

Self-assessment of medico-legal risk by doctors: the Know Your Risk Version I – Short Form

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Abstract

An instrument to measure medico-legal risk-management behaviours among medical practitioners was developed and tested. A cross-sectional survey was posted to 962 UNITED Medical Protection members receiving premium support. A final sample of 757 currently working medical practitioners responded, including general practitioners (21.9%), surgeons (29.9%), obstetricians and gynaecologists (12.7%), and others (35.5%).

The Know Your Risk Version 1 – Short Form and other tools developed by this team are available for use by group practices, hospital administrators and practitioners. These tools have the potential to assist regulators and insurers to identify, monitor or screen individual medico-legal risk behaviours.

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THE MEDICAL INDEMNITY CRISIS sweeping the Western world has had a major impact on Australian doctors and their insurers. A sharp increase (38%) in claims occurred in the early 2000s (50 claims per 1000 doctors in 1995–1996 compared with 69 per 1000 doctors in 2002–2003)¹ with some slowing within the past few years. Considerable tort reform (commencing in New South Wales

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What is known about the topic?

Tort reform and government intervention has transformed the medical indemnity industry and placed greater responsibility upon insurers and medical practitioners to actively engage in risk-management strategies.

What does this paper add?

Content and construct validity was supported: 63% of the variance of medico-legal risk was explained within eight domains — diagnosis and treatment, managing adverse outcomes, reading and interpreting patient notes, managing medications, patient follow-up, documenting patient care, patient assessment, and clinical review — referred to as the Know Your Risk Version 1 – Short Form. Reliability was supported for most of the subscales.

What are the implications for practitioners?

Medical practitioners can complete the Know Your Risk scale and receive a report comparing their risk-management practices with those of their peers. This can assist practitioners to identify areas for improvement.

with the *Health Care Liability Act 2001*) and government intervention to transform the medical indemnity industry (*Medical Indemnity Act 2002* [Cwlth] and amendments to 2005) has resulted in some positive outcomes for medical practitioners with some premium reductions and premium subsidies. There has also been significant improvement in the capital base of insurers, with consequent increased stability and security in medical indemnity insurance supply. With the advent of the Premium Support Subsidy, there was a requirement from the Health Insurance Commission for insurers to guarantee that doctors eligible for the subsidy participate in risk-management programs considered by the insurer to be appropriate. These programs are designed to assist doctors to identify risks and implement appropriate risk mitigation strategies.² As Wilson and Fulton logically argue “... if the

right risk management processes and systems are in place, hospitals and doctors should be able to rebut allegations of negligence in 80% of cases . . .” (p. 77).³

In response to this need, UNITED Medical Protection (UNITED), commissioned a study to develop and test a self-assessment instrument to assess risk-management behaviour among doctors requesting premium support. It was envisaged that a self-monitoring tool would be a simple approach for doctors to comply with the regulations under the support scheme. Medico-legal risk-management behaviour is defined in this study as those systems, processes or behaviours that have been found to either reduce the likelihood of a claim or enhance the defensibility of medical practitioners.

Risk-management behaviour across specialities

Risk varies across medical specialities: obstetrics have infrequent but high-cost claims,^{4,5} while surgery has the potential for 15% of procedures to result in permanent disability or death.⁶ When injury occurs and care is required it is more likely that a claim will ensue.⁷ A review of research studies focusing on claims, incidents and adverse events, conducted within the major specialities such as general practice, surgery, and obstetrics and gynaecology, was undertaken before developing items for the Know Your Risk (KYR) instrument.

According to Britt et al, self-reported general practice incidents were related to pharmacological treatments (52%); non-pharmacological treatments (37%); diagnostic (28%); and equipment (5%) issues.⁸ The factors implicated in these incidents included poor communication and difficulties with identifying signs and symptoms and transferring or processing information.^{8,9}

An Australian study by Andrews and Barrett¹⁰ which included a review of legal precedents¹¹ of failure to diagnose emphasised “poor communications between doctors and patients, delays in following up test results, failure to order the relevant diagnostic interventions and patients failing to

attend appointments”. (p. 51-52) Bird supported the view that general practitioners had a duty of care to follow up patients and their test results, stating that “an effective test result tracking system . . . [could] minimise the possibility of a claim arising from ‘failure to diagnose’”.¹² (p. 45)

The predominance of diagnostic errors is evident in US primary care, with one-third of adverse events being related to diagnostic errors.¹³ An international study of primary care medical errors that included Australia¹⁴ found most were process errors (79%) (including errors in office administration, investigations, treatment, communication, payment and health care-workforce management) suggesting risk-management behaviours would also include aspects of practice and patient management.

