



Europe Economics

## Risk in Dentistry

---

# Report for the General Dental Council

10 October 2014

Europe Economics  
Chancery House  
53-64 Chancery Lane  
London WC2A 1QU

Tel: (+44) (0) 20 7831 4717  
Fax: (+44) (0) 20 7831 4515

[www.europe-economics.com](http://www.europe-economics.com)



# Contents

Executive Summary.....	1
Introduction .....	1
Conceptual framework for understanding risk in dentistry .....	1
Evidence and methodology.....	1
Overview of the main risk factors .....	2
Differences in risk perception .....	3
Feasibility analysis of interrogating FtP data .....	4
1 Introduction.....	5
1.1 The research questions.....	5
1.2 Defining risk for the focus of this study .....	5
1.3 Departures from the Standards .....	6
1.4 Structure of the report .....	6
2 Conceptual Framework for Understanding Risk in Dentistry .....	8
3 Methodology .....	9
3.1 2013 Risk in Dentistry Survey .....	9
3.2 Literature.....	10
3.3 Interviews .....	11
3.4 Other data.....	11
3.5 Assessment of the evidence.....	12
4 Dental Professionals' Perceptions of Risk.....	13
5 Competency Factors .....	25
5.1 Introduction .....	25
5.2 Poor communication.....	26
5.3 Inadequate record-keeping.....	29
5.4 Poor treatment.....	33
5.5 Other potential risk factors .....	39
6 Conduct Factors.....	41
6.1 Introduction .....	41
6.2 Health issues .....	42
6.3 Lack of professionalism .....	44
6.4 Other potential risk factors .....	46
7 Contextual Factors .....	47
7.1 Introduction .....	47
7.2 Work overload.....	48
7.3 Isolated practice.....	49
7.4 Financial incentives and pressures .....	52

7.5	Gender as a risk factor .....	58
7.6	Other potential risk factors .....	60
8	Conclusions .....	61
8.1	Introduction .....	61
8.2	What are the main competency, conduct and contextual risk factors and pathways to impairment? .....	61
8.3	Is there a different level of risk across professional groups? .....	62
8.4	Are there certain practice setting, working arrangements and roles that may present different risks? .....	64
8.5	What do other sources of information in dentistry, such as local, regional or national complaints and indemnity and insurance claims, indicate? .....	66
8.6	What are the current trends in professional indemnity and insurance claims in dentistry? .....	71
9	Feasibility Analysis of Fitness to Practise Data.....	72
9.1	Introduction .....	72
9.2	Description of the FtP database.....	72
9.3	Research questions potentially answered by the FtP data.....	75
9.4	Recommendations for the database.....	77
9.5	Possible methodologies for analysing the data .....	78
10	Appendix .....	82
10.1	Analysis of potential risk factors .....	82
11	Technical Appendix .....	100
11.1	Analysis of the survey data .....	100
11.2	Fitness to Practise database fields.....	103
12	Bibliography .....	112

*Frontline Consultants Ltd is acknowledged for undertaking an initial extensive literature review, registrant survey and in-depth interviews during May – October 2013 which contributed to the GDC's work.*





# Executive Summary

## Introduction

This is Europe Economics' report to the General Dental Council (GDC) on Risk in Dentistry. The objective of this research is to provide the GDC with an evidenced-based analysis of the main competency, conduct and contextual risk factors which affect the likelihood of a registrant departing from the GDC's professional Standards. Our report also investigates whether the level of risk differs significantly across different professions and roles held by dental professionals, or different working arrangements and practice settings. We investigate the feasibility of interrogating the GDC's Fitness to Practise data as a source of evidence in identifying pathways towards impairment.

## Conceptual framework for understanding risk in dentistry

We categorise the factors that may affect the likelihood of registrants departing from the Standards as follows:

- **Competency risk factors.** These are related to an individual's skills and knowledge that might affect the risk of departure from the Standards.
- **Conduct risk factors.** These are related to an individual's behaviour and attitudes.
- **Contextual risk factors.** These are related to the environment or structures within which an individual works.

