International Journal of Language & Communication Disorders

INT J LANG COMMUN DISORD, JANUARY/FEBRUARY 2021,
VOL. 56, NO. 1, 90–101

Research Report

Giving voice to people with communication disabilities during mental capacity assessments

Mark Jayes† , Rebecca Palmer‡ and Pamela Enderby‡

†Department of Health Professions, Manchester Metropolitan University, Manchester, UK
‡School of Health and Related Research, University of Sheffield, Sheffield, UK

(*Received June 2020; accepted October 2020*)

Abstract

Background: Healthcare professionals without specialist training in communication disorders may not know how to identify and support patients with communication disabilities during mental capacity assessments. To meet this need, a novel communication screening tool was developed and tested as part of a mental capacity assessment support toolkit.

Aims: To provide an initial evaluation of the communication screening tool's usability, interrater reliability and criterion validity.

Methods & Procedures: A prototype communication screening tool was developed iteratively using co-production and user-centred design principles. A mixed-methods case series design was used to explore how multidisciplinary healthcare professionals used the tool to test patients in acute hospital and intermediate care settings. Usability data were collected in an electronic survey and from a documentary analysis. Screening test outcomes obtained by pairs of professionals were compared to measure the tool's interrater reliability. Outcomes obtained by professionals were compared with the outcomes of a speech and language therapist's communication assessment to measure criterion validity. Quantitative data were analysed using frequency counts and inferential statistics. Qualitative data were analysed using framework analysis.

Outcomes & Results: A total of 21 professionals, including physicians, nurses, occupational therapists, physiotherapists, and speech and language therapists, and 17 patients with diagnoses of stroke or cognitive impairment took part. Professionals reported they found the tool easy to use, useful and that its use increased their understanding of communication support methods and the speech and language therapist role in relation to mental capacity assessment. However, not all used it consistently or accurately. Professionals reported they chose not to use the tool when they perceived patients' communication to be intact. Four of eight patients with a diagnosis of dementia or memory impairment, who professionals elected not to screen, were found to have significant communication needs. Screening outcome data for nine patients suggest the tool's interrater reliability is currently moderate, whilst its criterion validity is poor.

Conclusions & Implications: This study highlights that non-speech and language therapist health professionals have difficulty identifying and screening for communication difficulties. This confirms existing evidence that people with communication disabilities may not receive the decision-making support they require during mental capacity assessments when speech and language therapists are not involved. Greater understanding of health professionals' thought processes regarding communication is required to further develop this unique communication screening tool so that it can effectively enable healthcare professionals to identify and use communicative adaptations to support decision-making.

Keywords: aphasia, assessment, brain injury, cognition, dementia, speech and language therapy.

What this paper adds

What is already known on this subject

- Limited previous research suggests that assessing the mental capacity of people with communication disabilities is complex. Practice needs to be improved to ensure this group is adequately supported to make decisions, in line with legal requirements.

Address correspondence to: Mark Jayes, Faculty of Health, Psychology and Social Care, Manchester Metropolitan University, Brooks Building, 53 Bonsall Street, Manchester M15 6GX, UK; email: m.jayes@mmu.ac.uk

ISSN 1368-2822 print/ISSN 1460-6984 online © 2020 The Authors. *International Journal of Language & Communication Disorders* published by John Wiley & Sons Ltd on behalf of Royal College of Speech and Language Therapists
DOI: 10.1111/1460-6984.12585

What this paper adds to existing knowledge

- This paper describes the development and testing of a novel communication screening tool for use by healthcare professionals preparing to undertake mental capacity assessments. It increases our understanding of how healthcare professionals without specialist training understand communication disability and the role of the speech and language therapist in relation to mental capacity assessment.

What are the potential or actual clinical implications of this work?

- Healthcare professionals without specialist training require support to understand and respond to the needs of people with communication disabilities during mental capacity assessments. With further development and testing, in response to initial evaluation, this novel communication screening tool may be able to provide this support.

Introduction

Approximately 2 million people in the UK are estimated to lack mental capacity to make certain decisions (SCIE 2016). Within England and Wales, the Mental Capacity Act (MCA) (OPSI 2005) requires health and social care professionals to provide decision-making support and complete a mental capacity assessment whenever they have reason to believe a person aged 16 years or above may have difficulty making an informed decision. This can include difficulties understanding and using decision-related information as a result of communication disability.

The process of assessing mental capacity becomes more complex when it involves people with communication disabilities. The MCA defines incapacity as the inability to make a time-specific decision due to an impairment or disturbance in the functioning of the mind or brain (OPSI 2005:2.1). The MCA functional test of decision-making requires an assessor to establish whether a person is able to understand, retain, and use or weigh relevant information in order to make a decision and then communicate a choice (OPSI 2005: 3.1). These decision-making abilities and the ability to demonstrate them during a mental capacity assessment are predicated on the ability to communicate. Capacity assessments tend to be completed in clinical interviews in which assessors provide information about decisions and test decision-making abilities using spoken language (Emmett *et al*. 2013). People who have aphasia, developmental or cognitive–communication disorders may have difficulty understanding spoken explanations during capacity assessments; they may also find it difficult to express what they understand about the decision and which decision option they prefer (Suleman and Hopper 2015). People who have dysarthria may experience similar challenges expressing their understanding and preferences (Zuscak *et al*. 2016).