Surgery entails an increased risk of injury and therefore a high risk of litigation. Leape et al demonstrated that around half of US iatrogenic injuries were associated with an operation,¹⁵ and the Quality in Australian Health Care Study also confirms this pattern.¹⁶ The Harvard Medical Institutions Risk Management Foundation study¹⁷ of surgical claims highlighted the risk management issues as clinical judgement (23%), technical skill (18%), communication (16%) and documentation issues (12%). Communication difficulties included: not listening to patients’ needs; not evaluating or returning calls; inadequate discussion of other treatments and risks of complications; inadequate preparation of the patient for the reality of surgery (expectations of the surgical experience). The selection of patients for major procedures, based on patient performance and outcome of surgery, may reduce the rate of adverse events.¹⁸

The Joint Commission on Accreditation of Healthcare Organisations (JCAHO) studied 126 cases of wrong-site surgery (wrong body part, side of body, patient, or at the wrong level of the correctly identified anatomical site).¹⁹⁻²¹ Risk-management behaviours emphasised by the JCAHO and others included: clearly marking the site and involving the patient in the marking process; each team member to orally verify the correct site; surgeon to be personally involved in

the consent process; use of a verification checklist that includes all documents referencing the intended operative procedure and site (the medical records, x-rays and their reports); and direct observation of the marked operative site on the patient.²⁰⁻²²

A US exploration of the claims experience in obstetric care found that there was no relationship between “prior malpractice claims experience and the technical quality of practice”.²³ An Australian review⁵ of 167 claims relating to obstetric practice highlighted the major themes in the claims as: failure to manage fetal distress; diagnosis errors during the antepartum period; inappropriate use of forceps; failure to supervise or monitor the case; delay in performance of a caesarean section; and inappropriate use of instrumentation at delivery. Similar key areas for risk management were outlined by Simpson and Knox’s review of allegations,²⁴ with these authors recommending standardisation in many of these areas. Garza²⁵ and Miller²⁶ also emphasise the team approach to obstetric care. Many of these areas reflect clinical risk management more appropriately managed by professional colleges.

Communication issues are critical to whether a medical error is actively pursued into litigation, and three areas have been emphasised in the literature: patient encounters;²⁷⁻²⁹ adverse outcomes;^{28,30} and the consent process.³¹ Within patient encounters, Levinson et al²⁷ noted that there was a difference between communication patterns of physicians and surgeons, with longer visit times (18.3 minutes versus 15 minutes) for no-claim physicians. The use of orienting statements and facilitative comments or active listening was found to be positive. In another study, a friendly and patient-focused style diminished patient willingness to litigate.²⁷⁻²⁹ It appears that allowing sufficient time for communicative interactions, the use of active listening and adopting a reciprocal style reduce the risk of litigation.

Researchers have demonstrated that patients’ lack of knowing the reason for a bad outcome increased litigious feelings, as much as the error.^{28,32} Some of the specific issues of the “post-adverse-event consultant–patient interaction”

included: the doctor being unavailable; devaluing the patient and/or family views; and delivering information poorly.³² Bird³³ notes that “a prompt and appropriate response may help prevent an escalation of the matter . . . supply a summary of the events or respond to each issue raised in a complaint, avoid expressing distress, frustration or anger at the patient or the complaint process . . . provide a sincere expression of regret, but do not admit liability” (p. 349). Consent and failure to warn is a special form of communication largely influenced by legal precedent. In particular, *Rogers v Whitaker*³⁴ upheld that failure to inform a patient of a risk associated with proposed eye surgery was part of a broader general duty of care. Further to this, *Chappel v Hart*³⁵ added a new maxim that “doctors have a positive obligation to inform a patient that there is a more experienced surgeon who could carry out the procedure when they are informing.” (p. 51)¹⁰ The consent process and its detailed documentation remains a pivotal aspect of risk management for any practitioner. Consent is often viewed as signing the consent form, and may in some cases be delegated to a subordinate. The perspective that informed consent is a process is articulated well in Berry’s statement that patients who sue for lack of informed consent are voicing the viewpoint that what they experienced was not what they heard or prepared for.³¹ The National Health and Medical Research Council have provided detailed guidelines for medical practitioners.³⁶

