Round 2 case note audit: Reliability analyses

The 210 participating sites were asked to re-audit their first 5 cases, using a different auditor. In total, 194 sites submitted 924 cases. Sites identified their own reliability cases when entering data into the audit.

Reliability (agreement between auditors) is not the same as validity (accuracy of measure). However establishing good agreement between auditors is an important part of the process of validation, as valid data by definition will have to be reliable.

For categorical data the kappa statistic was used to measure agreement. Kappa values of 0.41 to 0.60 are said to indicate moderate agreement, values of 0.61 to 0.80 indicate good agreement whilst values of over 0.80 are very good. In practice any value of kappa much below 0.50 will indicate inadequate agreement.

The kappa statistic does not measure the nature of any disagreement between auditors and for this we need to inspect the raw data tables. Any future attempt to improve on the reliability of any audit item will bear most fruit if it focuses on the more frequent discrepancies in judgement.

Often the overall kappa value gives an assessment of agreement that is an amalgamation of separate components. One component is agreement between auditors as to whether or not they find the required information, another is whether information is applicable and another is agreement in the codes/categories of auditors when both have found information that is relevant.

McNemar/Bowker Tests: these test for systematic bias between main and repeat auditors in their responses to particular questions. A lack of significance for a question implies the data are consistent with there being no bias, which was the situation in all but two tests in this audit - Q13 (multidisciplinary assessment include problem list, P=0.005) & Q18 (pressure sore risk assessment and scored, P=0.004) for which the prevalence of 'yes' responses was higher from the repeat auditors. The shifts were relatively minor and this is not an issue in these results.

Summary

The levels of agreement were generally 'reasonable' to 'good' with almost all kappa values over 0.50 and about half of kappa values over 0.60. A summary table is given on the next page in which Kappa values below 0.50 are highlighted.

Breakdown of Kappa values per section:

Section	Median	IQR	N
All	0.58	0.51-0.72	83
Section 1	0.84	0.74-0.94	11
Section 2	0.58	0.50-0.66	44
Section 3	0.54	0.52-0.66	19
Section 4	0.61	0.48-0.82	6
Section 5	0.46	0.42-0.49	3

There will be a need to exercise caution in particular when performing analyses that correlate one variable with another when one or both variables has less than good inter-auditor reliability – associations between them may dilute as a consequence.

Overall Kappa value and confidence interval (CI) for each of the case note audit questions (values below 0.50 are highlighted)

