

## *Research Paper 11/01*

# Managing poorly performing clinicians: The value of independent help

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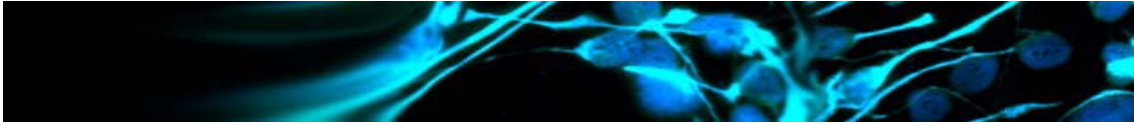
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**Abstract**

Objective: To value services that help organisations to manage performance concerns with doctors, dentists or pharmacists.

**Methods**

Qualitative and quantitative methods. Qualitative analysis consists of: a literature review; interviews with support service providers and clinical professional bodies; and discussion groups with managers who deal with clinical performance concerns in UK National Health Service (NHS) organisations. Quantitative analysis applied a discrete choice experiment (DCE) questionnaire to explore senior NHS managers' preferences for support when dealing with clinical performance concerns. From the DCE responses we estimate the marginal willingness to pay for aspects of support services.

**Results**

Nine interviews and four discussion groups (23 participants) were conducted. 451 NHS managers completed and returned the DCE questionnaire. NHS managers value: advice on procedures and laws, 'facilitation' (mediation of meetings, help with action plans and monitoring of these), behavioural, health, clinical and organisational assessments, when managing clinical assessment concerns. Among the support services potentially available, telephone advice with written confirmation was valued most highly, followed by full clinical and organisational assessment. NHS managers thought their organisations should be willing to pay £161.56 (CI: £160.81 to £162.32) per year per whole time equivalent doctor, dentist or pharmacist covered, for a package of support services that helps them manage clinical performance concerns. Marginal willingness to pay for support varied across subgroups of respondents but was always positive.

**Conclusions**

Health care managers valued independent help in managing the performance of clinicians. That valuation exceeds the current cost of a UK body providing similar support.

## **1. Introduction**

Health care relies on highly trained and specialised staff. Occasionally the performance of individual health care staff deteriorates, or threatens to. If poorly managed the results are costly: paying for locum cover while a clinician is suspended, the costs of retraining the clinician or recruiting a replacement, management time, legal costs, etc.. Cases can take months or years to resolve and, at worst, can harm patients. In 2001, following some particularly costly cases of doctors being suspended for long periods as a result of performance concerns, the UK government created an agency to help managers of National Health Service (NHS) organisations deal with performance concerns about clinicians they employ or contract with (Department of Health, 1999; Department of Health, 2001). The remit of this agency, now called the National Clinical Assessment Service (NCAS), originally covered doctors in England, but its scope has since expanded to include other health care professions and the rest of the UK: salaried dentists (2003), dentists in general practice (2005), pharmacists (2009); in Wales (2003), Northern Ireland (2005) and Scotland (2008).

The reasons behind the creation of NCAS in the UK may well apply in many other countries, particularly where the supply of fully trained clinical specialists in the labour market is limited or where institutional and/or cultural circumstances make it costly to resolve employment issues concerning individual clinicians. But, as far as we have been able to find out, there are no NCAS-like agencies in other countries. So, how valuable in practice are services to manage performance concerns with individual doctors, dentists or pharmacists? We report here our research aimed at answering that question for the UK NHS.

NCAS provides NHS managers with information, advice and support to help them manage clinical performance concerns locally. In 2008, cases concerning about 1 in 190 NHS doctors and 1 in 290 dentists were referred to NCAS. 60% of referrers were provided solely with telephone advice, 35% received continuing support over a longer period, and 5% were complex cases requiring not only continuing support but also an assessment of the clinician's performance (NCAS, 2009). In the UK, NHS organisations employing or contracting with doctors, dentists or pharmacists may also obtain advice from several other organisations including: the General Medical Council, British Medical Association, British Dental Association, Royal Pharmaceutical Society, the Royal Colleges and the Deaneries.

NCAS is financed from central NHS funds and not from charges to individual NHS organisations. Our research aimed to determine how much referrers in the NHS value NCAS's services, and the relative values placed on different attributes and types of services. Our study was conducted between March 2009 and April 2010. Since then, the government has announced that NCAS should become self-funding by 2013 (Department of Health, 2010). Consequently, the values we have identified can be seen as an early indication of what NHS organisations on average might be willing to pay.

We use a mix of qualitative and quantitative methods to elicit information from potential referrers to these support services, including a discrete choice experiment (DCE) from which we derive estimates of relative values for different services to help manage clinical performance concerns, and the amounts that referrers consider their organisations would be willing to pay for those services.

## **2. Methods**

We conducted our research in three stages. First, we reviewed the literature on services to manage clinical performance concerns, and held semi-structured interviews with NCAS staff and representatives of national medical, dental and pharmaceutical professional bodies in the UK. The literature review and interviews provided information about the range of clinical performance

concerns that arise and the range of services that support health care organisations to manage them. Second, we used this information as the basis of semi-structured discussion groups with senior NHS managers responsible for managing performance concerns with clinicians. The discussion groups informed the choice of the characteristics and levels included in the DCE – the third stage of our research – and other aspects of the questionnaire design (Coast, McDonald and Baker, 2004). Information obtained from the interviews and discussion groups also helped to validate the results of the DCE. The NHS National Research Ethics Service (NRES) judged our study to be evaluation and, as such, ethical approval was not required. Informed consent was sought from all participants.