There is a wealth of behaviours that medical practitioners can perform, based on the research findings and legal precedents presented here, that may minimise or eliminate contributing factors and support defensibility. These behaviours have formed the basis of a self-assessment tool for medical practitioners. The major aims of this study are to:

- develop and validate a self-assessment instrument to measure medico-legal risk management behaviour among medical practitioners; and
- explore the differences between specific groups of practitioners on critical risk management domains within the scale.

Methods

A cross-sectional postal survey of UNITED members receiving Premium Support Subsidy was used to achieve the above aims. A group of 962 medical practitioners insured with Australasian Medical Insurance Limited and receiving premium support were issued the survey in 2004. The survey contained KYR Version 1 (V1) scale and frequently used demographic items. From the initial sample, 857 PSS members responded to the questionnaire (response rate, 89%). Further, 757 responses from currently working medical practitioners provided the data for analysis.

The mean age of the sample was 52 years with 27.9 years' experience (mean), of whom 80.3% were men, and 82% were Australian trained. Most participants (76%) stated they were undertaking procedures within the past 12 months (527/695) based on the Medical Indemnity National Collection (MINC) definition noted on Box 1. The mean number of doctors in a practice was 2.89 (SD 1.75) and the mean total number of patients attended per 7 days was 66.3 (SD 53.46).

Development of the Know Your Risk Version 1

The KYR scale was conceived of as part of an overall risk management education strategy, although initially designed to meet the regulatory requirements of the Premium Support Scheme. Completing the KYR scale and receiving a report comparing their risk-management practices with those of their group peers and general group of medical practitioners provides the practitioner with the opportunity to identify areas for improvement. This approach encourages the practitioner to seek out relevant learning and to incorporate it into their established practices.

A group of 20 experts from practice (general practice [3], surgery [1] and obstetrics and gynaecology[4]), education, claims management and administration examined the KYRV1 (eight domains, 108 items) for content and readability. Experts confirmed that the domains selected

I Characteristics of currently working medical practitioners (N = 757)

Characteristic	n (%)	Mean (SD)
Age in years	756	52.08 (10.34)
Male	599 (80.3)	
Female	147 (19.7)	
Years of experience (since date of graduation)	752	27.93 (10.12)
Training undertaken in Australia	620 (81.9)	
Specialty		
General practitioners	166 (21.9)	
Surgeons	226 (29.9)	
Obstetricians and gynaecologists	96 (12.7)	
Other	269 (35.5)	
Number of respondents conducting procedures*	527 (75.8)	

* Conducting procedures is defined as an invasive clinical intervention where there is an incision and/or the body cavity is entered; procedures may be therapeutic or diagnostic.⁹ A vaginal delivery is also considered a procedure.

represented key critical areas of risk management and proposed modifications and removal of some items resulting in 98 items across eight domains (84 items potentially applicable to all groups, with a further 14 only applicable to practitioners undertaking procedures).

Although this study represents a quality assurance strategy, ethical issues were addressed within the survey. Statements relating to the study purpose, why participants were selected, any risks and benefits to the participant, confidentiality and anonymity, and what the data were to be used for (research, education and development) were included. Participation did fulfil requirements of the Health Insurance Commission.

Data analysis was undertaken using the SPSS version 12 (SPSS Inc, Chicago, Ill, USA) and included exploratory factor analysis and reliability procedures. Analysis of variance, and multivariate analysis of variance were used to examine differences between specialty groups for mean scores for specific domains.

