not offered. In 5 Alzheimer’s disease cases medication was not recommended: either medication was not discussed at all, or it was discussed but not presented as an option.
215 patients

101 with dementia

114 non-dementia diagnoses

71 medication recommendations

24 medication not offered
18 vascular dementia
5 Alzheimer’s disease
1 semantic dementia
6 no recordings

Figure 1: Patient flow diagram
Participant Characteristics

Participant characteristics are displayed in Table 1. There were 71 patients, 67 companions, and 21 doctors. Most patients were white, receiving a diagnosis of Alzheimer’s disease or mixed dementia. Nearly two thirds were female. Where doctor judgement of patient capacity to make medication decisions was recorded, 70% had full and 22% partial capacity. Companions were present in most meetings and were nearly always spouses/partners or children/children in law. Doctors were primarily psychiatrists, with 3 geriatricians.
<table>
<thead>
<tr>
<th>Site (n, %)</th>
<th>London (30 (42%))</th>
<th>Devon (41 (58%))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient sex (n, %)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>44 (62%)</td>
<td></td>
</tr>
<tr>
<td>Patient Age (mean, range)</td>
<td>81 (65-91)</td>
<td></td>
</tr>
<tr>
<td>Patient Ethnicity (n, %)</td>
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<td></td>
</tr>
<tr>
<td>White British/Irish</td>
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<td></td>
</tr>
<tr>
<td>White Other</td>
<td>3 (4%)</td>
<td></td>
</tr>
<tr>
<td>Caribbean</td>
<td>3 (4%)</td>
<td></td>
</tr>
<tr>
<td>Black or Black British</td>
<td>1 (2%)</td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>1 (2%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Patient Diagnosis (n, %)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alzheimer’s disease</td>
<td>49 (69%)</td>
<td></td>
</tr>
<tr>
<td>Mixed dementia</td>
<td>14 (20%)</td>
<td></td>
</tr>
<tr>
<td>Dementia unspecified</td>
<td>4 (5%)</td>
<td></td>
</tr>
<tr>
<td>Parkinson’s disease</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Lewy body dementia</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Patient Cognitive Test Score (mean, range)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACE-III (n=58)</td>
<td>69 (41-94)</td>
<td></td>
</tr>
<tr>
<td>MMSE (n=11)</td>
<td>23 (15-28)</td>
<td></td>
</tr>
<tr>
<td>Patient Capacity to make Decision about Medication (Judged by doctor) (n, %)</td>
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<td></td>
</tr>
<tr>
<td>Full</td>
<td>43 (61%)</td>
<td></td>
</tr>
<tr>
<td>Partial</td>
<td>16 (22%)</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>3 (4%)</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>9 (13%)</td>
<td></td>
</tr>
<tr>
<td>Companion Present (n, %)</td>
<td>67 (94%)</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td><strong>Companion Type (n, %)</strong></td>
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<td></td>
</tr>
<tr>
<td>Spouse/partner</td>
<td>27 (40%)</td>
<td></td>
</tr>
<tr>
<td>Child/child in law</td>
<td>27 (40%)</td>
<td></td>
</tr>
<tr>
<td>Sibling</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>8 (12%)</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1 (2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Professional Type (n, %)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant Psychiatrist</td>
<td>15 (71%)</td>
<td></td>
</tr>
<tr>
<td>Consultant Geriatrician</td>
<td>3 (14%)</td>
<td></td>
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<tr>
<td>Specialty Doctor</td>
<td>3 (15%)</td>
<td></td>
</tr>
<tr>
<td><strong>Professional number of years working in dementia (mean, range)</strong></td>
<td>12 (1-25)</td>
<td></td>
</tr>
<tr>
<td><strong>Professional Gender (n, %)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>11 (52%)</td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity (n, %)</strong></td>
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<td></td>
</tr>
<tr>
<td>White British</td>
<td>14 (66%)</td>
<td></td>
</tr>
<tr>
<td>White Other</td>
<td>3 (14%)</td>
<td></td>
</tr>
<tr>
<td>Asian or Asian British</td>
<td>2 (10%)</td>
<td></td>
</tr>
<tr>
<td>Indian</td>
<td>2 (10%)</td>
<td></td>
</tr>
</tbody>
</table>
Treatment Recommendation Formats and Responses

Treatment Recommendation Formats

Doctors primarily formatted treatment recommendations in a way that nominated the patient as primary decision maker. In 73% of treatment discussions, doctors initiated the discussion with assertions, i.e. a general statement about the existence of medication such as “there are medications we can try”. These preliminary statements usually either contained a reference to the tablets not being a cure and/or a description of side effects. In the majority of meetings where discussions started with assertions, these assertions were treated as information giving: there was little response from patients and doctors quickly moved on to the treatment recommendation proper. Extract 1 is an example of this:

Extract 1:

1 DR: now (0.6) there is some medication (.) that (0.3) many
2 people take (. ) to help with the symptoms of memory loss
3 (0.5)
4 DR: and about two thirds of people find it gives them some
5 benefit
6 (0.4)
7 DR: uhm some people most people don’t but some people get some
8 side effects such as a little bit of nausea or a loose stool
9 or a headache or or a feeling of dizziness
10 (0.6)
11 DR: would you like to think about taking some medication
12 (0.6)
13 PT: yes well (0.9) see how it goes I’ve got a lot of
14 medication I take almost every day

The doctor asserts that there is “some medication” to help memory loss in lines 1-2, followed by the caveats that not all people will benefit (lines 4-5) and that “some people get some side effects” (lines 7-9). This is followed by a suggestion in line 11, where the doctor nominates the patient as the decision maker: “would you like to think about taking some medication”.