There is a risk that these types of communication difficulty may mask the true nature of an individual's decision-making ability (Ferguson *et al*. 2010). Professionals without experience of working with people with communication difficulties may make erroneous judgements about these people's mental capacity, based on inaccurate perceptions of their communication abilities, or they may conflate impaired communication with impaired decision-making capacity (McCormick *et al*. 2017, Jayes *et al*. 2019). As a result, professionals may unintentionally deprive people with communication disabilities of opportunities to make informed decisions (autonomously or with support), or may ask this group to make decisions that are uninformed and therefore incapacitous (Carling-Rowland *et al*. 2014).

To mediate this risk, the MCA requires health and social care professionals to provide individualized support to people to maximize their decision-making capacity. For individuals with communication disabilities, this includes making adjustments to the way that information about decisions is provided and to the way that mental capacity is assessed, to ensure that these processes are more accessible. Professionals without expertise in working with people with communication disabilities find it difficult to accurately identify and support communication needs (Cameron *et al*. 2018, Carragher *et al*. 2020). In contrast, speech and language therapists (SLTs), who are trained to assess, diagnose and treat communication disorders, are ideally placed to lead or support capacity assessments for people with communication disabilities (Zuscak *et al*. 2016, Volkmer 2016).

The SLT role in mental capacity assessment is promoted by UK practice guidance (DCA 2007, 4.42, NICE 2018, 1.4.17). Despite this, professionals from other disciplines do not always seek specialist support from SLTs during mental capacity assessments (Jayes *et al*. 2019). A number of reasons may account for this lack of SLT involvement. Other disciplines may not always recognize the need for communication support or understand the role that SLTs can play during capacity assessments (McCormick *et al*. 2017). Even if they do understand the SLT role, they may perceive that SLT services have insufficient resources to provide

this type of support, especially in settings where there is a high demand for dysphagia assessment and management (Jayes *et al*. 2017).

The Mental Capacity Assessment Support Toolkit (MCAST) is a set of practical resources developed by the first author to support professionals to complete mental capacity assessments in line with legal requirements (Jayes *et al*. 2015). The MCAST aims to identify the specific needs of people with communication disabilities during mental capacity assessments. It includes a communication screening tool, designed to enable professionals without any prior experience of communication disorders to identify a person's communication needs and determine how to support these needs during a capacity assessment.

The rationale for developing a communication screening tool and its content and design specification were identified from the results of a literature review of current mental capacity assessment practice in health and social care (Jayes *et al*. 2019) and a qualitative exploration of healthcare professionals' experience of mental capacity assessment (Jayes *et al*. 2017). These sources of evidence suggested that the quality of mental capacity assessments would be improved if assessors had a means of collecting dependable information about patients' sensory and communicative abilities and needs, and methods to support these needs, before assessing their mental capacity.

Healthcare professionals in the qualitative study (Jayes *et al*. 2017) suggested that, in their experience, only limited speech and language therapy resources are available in healthcare settings for the assessment and management of communication disorders. These participants indicated that a potential method to address this would be to develop a simple method for multidisciplinary staff to use in order to differentiate patients with different severities of communication difficulty and how to support them during capacity assessments. They suggested that patients with mild communication difficulties could be supported without referral to speech and language therapy using a limited number of specified communication strategies, whilst patients with moderate and severe difficulties should be referred to speech and language therapy, for specialist support. Participants identified that they would particularly welcome support to work more effectively with patients with diagnoses of stroke and/or cognitive impairment.

A communication screening tool was designed to meet this need. Traditional screening tools provide a means of rapidly testing specific abilities, in order to identify whether an individual has a particular impairment, and may lead to the decision to refer to a specialist or for further assessment. The MCAST communication screening tool is novel because it is designed to enable professionals to identify a patient's communication difficulties as well as provide a range of communication strategies that could be used to support the patient in specific ways during the capacity assessment. A similar tool has been developed and tested for use in research contexts; the Consent Support Tool (Palmer and Jayes 2016) was developed to enable researchers to identify how to support potential participants with communication disabilities to understand information and make decisions during the informed consent process.

The MCAST communication screening tool was developed iteratively according to user-centred design (UCD) principles (Rekha Devi *et al*. 2012) and co-production techniques (Needham and Carr 2009). Healthcare professionals, service users and their family members, and experts in UCD and communication assessment worked collaboratively to design and review successive iterations. During this process, healthcare professionals emphasized that the tool should be quick and easy to use without the need for additional materials or significant training. The design of the prototype screening tool as a four-page paper proforma (see the appendix in the supplemental data online) was finalized during an experiential workshop in which healthcare staff used the tool to test people with communication difficulties.

The prototype includes individual subtests that target the specific communicative abilities that patients need to use in order to demonstrate intact decision-making capacity, for example, the ability to provide a reliable 'yes/no' response; to understand spoken language at a certain level; and to use spoken language to express opinions and choices. These subtests were designed to be used with patients with both acquired and progressive communication disorders. The subtests are not scored but include specific instructions to enable a professional to use a patient's performance on the subtest to identify if they require communication support and the nature of that support. The screening tool provides three possible outcomes based on the performance of an individual patient on specific subtests:

- The patient does not have any communication difficulties. The professional should continue with the mental capacity assessment as planned but avoid use of any specialist language.
- The patient has difficulty understanding complex spoken information. The professional should complete further subtests to establish whether the patient's difficulties can be supported using specified strategies.
- The patient is unable to provide a reliable 'yes/no' response or to understand simple spoken information. The professional should refer to speech and language therapy for specialist support. Simple spoken information in this context is

conceptualized as a sentence containing up to three information-carrying words (ICWs); these are words that need to be understood in order to understand the meaning of a sentence (Knowles and Masidlover 1982).