2 Know Your Risk Version 1 – Short Form (KYRVI-SF): Best solution for principal components oblique rotation with Kaiser normalisation (n = 495)

Domain/items	KYRVI Component							
	1	2	3	4	5	6	7	8
<i>Diagnosis/treatment 4</i> During consultations I explain the diagnosis to my patients	0.72	0.06	-0.03	-0.02	-0.11	-0.08	-0.18	0.06
<i>Communication 14</i> My patients know how much their consultation will cost	0.69	-0.03	0.07	0.03	0.07	0.04	0.09	-0.01
<i>Diagnosis/treatment 5</i> During consultations I discuss the management plan with my patients	0.65	0.06	0.08	0.01	-0.10	-0.06	-0.21	-0.03
<i>Diagnosis/treatment 8</i> I give my patients time to think about the treatment options available to them	0.54	0.01	-0.13	0.02	0.11	-0.17	0.06	-0.21
<i>Consent 6</i> I explain the potential benefits and limitations of treatment options	0.36	0.10	0.02	0.20	0.13	-0.02	-0.21	-0.18
<i>Adverse outcomes 7</i> In the event of an unintended outcome I take responsibility for ensuring an explanation is given to my patients about what happened	0.05	0.81	0.01	0.01	0.07	0.14	0.00	0.01
<i>Adverse outcomes 6</i> I will talk to patients who have suffered an adverse outcome	0.14	0.80	0.03	0.00	0.06	0.08	0.06	0.04
<i>Adverse outcomes 8</i> I will acknowledge to my patients the effect on them of an unintended outcome	0.11	0.76	-0.04	0.01	0.11	0.06	0.01	0.02
<i>Adverse outcomes 3</i> I am willing to talk to patients who have made a complaint	-0.11	0.76	0.02	-0.02	-0.03	-0.11	-0.01	0.01
<i>Adverse outcomes 2</i> I deal with complaints when I receive them	-0.14	0.74	0.00	0.03	-0.15	-0.14	-0.05	-0.12
<i>Medical records 6</i> My patient notes are legible to any member of the health care team involved in the care of my patient	0.02	-0.02	0.89	-0.02	0.04	-0.04	0.08	0.03
<i>Medical records 7</i> Other members of the health care team involved in the care of my patient can understand the abbreviations in my notes	-0.03	0.02	0.88	0.08	0.03	0.04	-0.01	0.02
<i>Medications 4</i> I check my patients' current medications with those I am prescribing for potential drug interactions	0.07	0.06	0.04	0.79	-0.09	-0.15	0.09	0.06
<i>Medications 6</i> I review my patients who are on medication that could be detrimental to their health	-0.17	-0.01	0.00	0.71	-0.07	-0.11	-0.16	0.01
<i>Medications 3</i> When prescribing medications I ask my patients if they have had any reactions to drugs they have taken before	0.19	0.03	0.10	0.64	-0.03	0.18	0.03	-0.12
<i>Medications 5</i> I ask my patients what medications they are using including over-the-counter preparations and alternative therapies	0.02	-0.05	0.02	0.55	0.28	0.00	-0.15	-0.14
<i>Patient management 8</i> I know what action has been taken when my patients 'do not attend' or cancel an appointment	-0.06	0.04	0.08	-0.06	0.85	-0.06	-0.06	-0.10
<i>Patient management 7</i> I review the list of my patients who cancel or 'do not attend'	0.02	0.04	-0.02	-0.05	0.83	-0.08	-0.10	-0.03
<i>Medical records 9</i> I write in the patient notes details of discussions with my colleagues about my patients and their care	0.03	-0.02	-0.06	0.18	0.10	-0.73	0.09	0.01
<i>Medical records 8</i> I record details of telephone discussions with my patients where I give clinical advice	0.10	0.05	0.05	0.07	0.20	-0.71	0.08	0.19
<i>Medical records 2</i> My patient notes contain sufficient information to enable continuity of care of my patients	0.07	0.02	0.20	-0.09	-0.11	-0.54	-0.22	-0.15
<i>Medical records 3</i> My patient notes support my decisions and actions in the management of my patients	0.08	-0.01	0.15	-0.11	-0.16	-0.50	-0.25	-0.26
<i>Diagnosis/treatment 2</i> During consultations I review previous entries in my patient notes	0.03	0.01	-0.02	0.01	0.04	0.00	-0.78	0.00
<i>Diagnosis/treatment 1</i> I use a systematic approach to obtain my patients' clinical history	0.11	-0.01	-0.03	0.11	0.13	0.07	-0.77	0.07
<i>Diagnosis/treatment 10</i> I gather data on my patient outcomes to modify how I treat my patients	0.10	-0.04	-0.01	0.03	0.00	0.08	0.12	-0.85
<i>Adverse outcomes 10</i> I audit critical incidents in my practice	-0.08	0.13	-0.01	0.05	0.15	-0.03	-0.06	-0.70