A DCE is a stated preference method based upon the premise that goods and services can be described by their characteristics (Ryan and Farrar, 2000; Gerard, et al., 2008; Bryman, 2004). We used the DCE to assess: NHS managers' preferences for characteristics of support to help them manage clinical performance concerns; the trade-offs managers made between these characteristics; and managers' views of the value to their organisation of each characteristic, i.e. the marginal willingness to pay (MWTP) for them.

### ***Literature review and interviews***

For the literature review we used the search engines: PubMed, Research Papers in Economics (REPEC), IDEAS, Social Science and Research Network (SSRN), Google (Scholar) and Yahoo. We searched using the following terms and combinations of them: 'clinical', 'medical', 'assessment', 'performance' and 'management'. We augmented this with a cascading approach, whereby we searched the reference lists of the identified literature for additional relevant references including grey literature. Relevant articles, papers and technical reports were identified by evaluating their abstracts (where available) and the contents of the documents collected. In addition we searched the NCAS website to identify documents and reports, as well as requesting specific papers from NCAS. Overall, the literature review identified a range of distinct services, and situations in which support might be called upon. But the literature review revealed no studies of the relative values of, or willingness to pay for, support services that help organisations manage clinical performance concerns.

Six senior NCAS staff members participated in semi-structured interviews. They helped identify the situations in which NCAS's services seemed to be of most value to referrers, and described how the services are provided in practice. One representative of each of the British Dental Association, British Medical Association, and Royal Pharmaceutical Society of Great Britain participated in semi-structured telephone interviews. They all thought that NCAS's services were valuable and complementary to their own activities. They emphasised NCAS's ability to help NHS organisations correct performance problems without intervention by professional regulatory bodies, and to reduce the number of concerns that escalate to 'fitness to practise' cases. Furthermore, they found the standardization of the mechanisms and systems of assessing performance concerns valuable.

### ***Discussion groups***

Twenty-three senior medical and other NHS managers participated in one or another of four semi-structured discussion groups held in Belfast, Cardiff, Glasgow and Manchester between June and September 2009. Collectively, the participants covered all four countries of the UK, responsibilities for all three clinical professions (doctors, dentists, pharmacists), in primary care and in secondary care organisations. The discussion group members identified the characteristics of support that were most important to them and their peers.

To prompt discussion, participants received three pairs of performance concern vignettes (one pair at a time), with each pair representing a 'typical' performance concern faced by NHS organisations. The vignettes and support types were based on the findings of the interviews and the literature review. In each pair, one vignette set the concern in a primary care context and the other in secondary care. Figure 1 shows the three secondary care vignettes. For each pair of vignettes, participants discussed how they would manage the concern presented and the types of support that would be helpful to them. Participants were shown a menu of possible types of support (Figure 2) and were also invited to suggest additional types. The types of support were presented in random order to avoid implying any pre-determined order of importance or cost. All groups were audio-recorded with consent. Data collection and analysis was an iterative process (Turner, et al., 2007).

Across all vignettes, participants stated that a website providing information was valuable but telephone advice was more helpful. Telephone advice was described by participants as conversation providing the referrer with independent and expert opinion about their proposed actions.

*"These problems are few and far between for me. It is useful to be able to bounce ideas of somebody and to go through a process"* [Discussion group A]

Participants valued external support services from an independent, national, specialist body because it has a breadth and depth of experience unavailable within individual NHS organisations, and can benchmark an individual case against cumulative national experience.

*"We use their [NCAS's] expertise because it is rare, in our trust anyway, its relatively rare that you would have this scenario but,..., NCAS have a volume benefit that we don't and therefore experience that we would like to use"* [Discussion group C]

Some participants expressed reluctance to seek external support in all but severe cases, fearing that it would impose a lengthy, burdensome process on them.

*"NCAS is seen to be, to me, more of a bureaucratic add-on. They add to my burden by putting on these hoops..."* [Discussion group A]

### **Discrete choice experiment**

From the discussion groups, we identified five characteristics of support that are most important to NHS organisations (Table 1). In the DCE, respondents were presented with choice sets containing different support packages, which varied in terms of these characteristics of support. Each choice set comprised two support packages and a no support (and zero cost) alternative. Respondents were asked to state which support package they would recommend that their organisation purchases (Figure 3).

There were two challenges in developing the questionnaire. First, we wished to assess the value of having a range of support available should it be required, not the value of particular support activities when faced with a particular case of performance concern. Consequently, we placed the DCE choices in the context of an insurance policy for the respondent's organisation.

Second, when defining the levels of the cost attribute it is important that the costs are meaningful to respondents in all organisations. The annual cost of the insurance policy (providing access to a combination of support services) is expressed in pounds Sterling per whole time equivalent (wte) doctor, dentist or pharmacist covered. Expressing the cost this way makes it meaningful to all NHS organisations, whatever the number and mix of clinical staff they employ and/or contract with. The range of levels offered for the cost characteristic was informed by a payment card contingent valuation survey conducted with the discussion group participants. The payment card presented participants with a range of costs for the insurance policy and asked participants to circle the amount representing the most they would be willing to pay. The payment card mimics real life by allowing individuals to "shop around" for the value closest to their maximum WTP and has proved a popular method of eliciting WTP in health care.

The characteristics and levels presented in Table 1 imply 512 ( $4^4 \times 2^1$ ) different possible support packages; too many to ask any one respondent about. So we reduced them to 32 choices using SAS v9.1 and the Mktex macro (Kuhfeld, 2009). We specified a design where the main effects are uncorrelated with both each other and also the two-way interactions. To reduce the burden to each respondent, the 32 choices were split over three versions of the questionnaire. To ensure that all respondents completed the same number of choices, an additional choice set was added to the 32 from SAS so that there were 11 choices in each of the three questionnaire versions (this additional choice set was excluded from data analysis).