In addition to these main outcomes, the tool directs the professional to use several strategies if they identify that a patient has difficulty using spoken language to express themselves or understand others: (1) supporting the patient to use speech intelligibility strategies, if indicated; (2) completing further subtests to investigate whether the professional and the patient could use alternative or augmentative communication methods (e.g., writing questions and responses or pointing to photographic images representing aspects of common patient decisions); and (3) referring to speech and language therapy for specialist support. These communication strategies are shown in section 1 on page 2 of the screening tool (see the appendix in the supplemental data online).

The feasibility of using a prototype version of the MCAST in acute hospital and intermediate care settings was investigated (Jayes *et al*. 2020). Part of this investigation involved an exploration of how professionals from different disciplines used the communication screening tool. This paper presents the findings of initial testing of the communication screening tool's usability, reliability and validity.

Methods

The MCAST feasibility study (Jayes *et al*. 2020) used a mixed-methods convergence triangulation design (Creswell and Plano Clark 2017) informed by a subtle realist epistemology (Mays and Pope 2000). The communication screening tool was tested using a case series design. The study took place within two acute hospitals and four care homes providing intermediate care services in a large city in England. Ethical approval was obtained from the Bradford Leeds NHS Research Ethics Committee (15/YH/0468).

Participant recruitment

Healthcare professionals were recruited purposively from a range of disciplines typically involved in mental capacity assessment: liaison psychiatrists, nurses, occupational therapists, physicians, physiotherapists, psychologists, SLTs and social workers. The study was advertised via the healthcare trust's electronic staff newsletter, and managers for each discipline were asked to cascade a recruitment advertisement via email to their colleagues. Professionals were invited to contact the first author for further information or if they wished to participate. All professional participants were given written information about the study and provided written informed consent.

Professional participants identified patients with a diagnosis of stroke and/or cognitive impairment who required a mental capacity assessment. Patients were excluded if they had visual difficulties that prevented them from seeing the communication screen materials or if they required information to be presented in languages other than English. The first author (a qualified SLT) visited patients identified by professionals and gave them a participant information sheet that had been adapted using inclusive communication principles (Palmer and Jayes 2016). The first author then used a range of supportive communication strategies tailored to each patient's individual needs to help them to understand the information. The first author revisited patients at least 24 hours later to ask if they wished to take part. If a patient wished to take part, the first author took written informed consent using an adapted consent form. Where indicated, the first author completed a mental capacity assessment to determine if patients were able to give informed consent to participate. When a patient was not able to give informed consent, but appeared willing to participate, the first author invited the patient's family member to complete a consultee declaration (OPSI 2005) to confirm they were satisfied that their relative wished to participate.

Data collection procedure

Professionals were encouraged to use the screening tool as part of their preparation for any mental capacity assessment they needed to complete during their usual clinical practice over a 6-month data collection period. These screening tests were not observed by the researchers.

Assessment of usability

At the end of the 6-month data collection period, professional participants were invited to complete an electronic questionnaire anonymously. This measure included questions relating to participants' perceptions of the screening tool's frequency of use, ease of use and usefulness. It was developed using SurveyMonkey software and included rating scales, multiple-choice and open questions. In addition, the first author collected MCAST documentation completed by professionals, including communication screening tool proformas, to inform assessment of how the tool was used.

Assessment of reliability

We measured interrater reliability: the extent to which the tool provides stable outcomes when used by

different people. Whenever a professional (participant A) used the screening tool to test a patient, another professional (participant B) working in the same clinical location was asked to use the tool to complete a second, independent screening test within 48 hours. This period was selected to ensure that the two screening tests took place contemporaneously, but with sufficient time to enable patients to rest between tests and for professionals to be able to complete the tests. Professionals were instructed to review a patient's medical notes before completing the second test in order to identify and record any medical events that may cause the patient's communication or cognitive abilities to fluctuate (e.g., a urinary tract infection or neurological event). This information was considered when comparing the outcomes of the two screening tests. The results of the two screening tests (i.e., categorical outcomes 1, 2 or 3 as defined above in the introduction) were compared in order to measure the tool's interrater reliability. As mental capacity can fluctuate and its assessment is defined legally as time specific (OPSI 2005), we decided not to measure intra-rater reliability: the extent to which the tool provides stable outcomes when used by the same person at different points in time. We were also concerned that it would overburden patients if we asked them to undergo an additional screening test within the same 48-hour period.

Assessment of validity

We measured criterion validity, the level of agreement observed between outcomes obtained using the communication screening tool and those obtained using an external criterion variable (Franzen 1989). As existing validated communication screening tools do not measure the same outcomes as this novel tool (i.e., they do not test the ability to use compensatory strategies), a communication assessment completed by an SLT (the first author) was used as the criterion variable. This assessment included use of the Frenchay Aphasia Screening Test (FAST) (Enderby *et al*. 2012) as a consistent assessment framework. FAST test items were supplemented with a 'yes/no' reliability subtest and a photograph recognition subtest in order to generate the same types of outcomes as the novel screening tool. These subtests contained the same number of test items and represented a similar level of difficulty to the subtests used in the MCAST screening tool. This enabled the first author to assign the same three categorical outcomes to his communication assessments (outcomes 1, 2 or 3) as are provided by the MCAST screening tool. The outcomes of professional participant A's screening test and the first author's communication assessment were compared in order to measure the tool's criterion validity.