Our analysis of risk in dentistry is based on this conceptual framework.

## Evidence and methodology

Our analysis draws on three main sources of evidence.

- The 2013 'Risk in Dentistry' sample survey of GDC registrants, which contains evidence of the perceptions of risk from approximately 3,500 dental professionals.
- Literature from the dental sector and wider professions. This comprises published and non-published, and grey, UK dental-specific literature, non-UK dental-specific literature and literature on other healthcare professions. All sources have been graded for quality depending on the basis of the research methodology and the robustness of the evidence.
- In-depth interviews with stakeholders from the dental sector and from wider healthcare professions.

We also identified additional information including empirical studies, complaints data and insurance claims.

## Overview of the main risk factors

Based on the evidence described above, we identified a number of important competency, conduct and contextual risk factors in dentistry.

### Competency risk factors

The main competency risk factors identified are:

- Poor communication.
- Inadequate record keeping.
- Poor treatment.

The 2013 GDC Risk in Dentistry Survey shows that dental professionals perceive all forms of **poor communication** to be particularly likely to occur and to lead to impaired practice, with poor communication with the patient to have a particularly high negative impact. Surveys of patients indicate that they place considerable weight on communication and similar skills. The literature also considers shortfalls in dental professionals' communications skills, and provides evidence that this can lead to poor outcomes. Communication problems are also highlighted in dental complaints data.

**Inadequate record-keeping** is highlighted in the Risk in Dentistry Survey as an important risk factor perceived by dental professionals. Evidence from literature and interviews supports the value of good record-keeping, provides examples of inadequate record-keeping among dental professionals, and highlights the consequences of inadequate record-keeping.

**Poor treatment** includes under-treatment of conditions; errors during treatment; and not treating conditions which should be treated. The evidence from the Risk in Dentistry Survey and complaints and referral data indicate that this is a common source of complaint. It is also perceived by all dental professionals to be a risk factor with above-average likelihood of occurrence.

### Conduct risk factors

The main conduct risk factors identified in the evidence are:

- Health issues.
- Lack of professionalism.

**Health issues** include poor health, alcohol and substance misuse and mental health issues. The Risk in Dentistry Survey shows that ill health is perceived to be particularly important in increasing the likelihood that Standards are not met. The literature provides further support for the importance of this factor, providing evidence of health and lifestyle concerns among dentists, and evidence that such concerns can increase the likelihood of impaired practice.

**Lack of professionalism** includes a range of behavioural issues. The literature provides clear evidence that behavioural issues negatively affect professionals' practice and patients' wellbeing. The Risk in Dentistry Survey shows that dental professionals perceive inappropriate behaviour towards patients and colleagues to be a risk factor.

### Contextual risk factors

The main contextual risk factors identified in the evidence are:

- Work overload.
- Isolated practice.
- Financial incentives and pressures.



- Gender.

**Work overload** is seen by all dental professionals as the most likely factor to occur and which has a high negative impact on practice. Evidence of the risk of adverse impacts of heavy workload on performance is also found in the literature, for example high levels of stress and ill health.

The Risk in Dentistry Survey shows that dental professionals also perceive **isolated practice** to be a likely risk factor. The literature provides evidence that isolated practice increases the likelihood of factors which may increase risk, such as the lack of support mechanisms, lack of incentives to carry out CPD, and burnout. Literature of non-dental healthcare professions also finds that fitness to practise cases are more likely among sole practitioners.

**Financial incentives and pressures** are seen by all dental professionals as a risk factor that is particularly likely to occur, and which has a severe impact on practice when it does occur. This factor is also perceived by dentists to be more likely to occur compared to other dental professionals. There is substantial evidence in the literature that financial pressures can increase the risk of poor performance.