Prior to the DCE questions, the questionnaire provided contextual information about performance concern cases, presented a description of each characteristic, explained the task to respondents and provided an example choice. Following the DCE questions, information about respondents and the NHS organisations they worked for was requested, specifically: the country where the organisation is located; which health professionals the respondent is responsible for; whether the respondent is in a primary care or secondary care organisation; respondent's job title; total wte doctors, dentists and pharmacists who were employed by or contracted to the organisation; and whether the respondent had previously contacted NCAS.

In December 2009, we piloted a draft of the questionnaire with a sample of four of the discussion group participants to ensure that the task was clear. A copy of the questionnaire is available from the authors on request.

In January 2010, the DCE questionnaire was mailed to 1,875 senior NHS managers apparently responsible for managing performance concerns with doctors, dentists, or pharmacists. These represent all apparently relevant staff in the UK identified from the Winter 2009/2010 edition of *Binley's Database of NHS Management* (Binley's, 2009). The database contains the names and responsibilities of over 30,000 managers in all types of NHS organisations across the UK. We selected all names whose self-reported responsibilities included: Medical Director; Personnel; Clinical Governance; Dental Advisor. We removed duplicates and individuals at organisations likely to be employing no, or few, doctors, dentists or pharmacists (ambulance trusts, special health authorities, Strategic Health Authorities, national specialist organisations and government departments). The questionnaire was accompanied by a personally addressed covering letter and return envelope. A reminder postcard was sent to all individuals a fortnight after the initial mailing, and a reminder letter and repeat copy of the questionnaire were sent to all non-respondents one month after the initial mail-out.

The response rate to the DCE questionnaire was 24% (450/1,875). Table 2 presents a summary of respondents' characteristics. In our mail out we deliberately erred towards sending the questionnaire to too many people rather than miss some who might be relevant, in order to obtain a good number of responses. But the downside of this approach is that many addressees may not, in fact, have been relevant. Consequently the response rate from relevant addressees is very likely to have been greater than 24%. We discuss the response rate further in Section 4 below.

From the DCE we observe the respondent's choice of one support package from the three alternatives (two support packages and a no support alternative) presented in each choice set. We asked respondents to choose the option they would recommend as most beneficial to their organisation. Responses to the DCE questions are analysed based on random utility theory (Manski, 1977). Thus, the utility  $u$  that individual  $i$ 's organisation receives from support package  $j$  in a choice set is the sum of two components: a systematic component,  $v$ , which is observable by the researcher because it is based on the characteristics included in the DCE, and a random component,  $\varepsilon$ , which is not observable. The probability that respondents will choose one package over the others in the



choice set can be calculated if the distribution of  $\varepsilon$  is specified. If  $\varepsilon$  is assumed to be independently and identically Gumbel-distributed, this is McFadden's conditional logit model.

In DCEs, the systematic component is a function of the characteristics and levels included in the study design. In this case

$$V_j = \alpha_1 + \alpha_2 + \beta_1(\text{advice\_web}) + \beta_2(\text{advice\_phone}) + \beta_3(\text{advice\_phone \& written confirmation}) + \beta_4(\text{facilitation\_mediation}) + \beta_5(\text{facilitation\_action plans}) + \beta_6(\text{facilitation\_monitoring}) + \beta_7(\text{behavioural assessment}) + \beta_8(\text{clinical assessment\_limited}) + \beta_9(\text{clinical assessment\_full}) + \beta_{10}(\text{clinical assessment\_full \& organisational assessment}) + \beta_{11}(\text{cost}) \quad (1)$$

This model is estimated in STATA v11.0. The alternative-specific constant terms  $\alpha_1$  and  $\alpha_2$  represent the benefit of receiving support package A and support package B compared to no support package, respectively, irrespective of the characteristics of that support. In this study, there is no reason to expect preferences to differ because packages of support are labelled as 'A' or 'B'. A Wald test is applied to check whether there is a significant difference between  $\alpha_1$  and  $\alpha_2$ , and if not they are replaced with a single constant term representing the benefit of receiving a support package compared to no support package.

The interpretation of the coefficients  $\beta_1$  to  $\beta_{11}$  depends on their unit of measurement. The 'advice', 'facilitation', 'behavioural assessment and health assessment', and 'clinical assessment' characteristics are each represented by dummy variables and the coefficients on these ( $\beta_1$  to  $\beta_{10}$ ) are interpreted relative to the omitted category. For example,  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  indicate the effect on the utility of a support package of the availability respectively of web-based advice, telephone advice, and telephone advice plus written confirmation, compared to no advice.  $\beta_{11}$  represents the effect of a £1 increase in the cost of support on the utility of a support package.

Preferences for support may be influenced by: the professional group(s) that respondents are responsible for; the location of respondents' employing organisation; respondents' previous experience of NCAS's services; and the type of organisation the respondent is in (whether primary care or secondary care). Preferences may differ by country because NCAS support has been available longer in England than in the other countries; or because of different institutional arrangements across the four countries of the UK. Respondents who had previously contacted NCAS may be better informed about the type of support they need when managing a performance concern. Primary care organisations contract with health care professionals working in dozens of separate, small units, whereas secondary care organisations typically employ directly a large number of professionals at one or a few locations (e.g. hospitals).