We aimed to counterbalance the order of the two screening tests and the first author's assessment over a 48-hour period, to control for learning effects and to ensure patients received contemporaneous testing but were not overburdened. All professional participants and the first author remained blinded to the outcomes of previous testing in order to reduce bias.

Data analysis

Usability

Quantitative data from the online questionnaire were inputted into Microsoft Excel files and analysed using frequency counts and descriptive statistics. Qualitative data were transcribed verbatim into Microsoft Word files. Word files were imported into QSR NVivo 9 software. Data were analysed thematically using a framework approach (Ritchie and Spencer 1994). This involved an iterative, five-stage process of data familiarization, identification of the thematic framework, indexing, charting, and mapping and interpretation; themes were generated deductively from the research objectives and inductively from open data coding.

The first author also completed an analysis of all completed MCAST documentation. This included an examination of professionals' documentation of decisions about whether to use the screening tool, if professionals completed the subtests that were indicated for individual patients (on the basis of their performance on earlier subtests), and whether professionals used recommended communication strategies during the subsequent mental capacity assessments.

If a professional participant decided not to use the communication screening tool to test a patient, quantitative and qualitative data from the first author's communication assessment were examined to establish whether the patient had any communication needs. A frequency count was used to describe instances when professional participants did not use the screening tool, but the patient did have communication needs.

Reliability and validity

The first author examined each completed communication screening test proforma and used the patient's documented performance on the 'yes/no' response reliability and spoken comprehension subtests to assign one of the three categorical outcomes (1, 2 or 3). These categorical data were inputted into SPSS (IBM, 2015, v23.0) files for statistical analysis. Data collected by professional participants (A and B) were compared using a Fleiss's Kappa statistic (Fleiss 1971) in order to evaluate the tool's interrater reliability. Data obtained by professional participant A and the first author were compared

Table 1. Individual professional participant characteristics

Participant identifier	Professional role	Clinical setting
E001	OT	Acute hospital
E003	SLT	Acute hospital
E004	SLT	Acute hospital
E005	OT	Acute hospital
E006	OT	Acute hospital
E007	Consultant neurologist	Acute hospital and community services
E008	Discharge planning nurse	Acute hospital
E009	SLT	Acute hospital
E010	OT	Acute hospital
E011	OT	Acute hospital
E013	SLT	Intermediate care
E014	Physiotherapist	Intermediate care
E015	OT	Intermediate care
E016	OT	Intermediate care
E017	OT	Intermediate care
E018	Physiotherapist	Intermediate care
E020	OT	Intermediate care
E021	Consultant physician	Acute hospital
E022	Specialist registrar	Acute hospital
E023	SLT	Intermediate care
E024	OT	Intermediate care

Note: OT, occupational therapist; SLT, speech and language therapist.

using a Fleiss's Kappa statistic to measure the tool's criterion validity.

Results

Participant characteristics

A total of 21 professional participants (20 females and one male) were recruited to the MCAST feasibility study. Individual participant characteristics are shown in table 1. The sample included five different professional groups: physicians ($n = 3$), nurses ($n = 1$), occupational therapists ($n = 10$), physiotherapists ($n = 2$) and SLTs ($n = 5$). Participants worked in different settings across acute hospitals and intermediate care. They had between 3 and 24 years of experience of working in healthcare. Not all participants used the screening tool during the study.

A total of 17 patients (nine males and eight females) were recruited to the MCAST feasibility study. Participant characteristics are presented in table 2. Participants were between 48 and 93 years of age. Six individuals had a new diagnosis of stroke and another participant had a stroke previously. A total of 10 participants had conditions associated with cognitive difficulties: subarachnoid haemorrhage ($n = 3$); diagnosed/suspected dementia ($n = 6$); and chronic memory impairment ($n = 1$). Patients were recruited from different clinical settings: acute and intermediate care stroke services ($n = 6$); a sub-acute neuro-rehabilitation ward ($n = 3$); and an acute hospital dementia unit ($n = 2$).

Communication screening tool usability

Data relating to use of the screening tool are displayed in table 2. Table 2 groups data for patients who were tested using the screening tool and those who were not. Nine of the 17 patient participants recruited to the MCAST study were tested by pairs of professional participants using the communication screening tool. The screening tests completed by professional participants (A) ($n = 7$) indicated that four of these nine patients had communication needs and three required referral to speech and language therapy for specialist support for the capacity assessment. An analysis of completed MCAST documentation indicated that for three of these four patients, professional participants (A) went on to seek or provide the type of communication support indicated by the screening tool: two patients (P04, P15) received support from an SLT and the other (P08) was supported by the professional participant using communication strategies. The other patient (P14), a woman with global aphasia, was not referred to an SLT as indicated as being required by the screening tool. The documentary analysis suggested that eight professionals (roles A and B) did not follow all instructions accurately. For example, several professionals completed subtests that were not indicated for individual patients.

Professionals chose not to test eight patients using the screening tool. An analysis of completed MCAST proformas suggested that professionals were aware of the findings of recent communication assessments by SLTs for three of these patients (P06, P12, P13) and used these findings to plan the capacity assessment (i.e., use of the screening tool was not indicated). The first author's communication assessment suggested that four of the remaining five patients had communication needs and would have benefited from referral to an SLT. These patients (P07, P09, P10, P16) had a history of memory impairment or a diagnosis of dementia. Analysis of completed MCAST documentation indicated that these patients did not receive communication support during their mental capacity assessments. All were found to lack the capacity to make a decision relating to their place of residence.

