

The validity of explicit indicators of appropriateness of long term prescribing

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Focal points

- A set of explicit indicators of appropriate prescribing was applied to medical notes of patients started on new long-term medication
- The content and operational validity of the indicators was assessed using in-depth interviews with hospital doctors
- The indicators reflected all aspects of appropriate prescribing discussed by the doctors and therefore had content validity
- However, their operationalisation was hampered by the lack of explicit data in the medical notes

Introduction

Appropriate prescribing has been defined as the outcome of a process of decision-making that maximises net individual health gains within society's available resources.¹ Extensive piloting work was conducted to develop a set of 14 indicators, based on the literature,^{2,3} for use in the assessment of long-term prescribing started during a hospital admission.⁴ They use clearly defined explicit criteria for judging whether they had been met.

The study presented here, part of a larger programme of work, aimed to assess the validity of these indicators, both as a reflection of the concept of appropriate prescribing (content validity) and as a measure for its assessment (operational validity).

Method

Patients discharged from medical wards or care of the elderly wards were eligible for inclusion if they were discharged on a newly started drug that was not to be discontinued for at least three months. Post-discharge, the indicators were applied to these long-term drugs, using data from the medical notes.

Doctors were chosen for in-depth interview in the operational validity assessment based on these indicator results, if they had made the prescribing decision, or they had written either the original prescription or the discharge summary. Doctors were selected for the content validity assessment to attain a maximum variability sample of grades of doctors working in secondary care.

All interviews included discussions about appropriate prescribing in general; the operational validity interviews also included questions related to the drugs assessed by the indicators. The interviews were audiotaped and either transcribed or converted into MP3 files. These data were analysed from an interpretivist perspective.

Results

Two hundred and seventy-one patients were screened; 192 were ineligible (135 had not been started on new long-term medication and 56 were unsuitable for interview) and the indicators were applied to 132 drugs for 61 patients (Table 1).

Thirteen doctors were chosen for operational validity interviews, and about 38 drugs. Twenty-two doctors (five consultants, five specialist registrars, five senior and seven junior house officers) were interviewed for the content validity interviews.

Appropriate prescribing was viewed as prescribing that was indicated, necessary, evidence-based (within the widest context) and of acceptable cost and risk-benefit ratio. Where drugs had failed an indicator, rationales were explored. Often, it was missing data in the medical notes that had resulted in the drug failing the indicator.

Table 1 Assessment of 132 long-term prescriptions by indicators of appropriate prescribing

Indicator	Drugs passed	Drugs failed
Indication in inpatient medical record	114	18
Indication in discharge summary	82	50
Indication in prescription upheld in BNF	93	39
Questionable high risk combination	130	2
Duration outside range in BNF	122	10
'Less suitable for prescribing' in BNF	131	1
Drug efficacious for indication	111	21
Drug in hospital formulary	126	6
Total daily dose outside range in BNF	121	11
Dosage frequency outside BNF range	126	6
Type A reaction occurred without action	128	4
Type B reaction occurred without action	132	0
Hazardous drug-drug combination	98	34
Hazardous drug-disease combination	104	28

The doctors' comments are encapsulated in the following quote: "you can prescribe appropriately without writing anything in the notes; the problem is just then nobody knows how appropriate they were". Data were often not recorded on the expectation that the reader would be able to "work it out".

Discussion

The 14 indicators were considered to have content validity, reflecting all aspects of appropriate prescribing discussed by the doctors. Their operational validity was less clear-cut, due to the lack of data in the medical notes.

This has implications for the use of explicit indicators for assessing prescribing appropriateness, as these hospital doctors did not consider that all data required for the independent assessment of prescribing would ever be recorded in the medical notes.

References

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