We estimated the model for each subgroup to investigate if preferences differ across them. The statistical significance of any difference in preferences is assessed using a likelihood ratio test to investigate whether the separate (unrestricted) models fit the data significantly better than the pooled model that constrains the same coefficients (preferences) to be the same across all respondents. For instance, to consider if preferences are affected by previous contact with NCAS, two models are estimated: one for those who have previously contacted NCAS and one for those who have not.

The trade-offs respondents make between any two characteristics of support are represented by the ratio of these coefficients. The trade-offs that respondents make between the cost of support and other characteristics, represent respondents' assessment of their organisation's marginal willingness to pay (MWTP) for a change in a characteristic's level. For example,  $(\beta_1 / -\beta_{11})$  is respondents' view of their organisations' MWTP for a support package where web-based advice is available compared to

no advice. Calculating the MWTP for each characteristic's levels converts the regression coefficients into a meaningful and comparable metric, money, which has a behavioural interpretation. MWTP, and confidence intervals for these values, are estimated for all characteristics' levels.

The MWTP for a specified support package as a whole is calculated as the ratio of the sum of the coefficients for each characteristic's level present in the support package to the cost characteristic's coefficient. For example, the MWTP for a support package where telephone advice plus written confirmation, mediation plus help with action plans, behavioural assessments and health assessments, and full clinical assessment but no organisational assessments, are available is calculated as:

$$MWTP = \frac{(\alpha_1 + \alpha_2 + \beta_3 + \beta_5 + \beta_7 + \beta_9)}{-\beta_{11}} \quad (2)$$

### 3. Results

Table 3 reports the results of the DCE based on the full sample. Based on the Wald test  $\alpha_1$  and  $\alpha_2$  were not significantly different and so they were constrained to be equal. All support service characteristics included in the DCE are significant. As the discussion groups had led us to expect, the availability of advice, facilitation, behavioural assessment and health assessment, and clinical assessment all increase the utility of a support package. The relative magnitudes of the characteristic levels' coefficients indicate that, as expected, more support is preferred to less support. For example, 'telephone advice plus written confirmation' is preferred to 'telephone advice' and both are preferred to 'web-based advice'.

The negative and significant coefficient for the cost of the support package indicates that as its cost increases, the utility of a support package decreases. The negative constant indicates that overall there is a desire to avoid purchasing a support package, presumably because the organisation could put those funds to alternative use. Several participants in the discussion groups expressed fear of being drawn into a lengthy process, which indicates a desire to avoid using support services unless the benefits are expected to be substantial. But all of the discussion groups agreed that when the performance concerns start to become serious, and certainly where a threat to patients' health is feared, then external help becomes attractive.

The 'full sample' columns of Table 3 show that respondents are willing to pay £105.11 per year per wte doctor, dentist or pharmacist for the availability of 'telephone advice plus written confirmation', £99.50 for 'telephone advice', and £53.05 for 'web-based advice', compared to no advice. Thus respondents are willing to pay £46.45 (£99.50 – £53.05) more for 'telephone advice' compared to 'web-based advice', and respondents are willing to pay £5.61 (£105.11-£99.50) more for a written confirmation after telephone advice. From the MWTP results, advice is the most important characteristic of support – the best level of advice is valued at £105.11 – followed by full clinical and organisational assessment valued at £88.83. Respondents' general desire to avoid their organisation paying for a support package requires that they be compensated to the value of £134.54 by other characteristics before they would choose a support package at all. Respondents' MWTP for the most preferred support package (telephone advice plus written confirmation, mediation plus action plans plus monitoring, behavioural and health assessments available, and full clinical plus organisational assessments) compared to no support is £161.56 (95% C.I.: £160.81 to £162.32) per year per wte covered.

#### ***Subgroup analysis***

Looking at the different subgroups of respondents, in all cases a likelihood ratio test indicates that the null hypothesis that preferences are the same across subgroups can be rejected (Table 3). Respondents who are responsible for doctors only (and not for dentists or pharmacists) have lower MWTPs for each characteristic's levels compared to those responsible for dentists or pharmacists or a combination of doctors, dentists or pharmacists. A substantial proportion of managers responsible for managing performance concerns with clinicians are themselves medically trained and experienced. That those responsible for doctors alone value all types of support less than other respondents may indicate that they are more confident in dealing with cases internally when managing fellow doctors and consequently value external help less.

An organisation's location influences the relative importance of the support characteristics. Organisations in England value telephone advice plus written confirmation most highly, followed by telephone advice: £111.38 and £103.70 respectively. In contrast, organisations not located in England value full clinical assessment plus organisation assessment most highly. NHS organisations in England have been covered by NCAS services for substantially longer than in the other countries of the UK and so may have significantly more experience of some or all services on offer. To the extent that such services are 'experience goods', the two groups of referrers might reasonably be expected to value some services differently – especially for the services which are called upon only in the most serious and infrequently arising types of cases.

Previous contact with NCAS significantly influences MWTP for each characteristic's levels: organisations that have previously contacted NCAS have a higher MWTP than those who have not. Furthermore, respondents who have previously contacted NCAS value the availability of mediation least. Respondents who have not previously contacted NCAS value the availability of behavioural and health assessments least and place a higher value on the availability of mediation plus action plan plus monitoring than on full clinical assessment plus organisational assessment. One interpretation is that experience has bred greater appreciation for how helpful those services can be. We found in the discussion groups that experiences of NCAS were mostly positive, which supports such an interpretation. But another explanation could be that those more likely to have previously contacted NCAS are also more likely to have experienced a serious/complex case and because of this place a higher value on support.