Survey data

A total of 15 professionals responded to questions about the screening tool on the online survey. All 15 respondents indicated that they found the screening tool easy to use and useful. Their qualitative responses suggested they valued the clarity of the tool's instructions and layout. One participant commented that

Table 2. Individual patient participant characteristics and screening test outcome data

Patient participant identifier	Age (years)	Diagnosis	Outcome of communication screening[a]			Communication support during capacity assessment		Comments
			Professional A	Professional B	First author	Indicated?	Received?	
P01	91	Stroke	1	1	3	Yes	No	P01 was previously assessed by an SLT on this admission. The SLT did not provide support for capacity assessment.
P03	82	Delirium, ?existing dementia	1	2	3	Yes	No	None
P04	52	Sub-arachnoid haemorrhage	3	2	1	No	Yes	P04 developed a urinary infection within the 48-hour testing period. Professional A (E004, an SLT) provided communication support for capacity assessment.
P05	86	Delirium, ?existing dementia	1	1	3	Yes	No	None
P08	82	Subdural haematoma, previous stroke	2	1	3	Yes	Yes	Consistent with screening tool outcome, professional A (E015) provided communication support for capacity assessment. First author's assessment showed the referral to the SLT was indicated.
P11	55	Stroke/schizophrenia	1	1	2	Yes	No	None
P14	67	Stroke	3	3	3	Yes	No	Inconsistent with screening tool outcome, professional A (E021) did not refer to the SLT. P14 presented with global aphasia.
P15	73	Dementia	3	3	3	Yes	Yes	Consistent with screening tool outcome, Professional A (E020) referred to the SLT who provided communication support for capacity assessment.
P17	73	Dementia	1	1	3	Yes	No	None
P02	73	Sub-arachnoid haemorrhage	Not tested		1	No	No	None
P06	48	Sub-arachnoid haemorrhage	Not tested		3	Yes	Yes	Patient already known to the SLT who provided communication support for capacity assessment.
P07	92	Chronic memory impairment	Not tested		3	Yes	No	None
P09	93	Dementia	Not tested		3	Yes	No	None
P10	88	Dementia	Not tested		3	Yes	No	None
P12	76	Stroke	Not tested		1	No	No	Patient previously assessed by an SLT on this admission.
P13	70	Stroke/space occupying lesion	Not tested		3	Yes	Yes	Patient already known to the SLT who provided communication support for capacity assessment.
P16	92	Stroke, chronic memory impairment	Not tested		3	Yes	Yes	Patient already known to the SLT who provided communication support for capacity assessment.

Notes: [a]Outcome of communication screening corresponds to the approach the Mental Capacity Assessment Support Toolkit (MCAST) screening tool or the first author's communication assessment indicated should be adopted during the capacity assessment, based on the patient's performance on the 'yes/no' response reliability and spoken comprehension subtests: (1) avoid using any specialist language to explain information during the capacity assessment; (2) use specified communication strategies during the capacity assessment; and (3) refer to an SLT for specialist communication assessment before the capacity assessment.

Table 3. Individual patient participant 'yes/no' reliability and spoken comprehension subtest outcome data

Patient participant identifier	'Yes/no' response reliability subtest outcome (screening tool section 2)			Spoken comprehension subtest outcome (screening tool section 3)		
	Professional A	Professional B	First author	Professional A	Professional B	First author
P01	6/6	6/6	6/6	Complex command[a]	Complex command	<3 ICW[b]
P05	6/6	6/6	6/6	Complex command	Complex command	<3 ICW
P11	6/6	6/6	6/6	Complex command	Complex command	3 ICW
P14	<6/6	<6/6	<6/6	<3 ICW	Not tested[c]	<3 ICW
P15	<6/6	<6/6	<6/6	<3 ICW	<3 ICW	<3 ICW
P17	6/6	6/6	6/6	Complex command	Complex command	<3 ICW
P03	6/6	6/6	6/6	Complex command	3 ICW	<3 ICW
P04	6/6	6/6	6/6	<3 ICW	3 ICW	Complex command
P08	6/6	6/6	6/6	3 ICW	Complex command	<3 ICW

Notes: [a]Refers to the fact that the patient demonstrated the ability to understand a complex spoken command.
[b]Number of information-carrying words (ICW): the number of words that need to be understood in order to understand the meaning of a sentence.
[c]The spoken comprehension subtest did not need to be completed if the patient scored <6/6 on the 'yes/no' response reliability subtest.

the tool was a 'Logical, step by step, clearly explained sequence of assessments'. Another reported that the tool was 'Clearly set out for people without a background in speech/language'. Participants' responses suggested they thought the screening tool helped them to provide communication support and consider the SLT role during capacity assessments in ways they had not previously: 'It made me think of strategies that I wouldn't have considered such as using the photographs to explain key pieces of information'; and 'it allowed me to think again about speech and language therapy and calling upon them for skilled support more than I think I have done in the past'. The majority of professionals (14/15) reported that they felt confident about the tool's outcomes. The other respondent reported that they would welcome opportunities to observe an SLT using the screening tool to gain confidence in using it.

