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Discussion paper

A comprehensive model for diagnosing the causes of individual medical performance problems: skills, knowledge, internal, past and external factors (SKIPE)

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ABSTRACT

This discussion paper describes a new and comprehensive model for diagnosing the causes of individual medical performance problems: SKIPE (skills, knowledge, internal, past and external factors). This builds on a previous paper describing a unifying theory of clinical practice, the RDM-p model, which captures the primary skill sets required for effective medical performance (relationship, diagnostics and management), and the professionalism that needs to underpin them. The SKIPE model is currently being used, in conjunction with the RDM-p model, for the in-depth assessment and management of doctors whose performance is a cause for concern.

Keywords: assessment of competence, causes, error, models, patient safety, performance

Context

Medicine is a profession more closely monitored than any other, and for one self-evident reason: it deals directly with matters of individual and collective health, ultimately matters of life and death. The consequences of poor decision making or behaviour in medicine are therefore potentially highly significant, both in personal and financial terms, for all involved.

Although all those directly or indirectly involved in dealing with patients have their performance regularly reviewed, when things go wrong it is often an individual doctor who comes under greatest scrutiny, because of their leadership role and position of actual or vicarious liability for clinical decisions.

Given the above, one might reasonably assume that quality assurance of individual medical practice would be based on a commonly accepted framework of performance assessment derived from rigorous, validated research, but this is far from the case. Although previous studies have led to descriptive and detailed conceptual taxonomies of medical error, no comprehensive and coherent model of all the factors potentially triggering individual performance problems currently exists.[1,2]

The literature has tended to focus on either person or system factors when seeking to explain performance problems. Thus for instance Reason, who in his seminal work had set out the fundamentals of human error, argues that risk management has over-emphasised the person approach ('blame the individual'), thereby isolating unsafe acts from their system context. His influence contributed to a shift in focus away from faults in individual performance to the study of systems as a source of error and, by extension, the source of solutions.[3] More recently, however, there has been an increasing awareness that a small group of doctors are responsible for a high proportion of adverse events, errors and complaints or dissatisfaction from patients and colleagues; it has been argued that it is

possible to predict as well as identify who those individual doctors might be.[4,5]

There is a surprisingly narrow duality in the literature here: the focus on management of problems through either the person or system route. Both clearly need to be explored together in any comprehensive performance review, weighted for their relative significance alongside other potential factors. Thus there is also limited predictive validity in simply identifying the characteristics of certain doctors who appear to be responsible for most adverse events or performance problems. The effectiveness of any monitoring or early-warning system based on 'red flag' signals of high-risk behaviour will be determined by the quality of the initial analysis of past events. If the assessment of the nature, cause and significance of each relevant incident is not based on a sufficiently thorough and holistic analysis of potential contributory factors, then whatever risk management plan emerges will at best be speculative – and at worst flawed, to the cost of all concerned.

Existing medical performance models

One of the authors (TN) had faced the same challenge when searching for a robust model of the skills and attributes underpinning medical performance, which led to the development of the Relationship–Diagnostics–Management-professionalism (RDM-p) model.[6] The RDM-p model was generated as an overarching medical performance model simply because no such model then existed. This model fully defines the discrete categories of behaviour potentially demonstrated by any doctor (or indeed other health professional) during the course of carrying out their responsibilities, which – as in any professional activity – in essence comes down to the demonstration of relevant knowledge, skills and attitudes.

Although models such as RDM-p are rightly used to inform the training and development of all doctors, their primary application tends to be in providing the basis for assessing problems that arise (typically through the evidence of single or repeated performance problems). This is understandable and appropriate, but it is essential that any such assessment needs to position models such as RDM-p within a wider holistic model of *causal* factors potentially involved in triggering performance problems related to individual clinicians. Thus RDM-p allows us to define the *nature* of a problem, and certainly also what role knowledge, skills and/or attitudes may have played in *causing* the problem, but it clearly does not touch on other personal or environmental factors potentially involved, e.g. an individual's health or personality, or factors in the working or home lives of that individual.

It was for this reason that one of the authors (TN), having created the RDM-p model, embarked on a review of the literature in search of explanatory models which sought to coherently frame the full range of potential causal factors in performance problems. What emerges are examples with strengths but equally clear limitations. Thus some models are inclusive but not entirely coherent or holistic (i.e. offer a wide range of causal factors but without any clear or logical description of the relationship between them); other models set out some form of relationship between a set of factors, but the factors are then either insufficiently discrete or not an inclusive representation of causal factors.