The type of organisation respondents are employed by – secondary care, or primary care, or a combined primary and secondary care organisation – influences MWTP for each characteristic's levels. Overall, respondents from secondary care organisations have lower MWTP for each characteristic than respondents from a primary care organisation or a combined primary and secondary care organisation. The lower MWTP of respondents from secondary care organisations may reflect the greater in-house resources available to them than to (smaller) primary care organisations. Participants in the discussion groups made clear that they would try and resolve issues internally before seeking outside assistance. A larger organisation will have more staff resources, and probably greater experience of dealing with performance concerns, than a smaller one.

#### **4. Discussion**

The DCE results and the MWTP estimates (Table 3) make intuitive sense: respondents value a greater range of support more highly than a more limited range. Put another way, the wider the coverage of the 'insurance package' on offer, the more highly it is valued. Thus, for example, telephone advice plus written confirmation is always valued more than telephone advice alone, and telephone advice is always valued more than web-based advice. A similarly intuitive pattern is seen

for the other service characteristics too. Sub-group analysis indicates that preferences significantly differ across different types of organisations. These differences are all plausible, both in direction and magnitude.

Our response rate was 24% and as with all survey research non-response bias is possible. Our response rate is comparable to the 26% achieved by a DCE study to elicit views of Chief Executives in Strategic Health Authorities and Primary Care Trusts in England (Ratcliffe, et al., 2009). It was challenging to identify the population to whom our questionnaire should be sent. We deliberately sent the questionnaire to all whose job descriptions implied they might possibly have some responsibility for managing performance concerns with clinicians, in order to obtain a good number of responses. However, this approach means that many addressees may not have been relevant and hence would not have responded. If, however, non-responders with responsibility for managing performance concerns with clinicians hold different preferences for support than respondents, then our data would be subject to bias. Unfortunately it is impossible to test for this bias.

Our results indicate that the value to senior NHS managers of the full package of support is £161.56 per year per wte covered. As there are approximately 200,000 wte doctors, dentists and pharmacists employed by or contracted to the UK NHS, the value of a full package of services covering them all would appear to be over £32 million per year. NCAS currently offers all of the services that were included in the DCE at a cost of £9m in 2008/09 (NPSA, 2008). We cannot, however, judge the balance of costs and benefits of individual services because no studies have estimated the costs of providing individual categories and levels of service.

It is possible that the demand for independent help with managing performance concerns with clinicians may reduce over time. The introduction in the NHS of regular revalidation of the medical profession will reduce demand for support with performance concerns about doctors (though not dentists or pharmacists), because revalidation should help prevent performance concerns arising and detect earlier those that do occur (Department of Health, 2010). It might also be expected that over time managers will learn how to resolve performance concerns locally, and may pass this knowledge on to their colleagues as personnel change over time. However, our results indicate that organisations with experience of NCAS, i.e. those one may expect to have 'learned' how to manage performance concerns better, value support more than those without that experience. Thus if we were to repeat our research in a few years' time it is uncertain whether we might expect to find lower or higher MWTP values than those reported here.

The value of the support services we have analysed, and whether it will rise or fall in future, has recently become of much greater significance, in England at least. The Department of Health's summer 2010 review of 'arm's length bodies' implied that in future NCAS will be required to charge NHS organisations for access to its services (Department of Health, 2010).

Our finding that managers of organisations providing health care do value help from an independent body when facing problems with individual doctors, dentists or pharmacists they employ or contract with, should be of interest outside the UK. Performance concerns, and resolving them, create substantial costs to health care provider organisations and are a drain on senior management, including medical management, time. Services that reduce those costs may be valuable in many other health care systems, particularly where the clinicians concerned are not easy to replace from the labour market and/or where legally required processes for investigating and resolving performance issues are costly and time consuming.

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**Figure 1: Discussion group vignettes**

**Vignette 1.**

Today, a doctor approached you with concerns about the attitude and behaviour of one of her colleagues. The doctor/dentist who approached you feels that these issues might also be affecting her colleague's clinical performance. Her main concerns are:

The doctor does not communicate well with the nursing staff

There are suggestions that the doctor doesn't involve, or communicate well with, patients during consultations

There have been incidents when the doctor's care has been criticised by other doctors, nurses or members of the team.

The doctor has worked in the hospital for a number of years. The department is understaffed and you do not wish to compromise patient care.

**Vignette 2.**

For some time you have been aware of clinical and behavioural concerns about a surgeon in your hospital. Although none of the concerns on their own seemed particularly significant, when grouped together they are worrying. The clinical concerns include:

The surgeon using implant material in surgery which peers no longer use

The surgeon recommending inappropriate treatments

In addition, the surgeon has the reputation for being difficult, with a strong temper. There has been an unusually high turnover of nursing staff working with the surgeon.

Your organisation has conducted an internal investigation into the clinical problems but the findings were inconclusive due to difficulties with the way the investigation was conducted. Throughout this investigation the surgeon was uncooperative and did not provide requested information.