Three of the 15 survey respondents reported they felt they did not need to use the screening tool, either because they were already aware of a patient's communication needs and knew how to support these ($n = 2$), or because 'the patient didn't appear to have any communication difficulties' ($n = 1$). The first author's documentary analysis and field notes suggested that other professionals chose not to use the screening tool because they did not identify any communication difficulties when they engaged patients in conversation; for example, one professional reported they did not use the screening tool because the patient was 'able to verbalise', without making reference to the patient's ability to understand spoken language.

Interrater reliability

Table 2 shows that participants A ($n = 7$) and B ($n = 8$) obtained the same overall screening test outcomes for six of the nine patients. Statistical analysis using a Fleiss kappa statistic ($k = 0.432$, 95% CI $= [-0.053, 0.917]$) suggests that this corresponds to a 'moderate' level of agreement using the framework proposed by Landis and Koch (1977).

Table 3 presents outcomes for individual participants on the 'yes/no' response reliability and spoken comprehension subtests (screening tool sections 2 and 3, respectively). These are the outcomes that professionals use to determine the overall screening test outcome for each participant. Table 3 groups data for patients for whom professional participants A and B and/or the first author obtained consistent outcomes and for patients for whom consistent outcomes were not obtained. Professionals A and B recorded the same outcomes for each of the nine patients on the 'yes/no' response reliability subtest. Professionals A and B obtained consistent outcomes for five of eight patients (P01, P05, P11, P15, P17) on the spoken comprehension subtest (note that data for participant P14 were not included in this analysis because professional participant B discontinued the screening test without administering the spoken comprehension subtest).

Criterion validity

Table 2 shows that professional participant A ($n = 7$) and the first author obtained the same overall screening

test outcome for two of the nine patients. These two patients presented with severe communication difficulties; one (P14) was globally aphasic following a stroke whilst the other (P15) had severe cognitive–communication difficulties associated with dementia. The Fleiss kappa statistic ($k = -0.370$, 95% CI = [−0.882, 0.144]) suggests a 'poor' level of agreement between professional participant A and the first author.

Table 3 shows that the first author and professional A participants obtained consistent outcomes on the 'yes/no' response reliability subtest for each of the nine patients. In contrast, they obtained consistent outcomes for only two patients (P14, P15) on the spoken comprehension subtest.

Discussion

This study explored use of the MCAST communication screening tool in practice. This novel tool was developed to support multidisciplinary healthcare professionals to identify and meet the needs of patients with communication difficulties during mental capacity assessments. This study investigated the screening tool's usability, reliability and validity.

Most participants reported they found the communication screening tool useful and easy to use. However, our findings suggest that professionals are likely to need greater support to understand when and how to use it accurately. Several professionals indicated that they elected not to use the screening tool because they judged the patient's communication skills to be intact when they engaged them in conversation. In each case, the patient had a diagnosis of dementia or a history of memory impairment. These professionals may not be aware that these patients' communication difficulties, particularly language comprehension, may be masked in conversation and that support from an SLT might be indicated and of benefit.

Four patients who were not tested using the screening tool were judged by the first author (an SLT) as likely to benefit from communication support during their capacity assessment. This demonstrates that communication ability cannot be judged reliably through conversation and use of conversation to indicate need for a communication screening test is not adequate. In addition, we observed that one professional did not follow the screening tool's recommendation to refer a patient with global aphasia to an SLT for support. In each of these five cases, the patient was found to lack the capacity to make a decision about where they would like to live on leaving the healthcare setting. It is possible that the provision of communication support may have changed the outcomes of these capacity assessments or, at least, have enabled each patient's wishes and preferences regarding the decision to have been identified and represented during the subsequent process of best interests decision-making. Mental capacity legislation requires health and social care staff to provide this type of decision-making support (OPSI 2005).

Our data suggest that the screening tool's criterion validity and interrater reliability are not robust. This means that we cannot be confident at present that the tool provides accurate and consistent information about whether patients need communication support and what form this support should take. This initial evaluation suggests that the interrater reliability of the screening tool appears to be moderate whilst its criterion validity is poor. It also suggests that the 'yes/no' response reliability subtest (section 2) has superior criterion validity and interrater reliability compared with the spoken comprehension subtest (section 3). The psychometric properties of the screening tool's subtest items need to be optimized before the tool can be used in practice.

Implications for practice

Our data suggest that professionals who are not SLTs make invalid assumptions about patients' communication abilities based on perceptions of their ability to engage in conversation. This provides a challenge to promoting widespread use of a communication screening tool in preparation for mental capacity assessments. The data also indicate that some professionals are likely to need additional support to use a communication screening tool and implement its recommendations accurately.

Our findings suggest that some healthcare professionals lack awareness of the communication difficulties associated with dementia. Previous research has found that other disciplines may not recognize the value of SLT interventions for communication difficulties associated with dementia (Paul and Mehrhoff 2015). Therefore, it appears that more needs to be done to promote the SLT role in supporting the communication needs of people living with dementia. SLTs working in the clinical locations where the current study took place did provide communication interventions for people living with dementia. However, in some locations in the UK, National Health Service SLT services for people living with dementia are not commissioned to provide intervention for communication disorders (Volkmer *et al.* 2018). This raises the question of whether it would be ethical to use a screening tool that identifies the need for communication support from an SLT in settings where this service was not available. However, use of the MCAST communication screening tool in this situation could enable professionals to identify when they could use strategies to support patients with

milder needs; its findings might also be used to inform a business case for additional SLT resources.