An example of an inclusive model is that of Paice.[7] She describes four clusters of factors affecting the performance of medical trainees, conceptualised arguably as representing stable clusters throughout both training and practice. On that basis, this model was used as a reference point for assessing factors 'impacting on' the performance of doctors in *Understanding Doctors' Performance*, a benchmark text published in association with the National Clinical Assessment Service (NCAS).[8]

As with many medical performance models, especially when considering doctors in difficulty, Paice does consider factors affecting both the individual and the context in which that individual is functioning. The individual factors are clustered within 'Attributes of a trainee' and 'Personal pressures on a trainee'; the contextual factors are clustered within 'Attributes of training' and 'Context of training'. One could reasonably replace 'training' with 'the workplace', adapt the specifics within each, and see this model as more widely representative – and usefully so. Indeed, the model is presented as universal, capturing the factors affecting performance 'within education, training, appraisal and continuing professional development'.

What limits the clarity and thus applicability of the Paice model, however, is the way in which individual factors are positioned and defined within each of the clusters. Thus 'Attributes of a trainee' has three subcategories: personal, background and aptitude for specialty. To position 'background' here seems strange. One's 'past medical education/training and experiences' are clearly not attributes, but external or contextual factors potentially *influencing* the development of attributes – a crucial, sequential distinction when it comes to analysing the root cause of problems and then setting up plans for dealing with them.

Similarly, 'aptitude for specialty' is summed up by five indicators: pattern recognition, manual dexterity, tolerance of ambiguity, emotional intelligence and leadership. These are certainly relevant but very narrow in range and somewhat random, yet this is the

only place within the model where core competencies affecting performance are listed, so are we to assume that the few indicators provided are all that a trainee (or indeed practising specialist) requires to function effectively? Clearly not, but it again seems strange that the entire bedrock of performance – the knowledge, skills and associated attitudes required to perform a job effectively – is distilled into a single subheading within 'Attributes of a trainee'.

In a separate section within the Paice model, it seems a strange distinction to list 'Personal pressures' as home and health, and yet not to parallel work as a potential source of 'Professional pressure'. Instead, work ('workload, work pattern, systems') is positioned within the 'Context of training', and one is left to infer the potential for pressure, along with 'colleagues' and 'patients'. All entirely reasonable, in themselves, but surely home life and working life have the potential either to lessen or heighten pressure, and are thus better described as sharing a parallel role as mediating factors?

So, the Paice model broadly tables the relevant factors involved in affecting a doctor's performance (positively or negatively), but its detail and clustering of these factors seems unbalanced – thus potentially compromising the quality of the diagnosis and subsequent management of a doctor's performance problems.

A similarly inclusive framework is presented by Steinert, again in the context of medical trainees but highlighting, through its clustering of factors, the strengths and limitations of current ways of framing the potential cause of performance problems.[9] Here we see core competency elements flagged up specifically as three of the six categories to be considered ('Knowledge, Attitudes, Skill'), alongside the individual concerned ('Learner') and factors influencing the learning process ('Teacher' and 'System'). At face value, this is a rational and accessible breakdown of factors, but closer analysis again exposes weaknesses within the definitions of some categories and blurred boundaries between them. Thus example problems associated with 'Attitudes' are given as 'difficulties with motivation, insight, self-assessment, doctor–patient relationships'. The immediate link with motivation is clear, but what about insight? The latter describes an awareness, a diagnostic wisdom derived from accurate self-assessment or recognition of the validity of an assessment made by others; it has nothing necessarily to do with attitudes. Someone can have a very positive, constructive attitude and still lack insight; and someone can be very aware of their own weaknesses but nonetheless (or indeed precisely because of this) their attitude can be a cause for concern.

Similarly, 'doctor–patient relationships' can certainly be compromised by poor attitudes but they can also be compromised by poor skills, yet the Skill category includes difficulties with 'interpersonal skills' as if these are somehow distinct from the doctor–patient relationship. Equally, although 'skills deficits' are rightly described as often overlapping with knowledge gaps, there is often also a close link with attitude 'gaps' that affect the motivation to learn etc., yet there is no mention of this here. Once again the lack of coherent internal language, meaning or logic threatens to undermine the validity of an otherwise plausible model.