**Vignette 3.**

Over the past few weeks, you have received reports from two different sources, which expressed concern about a doctor in your organisation. The first report was from a consultant colleague who was concerned about the doctor's erratic behaviour, and the second report was from a pharmacist who expressed concerns for patient safety as a result of this doctor's behaviour. The concerns include:

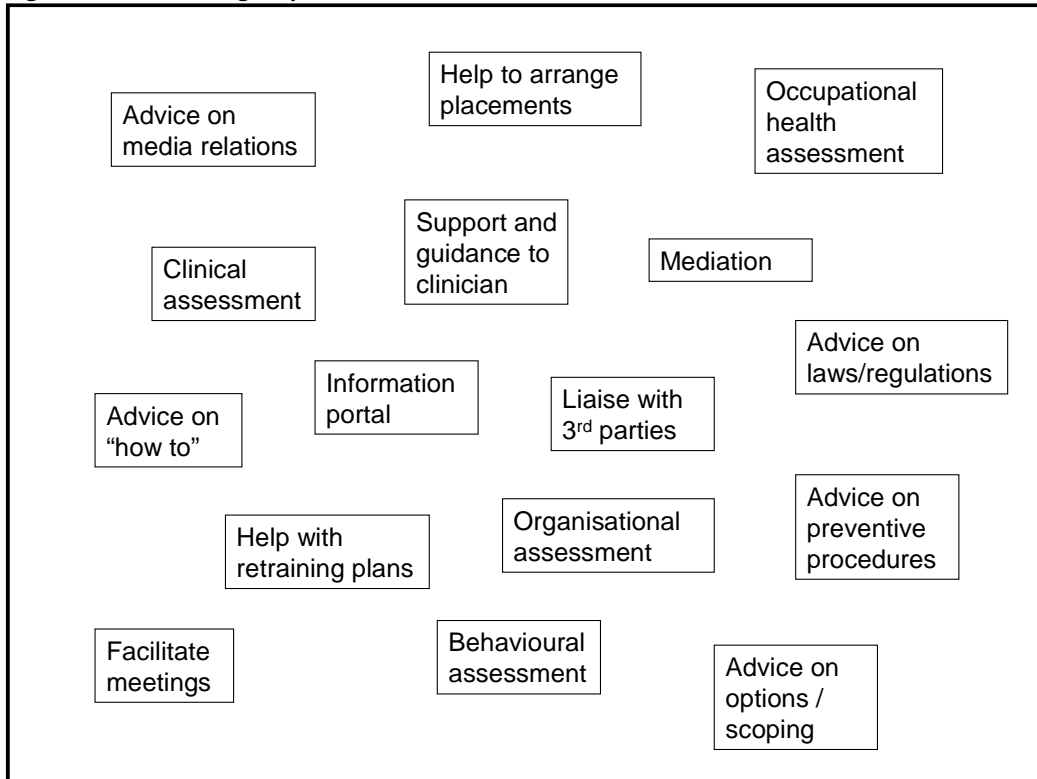
The doctor turning up late for clinic, looking tired and dishevelled

The doctor acting in a rude and dismissive manner to patients and colleagues

The doctor prescribing medications that are potentially harmful when combined with patients' existing medications.

In addition, you have just received a letter from a patient's family complaining about the doctor's behaviour.

Figure 2: Discussion groups – Menu of services.



**Figure 3: Example of the DCE choice**

Please compare the packages and tick which package, if any, you would recommend to your organisation.

	<b>Package A</b>	<b>Package B</b>	<b>No package</b>
1. Advice	a. No advice	b. Web-based resource	No advice
2. Facilitation	b. Facilitation/mediation	a. No facilitation	No facilitation
3. Behavioural & health assessment	a. Not available	b. Available	Not available
4. Clinical assessment & organisational assessment	b. Limited clinical assessment	d. Full clinical assessment and organisational assessment	None
5. Annual cost/wte	£25	£75	£0

Please tick one box and turn to the next page.

Package A	Package B	I would recommend no package
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**Table 1: Characteristics of support, their corresponding levels as described in the DCE questionnaire**

Characteristics	Levels
<p>Advice about procedures for handling performance concerns and laws/regulations/contracts governing clinical performance, and help to identify the options available to address your concern and how to implement them</p>	<p><b>a. No advice.</b></p> <p><b>b. Web-based resource:</b> This is a website with a secure log-in, which explains the legal and practical aspects of dealing with a clinical performance concern and generic information about the kinds of options you might consider. This website has a frequently asked questions section, but the web-site does not provide personalised advice about your concern.</p> <p><b>c. Web-based resource + immediate telephone advice:</b> Telephone advice is a 24-hour service provided by trained advisors. This service provides you with the opportunity to discuss your case in detail including options for your next steps, and how to implement them, based on the information you provide to the advisor during the call.</p> <p><b>d. Web-based resource + immediate telephone advice + follow up written detailed case management summary:</b> The written summary is sent to you by the advisor. It will provide a detailed, formal, written record of the advice you were given during the telephone discussion with the advisor.</p>
<p>Facilitation by trained and experienced advisors. This goes beyond simply offering advice.</p>	<p><b>a. No facilitation.</b></p> <p><b>b. Facilitation/mediation:</b> Trained advisors would facilitate, mediate and, where appropriate, participate in meetings between your organisation and the practitioner who you are concerned about.</p> <p><b>c. Facilitation/mediation + help with action plans:</b> Trained advisors would help to set up training and/or other action plans and/or advise on arranging suitable placements for the practitioner. Action plans can address both identified individual problems and organisational problems.</p> <p><b>d. Facilitation/mediation + help with action plans + monitoring the implementation, progress and success of action plans.</b></p>
<p>Behavioural assessment &amp; health assessment: Occupational psychologists would carry out the behavioural assessment. They would consider the practitioner's personal attributes and how these might shape the practitioner's work behaviour. An occupational health physician nominated by the service would carry out the health assessment. The health assessment would establish if there are any health problems contributing to the difficulties the practitioner is facing. Either both types</p>	<p><b>a. Not available</b></p> <p><b>b. Available.</b></p>