Question	Variable label	Overall Kappa value	95% CI for Kappa
	SECTION 1: INFORMATION ABOUT THE PATIENT		
q2	Gender	0.97	0.95-0.99
q5	Ward specialty	0.80	0.77-0.83
q3	Ethnicity (White British, Other, Not documented)	0.68	0.62-0.74
q4	First language (English, Other, Not documented)	0.62	0.56-0.69
q1	Age group (derived)	0.94	0.92-0.96
q9	LOS group (derived)	0.94	0.92-0.96
q6	Did the patient die whilst in hospital?	0.96	0.94-0.99
q7	Did the patient self-discharge from hospital?	0.75	0.41-0.99
q8	Was the patient receiving end of life care/on an end of life care pathway?	0.91	0.86-0.95
q10	Please indicate the place in which the person was living or receiving care before admission	0.84	0.81-0.87
q11	Please indicate the place in which the person was living or receiving care after discharge	0.82	0.79-0.86
	SECTION 2: ASSESSMENT		
q12	Has the patient's mental health history been recorded – dementia or other conditions or symptoms?	0.54	0.42-0.65
q13	The multidisciplinary assessment includes problem list	0.40	0.30-0.49
q14	The multidisciplinary assessment includes comorbid conditions	0.44	0.30-0.57
q15	The assessment includes a record of current medication, including dosage and frequency	0.64	0.55-0.73
q16	An assessment of mobility was performed by a healthcare professional	0.50	0.43-0.58
q17	An assessment of nutritional status was performed by a healthcare professional	0.58	0.50-0.66
q17a	The assessment of nutritional status includes recording of BMI (Body Mass Index)/weight	0.63	0.57-0.70
q18	Has a formal pressure sore risk assessment been carried out and score recorded?	0.49	0.37-0.60
q19	As part of the multidisciplinary assessment has the patient been asked about any continence needs?	0.51	0.44-0.58
q20	As part of the multidisciplinary assessment has the patient been asked about the presence of any pain?	0.45	0.38-0.53
q21	Has an assessment of functioning, using a standardised assessment, been carried out?	0.57	0.51-0.62
q22	Has a standardised mental status test been carried out?	0.74	0.70-0.78
q23	Has an assessment been carried out for recent changes or fluctuation in behaviour that may indicate the presence of delirium?	0.55	0.50-0.60
q23a	Has the patient been clinically assessed for delirium by a healthcare professional?	0.55	0.35-0.75
q24	Has a need for care assessment by a social worker been identified?	0.63	0.59-0.67
q24a	Has a care assessment by a social worker been requested?	0.71	0.50-0.92
q24b	Has a care assessment by a social worker been carried out?	0.68	0.57-0.79
q24b1	Did the assessment include an assessment of support provided to the person 'informally'?	0.51	0.38-0.63
q24b2	Did the assessment include a formal care provision assessment?	0.53	0.42-0.65
q24b3	Did the assessment include a financial support?	0.60	0.52-0.69
q24b4	Did the assessment include a home safety?	0.54	0.45-0.63
q25	Does the care assessment contain a section dedicated to collecting information from the carer, next of kin or a person	0.50	0.44-0.55

	who knows the patient well?		
q25a	Has information been collected about the patient regarding personal details, preferences and routines?	0.66	0.58-0.74
q25b	Has information been collected about the patient regarding reminders or support with personal care?	0.60	0.51-0.69
q25c	Has information been collected about the patient regarding recurring factors that may cause of exacerbate distress?	0.72	0.65-0.80
q25d	Has information been collected about the patient regarding support or actions that can calm the person if they are agitated?	0.64	0.55-0.73
q25e	Has information been collected about the patient regarding details of life details which aid communication?	0.62	0.54-0.70
q26	Has information about support on discharge been given to the patient and/or the carer?	0.39	0.28-0.50
q27	Has this patient had antipsychotic drugs at any point during admission (whether or not prescribed in the hospital)?	0.85	0.81-0.89
q27a	On admission, was the patient taking antipsychotics due to an existing regular prescription?	0.90	0.83-0.97
q27b	Was a PRN prescription for antipsychotics in place for this admission?	0.78	0.68-0.88
q27b1	Was an antipsychotic administered via PRN?	0.78	0.58-0.99
q27c	Was a new or additional prescription made for an antipsychotic?	0.81	0.71-0.91
q28	Was a reason recorded for prescription of antipsychotics?	0.61	0.37-0.84
q28a	What was the main or primary reason recorded for prescription of antipsychotics?	0.60	0.44-0.76
q29	Was there more than one reason recorded for the prescription of antipsychotics?	0.54	0.31-0.78
q29a_1	What are the other reasons recorded for prescription of antipsychotics - Comorbid psychotic disorder	1.00	-
q29a_2	What are the other reasons recorded for prescription of antipsychotics - Immediate risk of harm to self/others	0.54	0.08-0.99
q29a_3	What are the other reasons recorded for prescription of antipsychotics - Severe distress not responsive to other intervention	0.45	-0.15-0.99
q29a_4	What are the other reasons recorded for prescription of antipsychotics - Need to carry out investigation and/or treatment and/or nursing care	0.18	-0.38-0.74
q29a_5	What are the other reasons recorded for prescription of antipsychotics - Agitation/anxiety	0.50	0.08-0.92
q29a_6	What are the other reasons recorded for prescription of antipsychotics - Aggressive/threatening behaviour	0.45	-0.15-0.99
q29a_7	What are the other reasons recorded for prescription of antipsychotics - Disturbance through noise	NC	-
q29a_8	What are the other reasons recorded for prescription of antipsychotics - Disturbance through wandering, obsessive behaviour, mannerisms, tics	0.64	-0.01-0.99
q29a_9	What are the other reasons recorded for prescription of antipsychotics - Delirium/Hallucinations/delusions	0.43	-0.23-0.99
q29a_10	What are the other reasons recorded for prescription of antipsychotics - End of life	NC	-
q29a_11	What are the other reasons recorded for prescription of antipsychotics - Depression/low mood	NC	-
q29a_12	What are the other reasons recorded for prescription of antipsychotics - Other	NC	-
	SECTION 3: DISCHARGE		
q30a	At the point of discharge the patient's level of cognitive impairment, using a standardised assessment, was summarised and recorded	0.67	0.60-0.74
q30b	At the point of discharge the cause of cognitive impairment was summarised and recorded	0.52	0.46-0.59
q31	Have there been any symptoms of delirium?	0.52	0.45-0.59
q31a	Have the symptoms of delirium been summarised for discharge?	0.66	0.53-0.79
q32	Have there been any persistent behavioural and psychiatric symptoms of dementia (wandering, aggression, shouting) during this admission?	0.71	0.65-0.77