There was no evidence of high correlations between factors extracted with correlations between the components ranging from 0.11 to 0.24. This solution explained 62.73% of the construct variation in 26 items.

There was some variation in the response rate to specific items which has affected the sample sizes for specific domains throughout the analysis that follows. This variation has resulted in an inability to adequately examine items relating to conducting procedures.

Results

The KYR scale with 84 items broadly applicable to most groups (excluding the additional 14 items applicable to members undertaking procedures) was examined using exploratory factor analysis. The initial use of the 84 items resulted in 7 factors being orthogonal but with considerable cross-loading of items. Further analysis resulted in a 26-item solution KYRV1 – short form (SF).

KYRV1-SF: construct validity and reliability

This KYRV1-SF solution has satisfactory factor loadings (0.36–0.89) with 8 factors explaining 62.73% of the total variance of the underlying construct of medico-legal risk (see Box 2). The reliability (internal consistency) of the KYRV1-SF is also satisfactory with Cronbach's alpha for most domains of 0.70, although three domains with four or fewer items had alpha coefficients of around 0.6. Intra-class correlation coefficients (ICC) ranged from 0.20 to 0.78 (see Box 3).

Differences across specialties

It was important to examine differences derived for specialty groupings. What is evident from Box 4 results is that surgeons have higher domain scores than both obstetricians and gynaecologists (O&Gs) and GPs. GPs have slightly lower scores on most domains in comparison to other specialties and compared with the all survey respondents.

MANOVA procedures were also conducted which provided similar results to the ANOVA analysis presented here.

Discussion

This study sought to develop a scale to measure medico-legal risk management behaviour among medical practitioners receiving premium support. The instrument indirectly delivers educational messages to medical practitioners about preferred behaviours, and a report on their behaviour relative to others was returned to each participant based on the average score (benchmark) for the domain derived from all participants. This study sample represents an older and slightly more male group of medical practitioners than the Australian population — 7 years older than the mean age for Australian medical practitioners with 12% fewer female doctors.

The KYR scale initially contained 98 items within 10 key domains reflecting contemporary research into adverse events and claims. The scale was particularly relevant to medical practitioners who work from a dedicated practice area. Each domain contained more items than would ultimately be required (10 to 14 items for most domains), inclusive of negatively scored items. The negatively scored items were problematic and were often omitted during the factor analysis procedures.

3 Reliability of the 26-item KYRV1-SF (n = 495)

Domain (sub-scale)	No. of items (range of possible scores)	Mean total score \pm SD	Mean item score \pm SD	α^*	ICC
1 Diagnosis and treatment	5 (5–30)	27.86 \pm 2.23	5.57 \pm 0.19	0.72	0.31
2 Managing adverse outcomes	5 (5–30)	28.94 \pm 2.07	5.79 \pm 0.05	0.83	0.49
3 Reading and interpreting patient notes	2 (2–12)	10.27 \pm 1.44	5.14 \pm 0.10	0.75	0.58
4 Managing medications	4 (4–24)	20.83 \pm 2.77	5.21 \pm 0.30	0.69	0.31
5 Patient follow-up	2 (2–12)	9.33 \pm 2.35	4.66 \pm 0.13	0.79	0.64
6 Documenting patient care	4 (4–24)	20.67 \pm 2.66	5.17 \pm 0.48	0.62	0.20
7 Patient assessment	2 (2–12)	11.16 \pm 1.09	5.58 \pm 0.05	0.61	0.44
8 Clinical review	2 (2–12)	9.10 \pm 2.45	4.55 \pm 0.45	0.59	0.78
Total KYRV1-SF	26 (26–156)	138.15 \pm 10.12	5.31 \pm 0.45	0.83	

The response categories for items range from 1 (never) to 6 (always). Some of the factors required renaming to reflect the items in the domain while others remain unchanged. * Cronbach's alpha. ICC = Intra-class correlation coefficient. KYRV1-SF = Know Your Risk Version 1 – Short Form.