of assessment are offered or neither.	
<p>Assessment of clinical practice &amp; organisational factors: Trained assessors would assess the practitioner's clinical performance and organisational factors that might impact on it. The assessors would identify satisfactory performance and areas of concern, and make recommendations to address these concerns.</p>	<p>a. <b>None.</b></p> <p>b. <b>Limited assessment of clinical practice:</b> Trained assessors would carry out a record review and interview with the practitioner</p> <p>c. <b>Full assessment of clinical practice:</b> In addition to a record review and interview with the practitioner, trained assessors would observe the practitioner's consultations and obtain feedback from the practitioner's colleagues and patients.</p> <p>d. <b>Full assessment of clinical practice + assessment of organisational factors:</b> The assessment of organisational factors would identify if there are team difficulties or systems issues that are contributing to the performance difficulty.</p>
<p>Financial cost of package. To ensure that the proposed cost of each package is meaningful to all NHS organisations, it is expressed as the annual cost of the package per whole time equivalent (wte) doctor, dentist or pharmacist covered by the support package (i.e. per wte doctor, dentist or pharmacist employed by or contracted to the organisation). For example, if the support package you would recommend costs £50 per year per wte covered then the total cost of the package to an organisation employing or contracting with a total of 400 wte doctors, dentists and pharmacists would be (400x50=) £20,000 per year.</p>	<p>a. <b>£10 per wte covered.</b></p> <p>b. <b>£25.</b></p> <p>c. <b>£50.</b></p> <p>d. <b>£75.</b></p>

**Table 2: Respondents' characteristics**

Characteristic	Number	%	Characteristic	Number	%
<i>Country</i>			<i>Number of wte*</i>		
England	351	78.00	Up to 50	52	11.56
Northern Ireland	10	2.22	51 – 250	173	38.44
Scotland	55	12.22	251 – 1000	166	36.89
Wales	30	6.67	1000+	51	11.33
Not reported	4	0.89	Not reported	8	1.78
<i>Professional groups respondent is responsible for</i>			<i>Type of organisation</i>		
Doctors	178	39.56	Primary care	170	37.78
Dentists	26	5.78	Secondary care	210	46.67
Pharmacists	18	4.00	Both	55	12.22
Doctors + Dentists	41	9.11	Not reported	15	3.33
Doctors + Pharmacists	29	6.44	<i>Previously contacted NCAS</i>		
Doctors + Dentists + Pharmacists	145	32.22	Yes	330	73.33
Not reported	11	2.89	No	112	24.89
			Not reported	8	1.78

\* wte: Whole time equivalent doctors, dentists or pharmacists employed by or contracted to the organisation

**Table 3: Regression results and Marginal WTP for full sample and marginal WTP for subgroups**

Characteristic	Full sample		Who responsible for		Location of NHS organisation	
	Coeff	MWTP* (95% C.I.) <sup>†</sup>	Doctors only MWTP* (95% C.I.) <sup>†</sup>	Rest MWTP* (95% C.I.) <sup>†</sup>	England MWTP* (95% C.I.) <sup>†</sup>	Rest of UK MWTP* (95% C.I.) <sup>†</sup>
Constant ( $\alpha_0$ )	-2.138*	-134.54 (-135.85 to -133.23)	-95.74 (-97.37 to -94.11)	-171.51 (-173.85 to -169.17)	-135.66 (-137.24 to 134.08)	-137.99 (-140.84 to -135.13)
Web <sup>1</sup> ( $\beta_1$ )	0.839*	53.05 (52.51 to 53.58)	41.88 (41.17 to 42.58)	63.92 (63.04 to 64.79)	52.98 (52.36 to 53.61)	55.97 (54.80 to 57.15)
+ telephone <sup>1</sup> ( $\beta_2$ )	1.593*	99.50 (98.78 to 100.22)	87.51 (86.57 to 88.45)	111.61 (110.39 to 112.82)	103.70 (102.82 to 104.58)	89.16 (87.73 to 90.59)
+ confirmation <sup>1</sup> ( $\beta_3$ )	1.676*	105.11 (104.41 to 105.81)	92.62 (91.68 to 93.57)	117.81 (116.63 to 119.00)	111.38 (110.52 to 112.24)	87.17 (85.86 to 88.48)
Mediation <sup>2</sup> ( $\beta_4$ )	0.619*	38.59 (38.11 to 39.07)	29.33 (28.71 to 29.95)	48.12 (47.33 to 48.91)	37.82 (37.24 to 38.39)	42.93 (41.91 to 43.96)
+ action plans <sup>2</sup> ( $\beta_5$ )	0.940*	59.75 (59.22 to 60.29)	45.55 (44.87 to 46.24)	72.73 (71.83 to 73.62)	58.36 (57.72 to 59.00)	66.69 (65.47 to 67.91)
+ monitoring <sup>2</sup> ( $\beta_6$ )	1.065*	67.11 (66.58 to 67.64)	55.22 (54.55 to 55.89)	78.53 (77.62 to 79.43)	64.18 (63.55 to 64.81)	79.05 (77.80 to 80.30)
Behav. & health assessment <sup>3</sup> ( $\beta_7$ )	0.562*	35.05 (34.75 to 35.35)	30.19 (29.80 to 30.57)	39.42 (38.94 to 39.90)	33.98 (33.63 to 34.34)	38.81 (38.15 to 39.46)
Lim. Clin. assessment <sup>4</sup> ( $\beta_8$ )	0.763*	48.17 (47.67 to 48.67)	28.43 (27.81 to 29.04)	66.09 (65.22 to 66.96)	46.54 (45.95 to 47.13)	55.72 (54.62 to 56.83)
Full Clin. Assessment <sup>4</sup> ( $\beta_9$ )	1.161*	73.35 (72.79 to 73.91)	59.89 (59.19 to 60.59)	86.42 (85.43 to 87.41)	70.77 (70.10 to 71.43)	85.33 (84.04 to 86.62)
+ organisational <sup>4</sup> ( $\beta_{10}$ )	1.412*	88.83 (88.16 to 89.50)	68.78 (67.96 to 69.60)	107.24 (106.07 to 108.42)	88.10 (87.31 to 88.89)	95.03 (93.55 to 96.52)
Cost ( $\beta_{11}$ )	-0.016*					
Number of observations	14061		14061		14061	
LR chi2(df)	1864.61 (12)		1892.65 (24)		1886.66 (24)	
McFadden's R <sup>2</sup>	0.1811		0.1838		0.1832	
Log likelihood	-4216.8887		-4202.8702		-4205.8654	
Likelihood ratio test (df) {p-value}			28.037 (12) {0.007}		22.0466 (12){0.0495}	