q32a	Have the symptoms of behavioural and psychiatric symptoms of dementia been summarised for discharge?	0.74	0.62-0.85
q33	Is there any record in the discharge summary/notes that there is a prescription of antipsychotics that is being continued post discharge?	0.64	0.49-0.79
q34	Did a named person coordinate the discharge plan?	0.54	0.48-0.59
q35a	Is there evidence in the notes that the discharge coordinator/person planning discharge has discussed appropriate place of discharge and support needs with the person with dementia?	0.50	0.44-0.55
q35b	Is there evidence in the notes that the discharge coordinator/person planning discharge has discussed appropriate place of discharge and support needs with the person's carer/relative?	0.50	0.43-0.57
q35c	Is there evidence in the notes that the discharge coordinator/person planning discharge has discussed appropriate place of discharge and support needs with the consultant responsible for the patient's care?	0.55	0.48-0.62
q35d	Is there evidence in the notes that the discharge coordinator/person planning discharge has discussed appropriate place of discharge and support needs with other members of the multidisciplinary team?	0.54	0.46-0.61
q36	Has a single plan for discharge with clear updated information been produced?	0.54	0.48-0.61
q37	Are any support needs that have been identified documented in the discharge plan or summary?	0.45	0.40-0.51
q38	Has the patient and/or carer received a copy of the plan or summary?	0.52	0.45-0.59
q39	Was discharge planning initiated within 24 hours of admission?	0.51	0.46-0.57
q39a	Please select the recorded reason why discharge planning could not be initiated within 24 hours	0.77	0.63-0.92
q40	Carers or family have received notice of discharge and this is documented	0.52	0.47-0.56
q41	An assessment of the carer's current needs has taken place in advance of discharge	0.55	0.49-0.60
	SECTION 4: LIAISON PSYCHIATRY		
q42	Has any referral been made to psychiatric consultation/liaison?	0.79	0.74-0.84
q42a	Has any need for referral to liaison psychiatry been noted on admission or during further assessment?	0.82	0.68-0.95
q42b	Has a follow up referral to community based mental health services been made on discharge?	0.55	0.48-0.62
q43	Is it stated whether the referral was emergency, urgent or routine?	0.48	0.35-0.61
q44	Please indicate time between referral and assessment	0.58	0.48-0.67
q45	What was the main reason given for referral?	0.63	0.54-0.72
	SECTION 5: RECORD KEEPING		
q46	Is information about the person's dementia quickly found in a specified place in the file?	0.49	0.43-0.55
q47	Is information about related care and support needs quickly found in a specified place in the file?	0.46	0.40-0.52
q48	In your opinion, how would you rate the organisation of this case note?	0.42	0.37-0.47

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Date of upload: 15/01/13