The same could perhaps be said of the CLADA model,[10] which helps inform the behavioural assessments conducted by the National Clinical Assessment Service (NCAS). This model highlights five potential 'problems' – capacity, learning, arousal/motivation, distraction and alienation – and is used alongside a psychometric assessment of the role of personality. Most relevant performance factors are certainly flagged, directly or indirectly, through this approach, but some specific concerns arise.

Firstly, the definition of distraction as 'a problem elsewhere causing a problem here' (i.e. affecting the individual from outside) seems too limited. Distraction is a useful cognitive term to describe factors draining an individual's processing capacity – thus weakening their focus or attention – and should be central to any performance assessment, but it has wider implications than its definition within CLADA allows. The model recognises this in part by adding 'illness/health problems' as an alternative distraction, but it seems strange to define a problem as existing 'elsewhere' and then to suggest it might also come from 'here' (i.e. within the individual). On that basis, arousal/motivation and alienation would also be potential 'distractors', at which point the distinction between factors begins to blur. Equally, poor attitudes serve to 'distract' from within, but the model makes no direct reference to their central role in undermining performance.

More generally, the CLADA model describes its 'problem' factors separately rather than within a coherent framework that sets out the relationship between them, and this clearly limits the capacity of those using the model to make a holistic assessment of performance.

A more elaborate and detailed model is that of root cause analysis (RCA) which provides an in-depth analysis of patient safety incidents, centred on its Contributory Factors Classification Framework.[11] RCA, as a generic process, is underpinned by the recognition that every problem involves a particular combination of factors unique to each individual (or team) and the system within which that individual or team operates. On this basis, the National Patient Safety Agency framework suggests nine categories to explore when reviewing an incident, with up to 30 subcomponents for each category (e.g. 'Staff Factors', which lists

physical, psychological, social/domestic, personality and cognitive issues, along with indicators for each).

The weakness in this otherwise highly detailed and inclusive framework, however, is that the categories are – as in the CLADA model – typically presented as a linear checklist rather than in coherent or holistic relationship with each other.

Any valid diagnostic process must, at some point, assess the individual strength of each emerging factor relative to other factors (i.e. the dynamic influence of each on the other). But without a clear and rational framework to guide them, performance assessors risk generating overly subjective or spurious connections between factors, and the lack of defensible holism here is surely worrying. On what valid or reliable basis is the narrative or explanatory pattern of an incident or performance problem then to be generated? How are the pieces in that particular jigsaw to be put together? The inherent tensions in this approach have been well described by others.[12]

So models and approaches to performance assessment are in evidence and use, but their apparent limitations concerned us. Equally, the consequences of this concerned us: the fact that the lack of an inclusive and coherent model leaves each assessment body (whether national or local) to come up with or pluck from a shelf whatever framework seems to suit their perceived needs. This lack of consistency is striking, given the importance of ensuring that assessments of the nature, cause and significance of performance problems are both reliable and accurate.

We therefore present below a new model developed by one of the authors (TN) for the assessment of doctors whose performance is the cause for concern: SKIPE (skills, knowledge, internal factors, past factors and external factors; Figure 1).