Notes: Of the 450 respondents, 410 completed all 11 choices, 17 completed 10 choices, 12 completed nine choices, three completed eight choices, three completed seven choices, one completed three choices, two completed two choices, and two completed only one choice. \*MWTP: Marginal willingness to pay per year per wte doctor, dentist or pharmacist, employed by or contracted to the organisation. <sup>†</sup> Confidence intervals are calculated using bootstrapping with 1,000 replications. <sup>1</sup>Base category – no advice. <sup>2</sup> Base category – no facilitation. <sup>3</sup> Base case – no behavioural or health assessment. <sup>4</sup> Base case – no clinical or organisational assessment.

**Table 3: Marginal WTP for subgroups continued**

Characteristic	Organisation type		Previous NCAS contact	
	Secondary care only MWTP* (95% C.I.) <sup>†</sup>	Primary care only or both MWTP* (95% C.I.) <sup>†</sup>	Yes MWTP* (95% C.I.) <sup>†</sup>	No MWTP* (95% C.I.) <sup>†</sup>
Constant ( $\alpha_0$ )	-88.69 (-90.11 to -87.27)	-196.62 (-199.39 to -193.85)	-153.88 (-155.73 to -152.03)	-100.08 (-101.94 to -98.21)
Web <sup>1</sup> ( $\beta_1$ )	34.22 (33.60 to 34.84)	77.50 (76.43 to 78.56)	53.11 (52.41 to 53.82)	53.52 (52.66 to 54.39)
+ telephone <sup>1</sup> ( $\beta_2$ )	81.42 (80.59 to 82.25)	123.96 (122.55 to 125.36)	106.78 (105.81 to 107.76)	86.57 (85.54 to 87.61)
+ confirmation <sup>1</sup> ( $\beta_3$ )	84.77 (83.97 to 85.56)	131.51 (130.10 to 132.92)	116.16 (115.16 to 117.16)	84.64 (83.66 to 85.62)
Mediation <sup>2</sup> ( $\beta_4$ )	30.44 (29.88 to 31.00)	49.66 (48.77 to 50.56)	36.97 (36.34 to 37.60)	42.87 (42.12 to 43.62)
+ action plans <sup>2</sup> ( $\beta_5$ )	46.53 (45.89 to 47.16)	77.84 (76.81 to 78.87)	63.45 (62.73 to 64.16)	53.77 (52.98 to 54.56)
+ monitoring <sup>2</sup> ( $\beta_6$ )	54.07 (53.47 to 54.66)	84.78 (83.73 to 85.82)	69.81 (69.10 to 70.51)	63.28 (62.44 to 64.12)
Behav. & health assessment <sup>3</sup> ( $\beta_7$ )	27.91 (27.56 to 28.25)	45.31 (44.73 to 45.89)	41.96 (41.53 to 42.39)	21.83 (21.44 to 22.23)
Lim. Clin. assessment <sup>4</sup> ( $\beta_8$ )	29.63 (29.08 to 30.19)	73.37 (72.35 to 74.39)	54.69 (54.00 to 55.37)	35.85 (35.10 to 36.60)
Full Clin. Assessment <sup>4</sup> ( $\beta_9$ )	52.90 (52.29 to 53.52)	101.16 (99.97 to 102.36)	86.43 (85.62 to 87.25)	48.52 (47.77 to 49.27)
+ organisational <sup>4</sup> ( $\beta_{10}$ )	61.81 (61.11 to 62.51)	124.80 (123.38 to 126.23)	105.46 (104.49 to 106.42)	56.56 (55.68 to 57.44)
Number of observations	14061		14061	
LR chi2(df)	1886.520 (24)		1898.930 (24)	
McFadden's R <sup>2</sup>	0.183		0.184	
Log likelihood	-4205.936		-4199.733	
Likelihood ratio test (df) {p-value}	21.905 (12) {0.0475}		34.3114 (12) {0.0009}	

Notes: Of the 450 respondents, 410 completed all 11 choices, 17 completed 10 choices, 12 completed nine choices, three completed eight choices, three completed seven choices, one completed three choices, two completed two choices, and two completed only one choice. \*MWTP: Marginal willingness to pay per year per wte doctor, dentist or pharmacist, employed by or contracted to the organisation. <sup>†</sup> Confidence intervals are calculated using bootstrapping with 1,000 replications. <sup>1</sup>Base category – no advice. <sup>2</sup> Base category – no facilitation. <sup>3</sup> Base case – no behavioural or health assessment. <sup>4</sup> Base case – no clinical or organisational assessment.