4 Differences between scores on the Know Your Risk – Short Form (26 items) scale: all, GPs, obstetricians and gynaecologists (O&Gs), and surgeons (ANOVA analysis)

Domain	All			General practitioners			O&Gs			Surgeons			P value
	n	Mean	SD	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Diagnosis and treatment	684	27.81	2.22	153	27.03	2.32	94	28.34	1.72	220	28.52	1.62	<0.01
Managing adverse outcomes	711	28.93	2.03	149	28.42	2.45	95	29.05	2.83	222	29.30	1.41	<0.01
Reading and interpreting patient notes	687	10.31	1.44	151	10.76	1.14	85	9.98	1.55	210	10.18	1.56	<0.01
Managing medications	640	20.76	2.78	155	20.78	2.46	82	20.84	2.97	183	20.44	3.01	0.41
Patient follow-up	668	9.37	2.38	147	8.06	2.76	96	9.44	2.33	218	10.07	1.92	<0.01
Documenting patient care	696	20.58	2.76	156	20.60	2.57	90	20.58	2.54	218	20.99	2.68	0.26
Patient assessment	728	11.11	1.09	158	10.71	1.17	96	11.16	0.93	222	11.21	1.08	<0.01
Clinical review	678	9.10	2.46	138	7.75	2.89	92	8.73	2.43	219	10.11	1.96	<0.01
Total score	495	138.15	10.12	114	133.76	11.07	70	138.67	9.03	158	141.07	8.79	<0.01

The applicability of the KYR items to the various specialties has, in part, been supported; item responses varied from 63% for communication domain (all items) to 87% for diagnosis and treatment domain. The items within the communication domain may be enhanced with further clarity in the wording.

Validity and reliability

Content and construct validity was supported; 63% of the variance of medico-legal risk was explained within eight domains — diagnosis and treatment, managing adverse outcomes, reading and interpreting patient notes, managing medications, patient follow-up, documenting patient care, patient assessment, and clinical review — referred to as the KYRV1-Short Form. The multi-dimensional nature of the construct of medico-legal risk has been supported. Reliability was supported for most (6/8) of the subscales (domains).

The scores for specific domains for the KYR 98-item scale were relatively high (ranging from 76% of the best possible score for the medical records domain to 91% for medications). There was variation in the scores within the specialties (statistically significant differences were confirmed) with slightly lower mean scores evident for GPs in most domains and slightly higher mean scores for O&Gs for most

domains. *Patient follow-up* and *documenting patient care* did not vary across the specialties.

Specific risk management domains

The domains within the KYRV1-SF reflect critical areas of risk management behaviour identified from contemporary research (claims analyses or adverse event studies).⁸⁻³² The formation of these domains within the final solutions presented focus on key areas of diagnosis, communication relating to diagnosis and treatment and managing adverse outcomes, documentation (two specific domains), patient follow-up, and medications and clinical review. The major role of medicine is the diagnosis and treatment of medical conditions. It is therefore not surprising that this was upheld in the analysis; the first extracted domain was *diagnosis and treatment*.

Although a separate communication domain was developed, communication items loaded on factors that represent the activity being undertaken. Items included in this domain reflect communication activities within the diagnosis process such as “...I explain the diagnosis...” “...I explain potential benefits of treatment...”