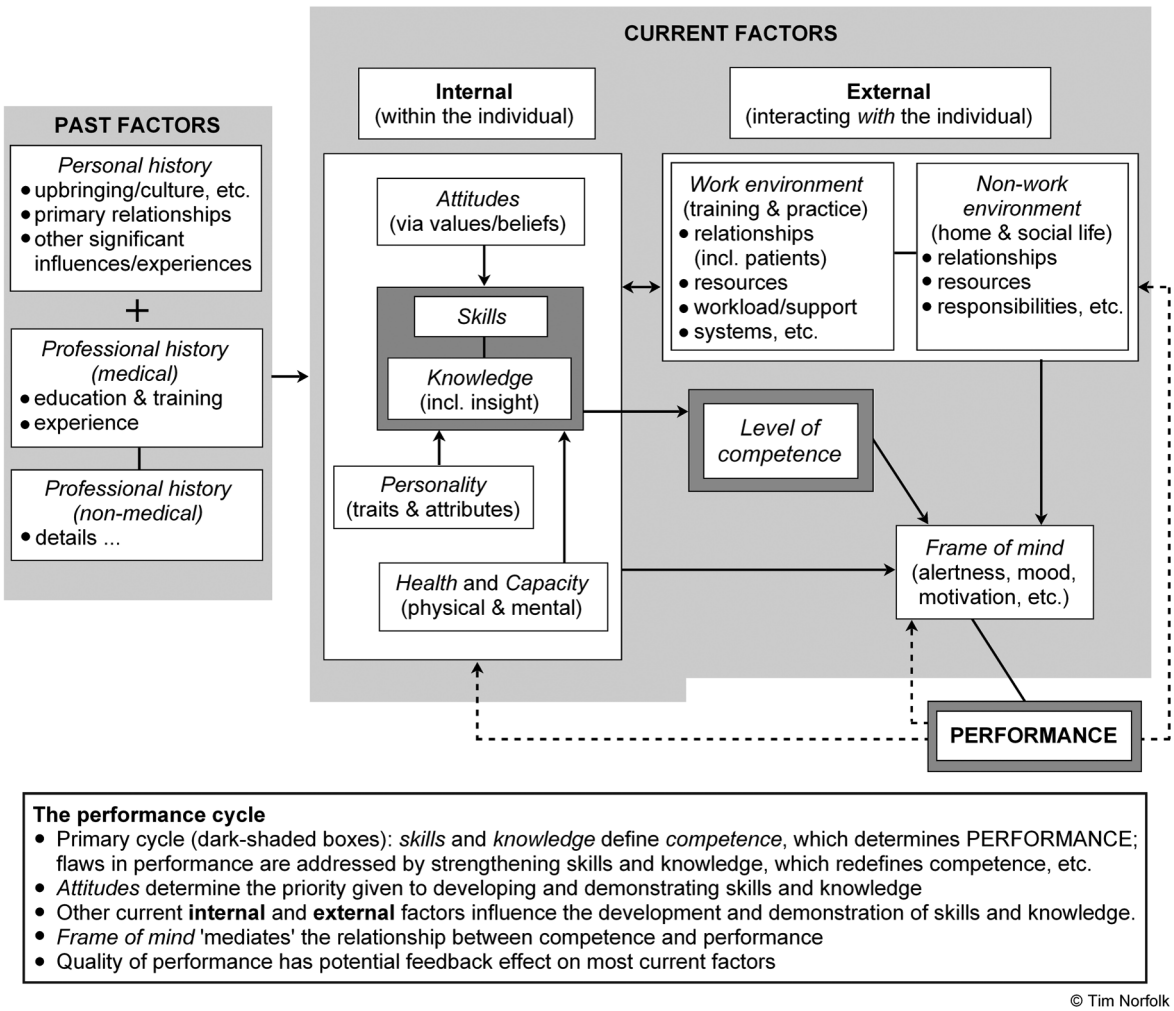

Figure 1 SKIPE model of causal factors potentially influencing medical performance

From RDM-p to SKIPE

Problem solving, whether medical or non-medical, involves the same sequential process of problem formulation (diagnosis) and management: identify the nature, cause and significance of the problem and then build a management plan appropriate to the diagnosis. This is the familiar template for assessing and managing patient problems, but it also represents a generic template applicable to any problem, individual or system. Thus any model of causal factors must articulate this process in full, ensuring that all factors are first of all considered separately, but also in a logical sequence. This is particularly true when seeking to establish the nature of a problem before assessing its cause. Too often the two are blurred, leading to potentially inefficient or flawed diagnoses.

When the RDM-p model was developed, it was primarily described as a means of defining the *nature* of performance. Thus it draws specific evidence of more or less effective performance from visible doctor behaviours – whether in interactions with patients or colleagues (Relationship), in diagnosing problems presented either by patients or colleagues (Diagnostics) or in maintaining effective practice routines (Management). Together, these define the core 'skill set' (and knowledge base) of medicine. We then infer more or less positive attitudes from these observed or recorded behaviours (Professionalism).

It is important to recognise here what should *not* be considered as part of an analysis of the nature of a problem. Issues at home, or bullying in the workplace, or being a perfectionist, or being in ill health are not potential elements within the *nature* of a problem; they are potentially significant *causes* of a problem. There would be little or no mention of any of the latter if there was no evidence 'on the ground' (i.e. in the surgery, clinic or theatre, in the missing or flawed records/referrals/prescriptions, etc.) of a problem generated as a *consequence* of one or more of these personal or professional issues. Without direct evidence of a performance problem, one would otherwise simply describe how well someone was coping *despite* being under such pressures, etc.