Suggestions, as in Extract 1, were used in 42% of meetings. Proposals were used in 25% meetings (“we could try you on a tablet to help contain or maintain or make this stable in the future”), pronouncements in 11% of meetings (“I would want you to start at least taking medication”) and offers in 9% meetings (“the other thing we can do is to give you a tablet if you would like”). Assertions were used as the only treatment recommendation type in 13% (“there is now medications that we can offer people”).

Patient Responses
Forty-five patients (63%) passively resisted medication by responding minimally (e.g. “mhm”), nodding, or not responding. 13 patients (18.5%) actively resisted medication (“is it going to help, I take medication already”), and 13 patients (18.5%) explicitly accepted medication (“yes I’ll take them”).

Association between recommendation format and patient response
There was a significant association between recommendation format and patient response (Fisher’s Exact Test: p=0.014). Patients only actively resisted medication after suggestions or proposals, and always passively resisted pronouncements (see Table 2). Just over half the time that patients accepted medication, doctors had used proposals.
Table 2: Treatment Recommendation, Response, and Prescription Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Acceptance</th>
<th>Passive Resistance</th>
<th>Active Resistance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronouncement</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Proposal</td>
<td>7</td>
<td>9</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Suggestion</td>
<td>3</td>
<td>16</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>Offer</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Assertion</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
<td><strong>45</strong></td>
<td><strong>13</strong></td>
<td><strong>71</strong></td>
</tr>
<tr>
<td><strong>Prescribed</strong></td>
<td><strong>9</strong></td>
<td><strong>36</strong></td>
<td><strong>9</strong></td>
<td><strong>54</strong></td>
</tr>
<tr>
<td><strong>Not Prescribed</strong></td>
<td><strong>4</strong></td>
<td><strong>9</strong></td>
<td><strong>4</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>
**Recommendation format and cognitive test score**

There was no association between recommendation format and the patient’s level of cognitive impairment as shown on the ACE-III ($F(4,53) = .478, p = .751$) or MMSE ($F(3,7) = .557, p = .660$).

**Recommendation format and patient satisfaction**

Patients were significantly less satisfied with the communication when they were not offered a choice in taking medication, i.e., when pronouncements were used (14.3/20) compared to other recommendation formats (16.5-17.3/20) ($F(4,59) = 3.047, p = .024$).

**Patient response and prescription outcomes**

Medication was prescribed in 76% (n=54) of the meetings. There was no association between patient acceptance or resistance and whether medication was prescribed (Fisher’s Exact Test, p=.561). Medication was just as often prescribed when patients resisted as when they accepted (see Table 2).

In the 17 cases where medication was not prescribed, 9 (53%) decisions were deferred for further investigation, either an ECG or referral to neurology. In 4 cases (24%) patients expressed a wish to talk to family or their GP before making a decision, and in 2 cases (11.5%) there was a joint decision not to take medication. In the remaining 2 cases (11.5%) the doctor decided to defer the decision until support was in place from the community mental health team.

**Discussion**

Doctors in memory clinics overwhelmingly nominated patients as the decision maker when starting medication for dementia. Over 80% of patients appeared to show some reluctance to start medication, primarily through passive resistance reflecting the most common form of disagreement in communication. However, medication still tended to be prescribed.
The use of assertions to initiate medication discussions has also been described in neurology (19). Assertions are poised between informing the patient about medication and recommending medication to the patient. This places very little interactional pressure on the patient for an immediate decision, thus allowing for further discussion. Toerien describes assertions as ‘cautious recommendations’ in environments of diagnostic uncertainty, including uncertain efficacy of the mediation and potential patient resistance (19). In memory clinics, patients will be dealing with a life-changing diagnosis of dementia. The use of assertions prior to an explicit recommendation may therefore facilitate a smoother, more sensitive transition between the diagnosis and decision making about treatment. Assertions also inform the patient about the likely benefits and side-effects of medication as it can be difficult to agree to take a new medication before having this information.

Doctors used fewer pronouncements than in primary care (65% US, 45% UK) (9) and general psychiatry (25%) (20). This suggests a higher willingness to include patients in medication decisions at dementia diagnosis. Indeed, two thirds of treatment recommendations were suggestions or proposals, demonstrating that doctors endorse medication as a treatment option but are encouraging patient participation in the decision. However, subtle differences in the precise formulation of the recommendation have an effect on patient response. With proposals, doctors are inviting patients to join in with their endorsement of medication. With suggestions, doctors are inviting the patient to decide whether they would like to start medication (9). This has important consequences for how patients respond: proposals led to higher levels of acceptance whereas suggestions led to higher levels of resistance. This demonstrates how subtly different formats create different possibilities for patient choice and participation in decision making.