Our findings complement existing evidence (McCormick *et al*. 2017) that other healthcare disciplines may not understand or recognize the role that SLTs can play in mental capacity assessments. We propose that professionals need more support to understand the relationship between communication disability and mental capacity and the role that SLTs can play in facilitating decision-making. Although currently limited, research evidence suggests that communication training for mental capacity assessors can improve the accuracy of capacity assessment outcomes. In a Canadian study (Carling-Rowland *et al*. 2014), social workers were better able to support communication and reliably assess decision-making for people with aphasia after they had received training in communication facilitation by an SLT.

Limitations and suggestions for further research

Although the online survey collected data anonymously, we recognize that professionals' responses may have been influenced by social desirability bias (King and Bruner 2000). An important limitation of our evaluation of reliability and validity is that we confounded measurement of the screening tool's psychometrics with measurement of how professionals used it in practice. Although we did not observe professionals using the tool, our documentary analysis suggests that some individuals did not adhere to all of its administration instructions. This may have affected the outcomes they obtained. In addition, we were unable to counterbalance the order in which patients were tested by professional participants A and B and the first author, due to practical constraints. Furthermore, not all patients were tested within a 48-hour period, which meant that patients' communication skills may have varied between tests. In this study we elected not to investigate intra-rater reliability because we did not wish to overburden patient participants with an additional screening test within the same 48-hour period. Finally, we were only able to collect validity and reliability data for nine patients. This small sample size is likely to have affected the precision of the statistics calculated. For these reasons, we cannot be sure that our data provide a true representation of the tool's psychometric properties.

However, the data do help us to identify ways to develop and test the tool in order to establish its psychometric properties and improve the accuracy of its use. We propose to investigate convergent and divergent validity for each subtest, by comparing outcomes obtained using the tool with those obtained using established language assessment tools. We will also evaluate both inter- and intra-rater reliability with a separate cohort of patients, to reduce participant burden. Following this, it will be important to ensure the tool can be used accurately and reliably. Ethnographic methods could be used to investigate how different professionals use the tool and to identify how this affects its outcomes; this might generate data relating to how to support professionals to adhere more closely to the tool's administration instructions. These data could inform the design of additional written guidance in the toolkit or training relating to how the communication screening tool should be administered.

Professionals involved in co-designing the screening tool stated that they wished to be able to use it without undergoing significant training, as this would be impractical in busy healthcare settings. However, given the outcomes of this initial study, further development and research need to include consideration of how best to implement efficient training about when and how to use the tool to reliably identify communication needs. Participants in our study did not always recognize when to use the tool to screen patients. This suggests that training should include information about the types of health conditions that may cause communication difficulties and the types of patients who may benefit from communication support; training should also provide opportunities for professionals to learn about the nature of different communication disorders and types of communication support, as recommended by best practice statements (e.g., NICE 2018). This could be offered in conjunction with purchase of the tool or considered within interprofessional healthcare graduate training programmes. Furthermore, it may be beneficial to create a training video that includes demonstrations of people using the tool and highlights examples of accurate and inaccurate administration to improve its use. Alternatively, or additionally, it may be possible to create a digital version of the MCAST that standardizes administration of the screening tool across patients. When the screening tool's psychometrics have been established and its use optimized, it will be necessary to investigate whether professionals are able to use the screening tool results to implement strategies that are effective in supporting patients with milder communication difficulties during mental capacity assessments.

Conclusions

The study provides confirmatory evidence that non-SLT health professionals have difficulty identifying and screening for communication difficulties. As a result, they may not support patients with communication needs themselves or refer to SLTs for specialist input. Although a legal requirement, this study highlights that people with communication disabilities may not receive the support they need during mental capacity

assessments. We suggest this may happen more often for patients living with dementia. However, professionals who used the tool in this study reported it was useful, easy to use and helped them to gain an increased understanding of communication support methods and the role of the SLT during mental capacity assessments. Greater understanding of health professionals' thought processes regarding communication is required to further develop this unique communication screening tool so that it can effectively enable healthcare professionals to identify and support patients with communication needs during mental capacity assessments.

Acknowledgements

Mark Jayes was funded by a National Institute for Health Research (NIHR), Clinical Doctoral Research Fellowship for this research project. The study was funded by the National Institute for Health Research, Research Trainees Coordinating Centre (grant number CDRF-2013-04-030). The data that support the findings of this study are available from the corresponding author upon reasonable request. ***Declaration of interest***: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

Cameron, A., Mcphail, S., Hudson, K., Fleming, J., Lethlean, J., Tan, N. J. and Finch, E., 2018, The confidence and knowledge of health practitioners when interacting with people with aphasia in a hospital setting. *Disability and Rehabilitation*, **40**(**11**), 1288–1293.

Carling-Rowland, A., Black, S., Mcdonald, L. and Kagan, A., 2014, Increasing access to fair capacity evaluation for discharge decision-making for people with aphasia: a randomised controlled trial. *Aphasiology*, **28**(**6**), 750–765.

Carragher, M., Steel, G., O'halloran, R., Torabi, T., Johnson, H., Taylor, N. F. and Rose, M., 2020, Aphasia disrupts usual care: the stroke team's perceptions of delivering healthcare to patients with aphasia. *Disability and Rehabilitation*, https://doi.org/10.1080/09638288.2020.1722264.