Too often this distinction is lost in diagnostic models of performance assessment, while it remains a cornerstone of patient consultation models: separating the exact nature of the 'presenting' problem (as described through current and past clinical symptoms and signs) from contributory factors such as problems at work or home. Thus an individual's clinical or biological problems need to be accurately diagnosed and managed in their own right, however much the discussion may rightly move into issues at home or work. The plan that emerges may well include a combination of bio-psycho-social elements, but the quality or usefulness of any advice regarding, for instance, a change in lifestyle will only be as good as the quality of the initial diagnosis about the presenting clinical problem (i.e. the patient's heart, lungs, knees, depression, etc.). In other words, symptoms and cause must be considered separately.

The SKIPE model was created to address this need for all potential performance factors to be considered in appropriate separation from and relationship with each other. It is thus a natural extension to the RDM-p model, in that the latter establishes the nature of a problem but also plays a central role in determining potential causes.

In the end, the focal point of all assessment is the quality of an individual's performance in the workplace, which is why RDM-p lies at the heart of any assessment process; SKIPE then clarifies the underlying causes of more or less effective performance. In combination, therefore, RDM-p and SKIPE define 'the RDM-p approach'.

SKIPE: the model

The SKIPE model lays out, in logical relationship and progression, the causal factors determining more or less effective medical performance (although the essential framework is applicable to any working environment). At its heart it presents the central relationship between competence and performance, but it then highlights the way this relationship is potentially moderated and/or mediated by a set of very specific, discrete causal factors both within the individual and external to the individual. (Figure 1: SKIPE).

It is important to first understand that the SKIPE process, when applied to analysis of performance problems, presumes an initial diagnosis of the *nature* of the problem through RDM-p, where the evidence of specific workplace behaviours causing concern has been defined in terms of both the three skill-based domains involved (relationship, diagnostics and management) and the inferred level of professionalism associated with those behaviours – i.e. the level of respect or commitment being shown to best practice in the way an individual relates to others (R), assesses the needs of others (D) and deals with their own various responsibilities (M).

Unless this initial analysis is carried out, there is an inevitable risk that agreement will not be achieved – between the individual and whoever is assessing their performance – on exactly what has happened to trigger concerns in the first place. Too often this crucial agreement on the primary evidence is either not sought or simply presumed rather than explored; as a consequence causal factors are then 'identified' in line with contentious findings and a management plan

created to suit a potentially flawed diagnosis, which serves to inflame or compromise an already sensitive situation. Although such an exploration lies at the heart of patient-centred medicine, sadly the same rigour is not always applied to performance assessment.

Once behaviours have been classified in terms of the RDM-p elements, following careful analysis and discussion with all relevant individuals including the doctor involved, the focus shifts to analysis of the *causes* of the problem, and thus SKIPE, which looks at current and past factors potentially affecting an individual's performance. The sequence of factors described here (S-K-I-P-E) was deliberate, though its similarity to a global communication tool (SKYPE) provides a helpful 'hook'.

SKIPE: Skills and Knowledge

The first logical place to check, when considering possible reasons for a performance problem, is the doctor's current level of competence – i.e. the demonstrated skills and knowledge relevant to their clinical practice. Do they, for instance, know or understand what is involved in patient-centred consulting, and have they previously demonstrated that they have the relevant relationship skills to engage with patients in line with such a consulting model? Do they know or understand what the latest national guidelines are on management options for heart arrhythmia, and have they demonstrated the relevant diagnostic skill in judging which options to offer to patients? The level of competence here should of course be determined either through relevant, recent, valid, documented assessments or, if none is available, a fresh assessment of current practice.