The majority of patients appeared to show some reluctance to start medication. However, previous work on resistance to treatment recommendations has been done with cognitively intact patients in primary care and patients with psychosis in outpatient psychiatric care. It may be that passive resistance – a non-verbal response or a minimal verbal response – in cognitively intact patients does not indicate passive resistance in people who are cognitively
impaired. For example, there is evidence that reaction times in conversation can be 5 times slower for people with moderate dementia than people without dementia (21). Therefore, people with dementia may be responding more slowly when withholding a response rather than resisting. Conversely, people with dementia have also been found to agree more in conversation, suggesting an attempt to remain engaged in the interaction, through assent, rather than actual agreement (22).

Although marginalisation of people with dementia has been described in previous studies (2, 23, 24), doctors involved patients in decisions irrespective of cognitive impairment. This is a positive finding demonstrating that doctors in UK memory clinics are not excluding patients with lower cognitive test scores from decisions about their medication, and in line with patients’ preferences to be involved in decision making (4, 5). However, the majority of patients in this study were in the mild to moderate stages of dementia and decision making with people in later stages may be different.

Patients were significantly less satisfied with communication when they are not offered a choice (“I’ll start you on medication”), illustrating that patients detect subtle differences in communication. This is in line with other studies of shared decision making (25) and demonstrates the importance of including people with dementia in decisions. It must however be noted that patients were rating their satisfaction with communication in the meeting as a whole, and there could be other communication difficulties affecting patient experience and potentially causing doctors to use pronouncements when it came to recommending medication.

Patients’ acceptance or resistance of medication did not influence whether medication was prescribed. In 69% of cases where patients actively resisted medication (9/13), it was nonetheless prescribed. If medication was not prescribed, this was usually due to a need for further investigation (ECG or neurology) or doctors planning to put other support systems in place before starting medication. However, there are other factors that are likely to come into play here. In this study, 8% of patients were judged not to have capacity to make medication decisions and 22% were judged to have partial capacity. Moreover, doctors report wishing to offer medication to instil hope after breaking bad diagnostic news, and
therefore may find it difficult not to prescribe medication (26). Family preferences may also come into play: doctors have been shown to invite family involvement in medication discussions more than in other parts of the consultation (27), and caregivers deem medication to be important for access to services and to provide hope for the future (28). However, it is worth noting that only the patient’s initial response to the treatment recommendation was taken into account in this analysis, and it may be that they would have changed their minds after further discussion.

**Strengths and Limitations**

The strength of this study was the systematic, standardised analysis of treatment recommendations, using a novel approach to capture more subtle aspects of shared decision making. This is relevant both to old age psychiatry and other areas of psychiatry where patients may experience cognitive impairment such as schizophrenia or intellectual disabilities. This study is the first to use this detailed method to examine decision making when people receive a diagnosis of dementia, and includes a range of patients, doctors, and clinics. When coding the treatment recommendations, researchers were blind to patient capacity and whether medication was prescribed. However, doctors knew they were being filmed and this may have affected their behaviour. Companion behaviour was not analysed, which may have impacted on decision making. Additionally, the majority of the patient were white, and consultations using an interpreter were not included, which limits generalisability.

**Conclusions**

Doctors included patients with cognitive impairment in decisions about starting medication after receiving a diagnosis of dementia. Most often, they nominated the patient as the primary decision maker. This allowed patients to resist, with over 80% appearing passively resist medication, reflecting the most common form of disagreement in communication. Medication still tended to be prescribed, suggesting factors such as patient capacity, doctors’ wishing to offer hope and companion involvement are also important in decisions to start medication.

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**Author Contributions**
JD was part of the team who planned the project. She collected data, planned and executed the analysis, and wrote the article. NB was part of the team who planned the project, aided data collection, and contributed to the manuscript. GL was also part of the team who planned the project, aided data collection, and contributed to the manuscript. RM was Chief Investigator for the project, planned and executed the analysis, and helped to write the manuscript.

**Author Details**
Dr Jemima Dooley, PhD

Affiliation: University of Bristol
Address: Population Health Sciences, Bristol Medical School, Room 4.07 Canynge Hall, 39 Whatley Road, Bristol, UK, BS8 2PS.
Telephone Number: 0117 928 7250

Dr Nick Bass, MD
Address: Division of Psychiatry, University College London, 6th Floor, Maple House, 149 Tottenham Court Road, London W1T 7NF

Professor Gill Livingston, MD, FRCPsych
Address: Division of Psychiatry, University College London, 6th Floor, Maple House, 149 Tottenham Court Road, London W1T 7NF

Professor Rose McCabe, PhD
Address: University of Exeter Medical School, 1.28 College House, Heavitree Road, Exeter, UK, EX12LU

References