Patient assessment activities were extracted as a separate component to diagnosis and reflect the emphasis authors have placed on the need for

systematic approaches during diagnostic hypothesis testing.^{8,9,14}

Adverse outcomes remained largely in its original form. This domain was identified from the literature from studies by Lester and Smith²⁸ and Beckman et al.³² The domain emphasises the importance of acknowledging and also having systems to manage adverse outcomes. In particular the item "I will talk to patients who have suffered an adverse outcome" resonates the work of Witman, Park and Hardin where patients believed that recognition of an error was necessary and most patients also were more likely to litigate if a "physician did not disclose the error".³⁰

Communication remains an important aspect of medico-legal risk management, and the domain within the original 98-item KYR had a lower percentage of total possible score for all specialty groups than most other domains. This may suggest that there is a need for communication workshops to be offered within health services, or as is the current practice by insurers and/or professional colleges. The difficulties of self-assessment of communication behaviours may also contribute to this outcome.

Documentation and the keeping of accurate written records has been emphasised by many writers.^{9,17,26} Two distinct domains were formed relating to this issue: *reading and interpreting patient notes* and *documenting patient care*. Practitioners who experience a medico-legal event become aware of the emphasis the legal system places on documentation, including documenting of discussions with colleagues, telephone patient attendances and of key decisions and their origins. The onerous task of documenting has in recent times been reduced with the use of computerised patient notes.

Patient follow-up consisted of two items with high factor loadings. The emphasis on these behaviours is supported by Andrews and Barrett¹⁰ and their subsequent review of Australian practitioners found, as in this study, high levels of patient follow-up.

Limitations

The sample reflects a unique group of medical practitioners and further analysis using a large

and more representative population may deliver differing results. We acknowledge that the focus of this tool is on medico-legal risk management, rather than a broader perspective of clinical risk management and medico-legal risk management as recommended.² In addition, behaviours may be practised to provide good patient care rather than risk mitigation. The focus of this initial tool was on meeting regulatory requirements. The use of behavioural statements limits the nature and scope of items which could be included. Items must reflect psychomotor behaviour and also require that an individual can be responsible for the behaviour. Many systems issues are beyond the scope of the practitioner, but are nonetheless implicated in medical errors.

The scores for the KYRV1-SF were generally high, and may restrict the utility of this short form in measuring change due to a "ceiling effect". High scores may reflect the heightened awareness of key issues surrounding litigation and risk that have received considerable media attention in Australia. It may also indicate the respondents' high level of knowledge and/or participation in the key critical behaviours (requiring observational studies to confirm or refute) or the problems inherent in self-reporting. This instrument represents only one approach to medico-legal risk management and the authors acknowledge that objective examination and audit of practitioner behaviour within the defined domains may also be appropriate.

The conducting procedures domain was not adequately examined in this study. We are completing work on another version of this instrument for medical practitioners performing operative procedures, which is forthcoming.

Implications for practitioners, health administrators, and researchers

This tool was used as an educational strategy and an approach to meeting regulatory requirements under the PSS. By completing the KYR 1 survey, participants were able to compare their behaviour to pooled data from peers, and to determine areas for improvement and initiate requests for educational materials or office visits from a risk advisors.

Some other potential applications include: use during orientation of new medical practitioners to a private or public health service, or by large group practices to refresh practitioners of critical areas of concern. For regulators, the instrument represents a potential monitoring tool for medico-legal risk management. For insurance companies, it could provide a screening tool for large and small populations of insured medical practitioners. Given that most medical practitioners do not experience a claim or medico-legal event, a short scale to assess practitioner risk management behaviour is opportune. Further research being undertaken by this team has extended this research to more comprehensive scales that are specific for GPs, obstetricians and gynaecologists, surgeons, and physicians undertaken within larger samples, and including medical practitioners performing operative procedures. A longitudinal study of changes in risk management behaviour over time is also proposed.

In conclusion, this initial study has isolated a precisely defined construct of medico-legal risk and developed and tested a short scale capable of capturing this construct within some limitations. The KYRV1-SF is a simple general scale available for use by medical practitioners, hospital administrators, and group practice administrators and includes a major focus on aspects of diagnosis and treatment, communication, medication management and documentation. Hospital administrators, interested practitioners, professional colleges, educational facilities, medical indemnity insurers and regulators may find this and the subsequent tools are potentially useful for screening and monitoring of medico-legal risk among medical practitioners.

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Competing interests

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