If the answer to questions such as those above is 'no', then it may be that the management of the problem could be contained within a specific and short-term focus on building or renewing the relevant knowledge or skills. Again, too often this first step in assessment of causation is either overlooked or treated in cursory fashion, and unqualified explanations such as 'poor attitudes' emerge. A sadly common example of this comes in relation to evidence of flawed interactions with patients – especially when the evidence relates to individuals whose medical training was handled outside the UK or the NHS. Often such individuals understandably take time to absorb the concept and practical application of 'patient-centred' dialogue and analysis, especially if the template for their learning or experience was set in a strongly hierarchical environment. Yet this primary knowledge-based cause is often overlooked and an automatic assumption about underlying attitudes is made. SKIPE therefore deliberately positions skills and knowledge at the start of the journey of causal discovery: Is the individual competent in the areas under scrutiny?

SKIPE: Internal factors (attitudes, personality and health/capacity)

The next step is to consider the role played by other current core factors 'internal' to the individual: attitudes, personality and health. As suggested earlier, it would be tempting not to separate attitudes from knowledge and skills, because that is the way in which they are typically considered in performance assessment. Yet a distinction should surely be made, because evidence of poor attitudes is not of the same character as evidence of poor knowledge or skills. Making the wrong diagnostic decision, or failing to communicate any visible or audible sign that you have recognised a patient's struggle, is observable evidence; describing the former as 'careless' or the latter as 'uncaring' is to make an inference from the evidence. This inference may be reasonable, but it may by definition equally be unreasonable. Thus one must tread very carefully along the path of determining an individual's attitude from their behaviour. So often ignorance or stress, for instance, can cause what at first glance appears to be careless or uncaring behaviour.

Because attitudes are inferred from behaviour, the fact that you have evidence of a complaint linked to attitudes does not validate the complaint; it simply tells you that the relevant behaviours (e.g. late letters or 'abrupt manner') have been *interpreted* as reflecting poor attitudes or professionalism. So the next task is threefold: first to assess the extent to which poor professionalism has indeed triggered or contributed to the problem, rather than the complaint being a consequence of the flawed assumptions of the individual who tabled it; second, how much *impact* this has then had on the situation; and thirdly, what caused this individual to behave unprofessionally? In other words, as with all assessment of causal factors, the dynamic interaction *between* factors must be explored. Thus one asks whether a doctor was 'rude' because he or she was under unusual pressures at the time, or dealing with a health issue, etc.

The role of professionalism is particularly sensitive here, because – as highlighted above – 'poor attitudes' are often too quickly inferred from poor performance. This explanation might indeed prove to be valid, in which case a serious concern will rightly be flagged up. But careful analysis of cases often suggests that an individual accused of poor professionalism has in fact made 'clumsy' or 'inappropriate' actions or choices through ignorance or the poor execution of skills, rather than through the corrosive influence of questionable underlying beliefs or values (exemplified in their attitudes, in turn inferred from their words or actions).

Once you have assessed the causal role played by skills, knowledge and attitudes you have completed the dual function of RDM-p as a diagnostic tool: first to define the nature of the problem, then to assess the causal role of skills and knowledge (demonstrated through any identified deficits in relationship, diagnostics and/or management), and attitudes (issues related to professionalism). This second-stage role for RDM-p can therefore be positioned very specifically within SKIPE as a dynamic, practical representation of an individual's skills, knowledge and attitudes (Figure 2).

The potential role of two other areas 'internal' to the individual then needs to be examined: personality and health. By *personality* we refer to any stable behavioural traits or characteristics that this individual has demonstrated or been validly described as possessing (typically through administration of a relevant psychometric measure). Research has, for instance, indicated the contributory role of such traits as perfectionism, anxiety and inflexibility in individual performance. The key here is to consider any such identified trait firmly in the context of the moment at which concerns have been raised, rather than assuming that a trait emerging from a standardised or 'norm' measure of behaviour will inevitably present itself in any given situation and at any given time.

Circumstance can lead individuals to minimise or 'manage' the demonstration of any potentially debilitating trait – a variation typically determined by the incentive that an individual has to behave in a certain way to achieve or avoid a certain outcome. For instance, being a strong 'introvert' is not necessarily a risk, even though being able to conduct fluent and confident interactions with others is an essential skill in medicine. Many introverted doctors develop the necessary social skills, however uncomfortable this learning process may be, when they recognise that their goal to be an effective clinician demands that they engage fluently with others – as the platform for developing trust and eliciting important information.

An individual's physical and/or mental *health* and *longer term capacity* must also be considered. Current health issues such as conditions affecting energy or concentration (whether biomedical or through stress or depression, etc.) clearly have the potential to compromise performance. Similarly, any longer term disease or condition affecting an individual's physical or mental capacity may hamper performance.