Creswell, J. W. and Plano Clark, V. L., 2017, *Designing and conducting mixed methods research*. 3rd ed. (Los Angeles: SAGE).

Department for Constitutional Affairs (DCA), 2007, *Mental Capacity Act 2005 Code of Practice*. (London: The Stationery Office).

Emmett, C., Poole, M., Bond., J. and Hughes, J. C., 2013, Homeward bound or bound for a home? Assessing the capacity of dementia patients to make decisions about hospital discharge: comparing practice with legal standards. *International Journal of Law and Psychiatry*, **36**, 73–82.

Enderby, P., Wood, V. and Wade, D., 2012, *Frenchay Aphasia Screening Test (FAST)*. 3rd ed. (St Mabyn: Stass Publications).

Ferguson, A., Duffield, G. and Worrall, L., 2010, Legal decision making by people with aphasia: critical incidents for speech pathologists. *International Journal of Language and Communication Disorders*, **45**(**2**), 244–258.

Fleiss, J. L., 1971, Measuring nominal scale agreement among many raters. *Psychological Bulletin*, **76**, 378–382.

Franzen, M. D., 1989, *Reliability and Validity in Neuropsychological Assessment*. (New York: Plenum Press).

Jayes, M., Palmer, R. and Enderby, P., 2015, Development of a mental capacity assessment support tool: a user-centred design process. *International Journal of Stroke*, **10**(**s5**), 65.

Jayes, M., Palmer, R. and Enderby, P., 2017, An exploration of mental capacity assessment within acute hospital and intermediate care. *Disability and Rehabilitation*, **39**(**21**), 2148–2157.

Jayes, M., Palmer, R. and Enderby, P., 2020, Evaluation of the MCAST, a multidisciplinary toolkit to improve mental capacity assessment. *Disability and Rehabilitation*, https://doi.org/10.1080/09638288.2020.1765030.

Jayes, M., Palmer, R., Enderby, P. and Sutton, A., 2019, How do health and social care professionals in England and Wales assess mental capacity? A literature review. *Disability and Rehabilitation*, **42**(19), 2797–2808.

King, M. and Bruner, G., 2000, Social desirability bias: a neglected aspect of validity testing. *Psychology and Marketing*, **17**(**2**), 79–103.

Knowles, W. and Masidlover, M., 1982, *Derbyshire Language Assessment*. (Matlock: Derbyshire County Council).

Landis, J. and Koch, G., 1977, The measurement of user agreement for categorical data. *Biometrics*, **33**, 159–174.

Mays, N. and Pope, C., 2000, Assessing quality in qualitative research. *British Medical Journal*, [online], **320**(**7226**), 50–52. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117321/pdf/50.pdf [accessed 14 January 2010].

Mccormick, M., Bose, A. and marinis, T., 2017, Decision-making capacity in aphasia: SLT's contribution in England. *Aphasiology*, 31(**11**), 1344–1358.

Needham, C. and Carr, S., 2009, *SCIE Research Briefing 31: Co-production: An Emerging Evidence Base For Adult Social Care Transformation*, (London: Social Care Institute for Excellence).

National Institute for Health and Care Excellence, 2018, Decision-making and mental capacity [NICE guideline NG108] [online] Available at: http://www.nice.org.uk/guidance/ng108 [accessed 20 October 2018].

Office of Public Sector Information (OPSI), 2005, *Mental Capacity Act 2005*. (London: OPSI).

Palmer, R. and Jayes, M., 2016, *The Consent Support Tool*. (Macclesfield: Napier-Hill Press).

Paul, N. and Mehrhoff, J., 2015, Descriptive Analysis: survey of Direct and Indirect Interventions for Persons With Dementia-Based Communication Disorders. *Perspectives on Neurophysiology and Neurogenic Speech and Language Disorders*, **25**(**4**), 125–141.

Rekha Devi, K. H., Sen, A. M. and Hemachandran, K., 2012, A working Framework for the User-Centred Design Approach and a Survey of available Methods. *International Journal of Scientific and Research Publications*, **2**(**4**), 1–8. Available at: http://www.ijsrp.org/research_paper_apr2012/ijsrp-apr-2012-05.pdf [accessed 05 January 2015].

Ritchie, J. and Spencer, L., 1994, Qualitative data analysis for applied policy research. In A. Bryman and A. Burgess (eds), *Analysing Qualitative Data*. (London: Routledge). 173–194.

Social Care Institute for Excellence (SCIE), 2016, Mental Capacity Act at a Glance [online]. Available at: www.scie.org.uk/mca/introduction/mental-capacity-act-2005-at-a-glance [accessed 20 October 2018].

Suleman, S. and Hopper, T., 2015, Decision-making Capacity and Aphasia: Speech–Language Pathologists' Perspectives. *Aphasiology*, **30**(**4**), 381–395.

Volkmer, A., Spektor, A., Warren, J. D. and Beeke, S., 2018, Speech and language therapy for primary progressive aphasia:

Referral patterns and barriers to service provision across the UK. *Dementia*, **19**(**5**), 1349–1363.

Volkmer, A. (ed), 2016, *Dealing with Capacity and Other Legal Issues with Adults with Acquired Neurological Conditions*. (Croydon: J & R Press Ltd).

Zuscak, S. J., Peisah, C. and Ferguson, A., 2016, A collaborative approach to supporting communication in the assessment of decision making capacity. *Disability & Rehabilitation*, **38**(**11**), 1107–1114.

Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Supplementary Material