SKIPE: Past factors

While assessing the role played by current factors within the individual, it is important to check the potential impact of *past events* (personal and/or professional) on that individual's current performance. This does not necessarily imply a deep analysis of an individual's past, although at times the primary cause

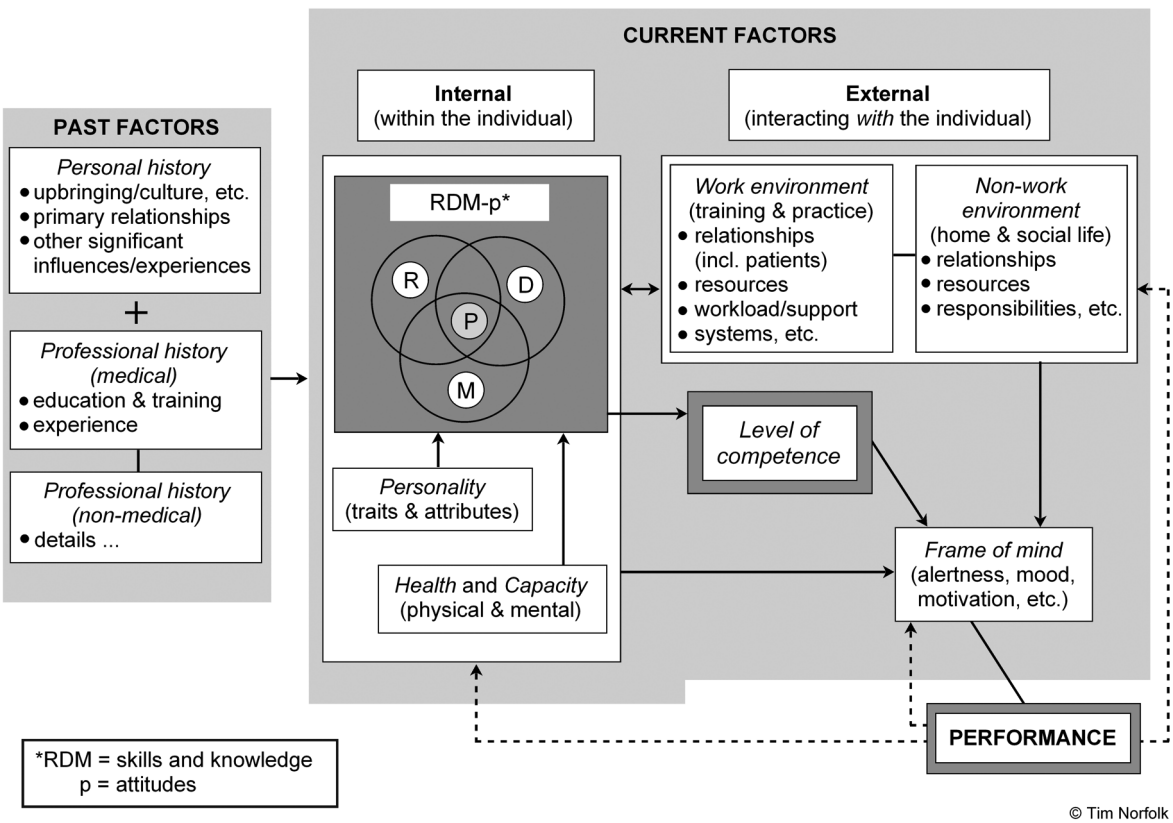

Figure 2 Position of RDM-p within SKIPE: influence of knowledge, skills and attitudes on performance

of a problem may indeed lie deep in their past, in which case a separate form of professional assessment might be required. The aim more broadly is to check whether significant aspects or moments in an individual's earlier life may have made them vulnerable to issues such as the ones under review.

In terms of someone's past *personal* life, factors such as culture and/or religion may have influenced the development of their styles of thinking and engagement with others. An individual may, for instance, have grown up in an environment with strong and distinct cultural or religious values which now underpin the professional choices they make, and these values may be different to some of their colleagues or patients. Although this very often creates a rich source of diversity within any medical setting, it can also lead to misunderstandings when different styles confront one another.

Any strong past or previous experiences or influences that have helped create particular styles of thinking or engagement in an individual causing concern need first to be identified, and then explored if they appear to have played a specific role in triggering or exacerbating the problem.

In terms of someone's past *professional* life, the main focus is on the specific nature of their training and previous experience. How suited was the training to the needs of a modern NHS, and how might this have had a bearing on current difficulties? How long (or briefly) have they worked in settings similar to their current workplace, and how might this have had a bearing on current difficulties? Where has this work been based, and what are the potential implications of this?

SKIPE: External factors

The next essential area to explore is the role played by mitigating factors potentially affecting the individual's choices and behaviour from 'outside' (i.e. not directly attributable to themselves). These are current *external* factors, and are thus positioned within the model alongside current internal factors. The role of external factors is too often either overlooked or given cursory consideration, resulting in remedial programmes centred too heavily on the individual rather than the environments in which the individual lives and works. The latter so often play a contributory role, and if this has been overlooked ensuing remedial or personal development plans can become blunt or misdirected instruments.

The first aspect to consider here is the individual's *work environment*. Has the individual, for instance, raised concerns about difficult or bullying relationships with seniors or colleagues? Have there been issues related to workload or available resources, etc.? Do they have a particularly challenging patient list, or specifically challenging individual patients? Have there been wider system factors such as new or difficult national protocols or guidelines?

The other aspect to consider is the individual's *'non-work' environment*. Have there been known or volunteered issues related to this doctor's personal relationships or other pressures (e.g. financial, or related to personal, family or community responsibilities)? Is there a wider work–life balance problem?

As with an individual's health problems, the challenge with 'external' factors is to assess whether the individual has been able to perform with access to sufficient personal and professional resources to deliver effective and safe practice. Have they in other words been able to perform with sufficient personal freedom and control to be considered fully responsible for their choices and behaviour?

SKIPE: current frame of mind

The requirement of any model purporting to be comprehensive and coherent is that the relationship between its various elements should be recognisable and meaningful. The SKIPE model thus links past and current factors in a recognisable way, as indicated in the above figures, but the often decisive consequence of this relationship is described in the way each current factor potentially plays a role in determining an individual's frame of mind at any given moment.

Of immediate relevance here might be current health problems, or issues at work or home, any of which might weaken an individual's energy, concentration or motivation. Less immediately recognisable might be competency issues (i.e. underlying weaknesses in skills, knowledge or attitudes that serve to undermine the quality of an individual's attention or energy). An individual might not, for instance, assess a particular patient, colleague or clinic as requiring their full attention or care, which can then weaken concentration or effort. This might derive from poor diagnostic skills, in terms of the ability to assess the significance of a given patient or colleague's presenting concerns; it might be linked to poor attitudes, in terms of not valuing or caring enough about the concerns of that patient or colleague; or it might derive from poor knowledge, in terms of recognising the risks associated with making a last-minute arrival on the ward. Alternatively, an individual's frame of mind might for instance be compromised by a broader loss of enthusiasm for certain parts of the job or indeed the profession itself.

This momentary, day-by-day shift in attention levels or energy plays a critical mediating role between

an individual's current level of competence and their performance. Any valid assessment needs to address this vital cognitive factor.

The performance cycle

Importantly, SKIPE presents an iterative and dynamic process, where performance feedback (whether self-generated or through the contribution of others) and any consequent or unrelated changes in either current internal or external factors or frame of mind, interact to influence future performance.

Conclusion

This paper outlines the detail and function of the SKIPE model. It does not suggest best practice in applying this framework to inform a holistic assessment of a doctor's performance. For instance, we do not discuss here the importance of the information-gathering phase of any assessment of performance when significant concerns have been raised (i.e. where each factor within the SKIPE model would need to be explored in appropriate depth, drawing on an appropriate range of documented evidence and centred on a carefully conducted interview with the individual).

Nor do we highlight here the strong sequential relationship between accuracy of diagnosis, clarity of shared understanding and freely accepted responsibility (i.e. where the greater the holistic clarity with which any incident or problem can be described, the greater the likelihood that the specific roles played by the individual and the system will be recognised, acknowledged and willingly addressed by all concerned).

The carrying out of an effective assessment process through SKIPE, and the implications of this for effective management of performance problems, will form the basis of a later article based on specific case studies.

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PEER REVIEW

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CONFLICTS OF INTEREST

None.

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