Empirical evidence and the literature also indicates that **male dentists** in the UK are more likely to be referred to complaints or disciplinary bodies than female dentists. This is also supported by evidence from literature about other healthcare professions.

## Differences in risk perception

We investigated whether risk factors vary significantly across the dental professions (e.g. dentist, dental nurse etc.) or roles (e.g. working in education and training, or management), or across different working arrangements (such as locum or part-time) or practice settings (for example size of practice or mode of delivery such as NHS or private). Whilst the differences between professional groups in dentistry are not significant, the data provides some interesting insights.

The Risk in Dentistry survey shows that dental professionals perceive that working as a single-handed practitioner may increase the risk that the GDC's Standards are not met.

The survey shows that dentists perceive a generally higher level of risk than the other dental professional groups. This may stem from the traditional roles within the dental team, in which the dentist takes primary responsibility for managing risk and maintaining the relationship with the patient. 'Pressure to meet financial and performance targets' was seen as particularly likely by dentists compared to other professional groups.

Dental nurses perceived most factors to be less likely to occur than other professional groups (although the majority of the factors included in their top ten were the same as those for other groups). This may reflect an overall lower sensitivity to risk. An interesting difference is that dental nurses were the only profession to see a 'lack of courtesy in general' as a top ten factor.

Dental technicians and clinical dental technicians were the only professions to see 'overcharging' as a factor among the ten most likely to occur, which might reflect the nature of their work.

Dental professionals working in wholly NHS/Health Service practices perceived 'poor practice governance' and 'pressure to meet financial and performance targets' as more likely to occur than those working in private or mixed practices. This may suggest that professionals working in this practice setting are exposed to greater pressures around targets which could increase risks. Professionals working in private practices perceive overcharging and over-treatment to be more likely than those working in other settings.

## Feasibility analysis of interrogating FtP data

Empirical data concerning risk in dentistry is limited, in particular data linking risk factors to actual impairment (as opposed to perceptions of impairment). Our analysis of the GDC's FtP data indicates that this is a valuable source of data as it presents the possibility of analysing *actual* departures and impairment, and identifying the risk factors that are associated with these outcomes.

The FtP data held by the GDC contains a number of variables, or information fields, which would make it possible to answer research questions about general trends and patterns in cases, and about risk factors which make impairment more likely, or more severe.

It would be feasible to analyse the data using simple statistics (counts and percentages) as well as more detailed regression analysis.

In order to extend the possible research questions that could be answered by the data, we recommend a number of additional variables that could potentially be added to the database. These include information about the registrant's working arrangements (such as single-handed, part-time, locum etc), mode of delivery, and role.

# 1 Introduction

This report evaluates the factors associated with dentistry that could give rise to non-compliance with the GDC's Standards,<sup>1</sup> and provides the GDC with an analysis of the main risk factors.

In undertaking this evaluation we have:

- Analysed and re-analysed a body of primary and secondary research data and analysis provided by the GDC, including survey responses, and published and non-published literature relating to risk in dentistry.
- Identified and supplemented these data, with additional published or unpublished literature and primary data, such as in-depth interviews.

The report also investigates what other data sources — such as complaints and indemnity insurance claims — indicate about risk in dentistry; and analyses the feasibility of using GDC Fitness to Practise data to identify patterns of complaints and pathways to impairment.

## 1.1 The research questions

We have addressed the following research questions in relation to this work:

Understanding risk in dental practice

- a. What are the main competency, contextual and conduct risks in the practice of dentistry in the UK? Is there a different level of risk between the professions regulated by the GDC?
- b. Are there certain practice settings, working arrangements and roles that may present more or less competency, contextual and conduct risks than others? If yes, what are they and what are the risks?

Understanding common pathways to impairment

- c. What does available literature tell us about pathways to impairment in the practice of dentistry in the UK? Where relevant, international literature may also be drawn upon.
- d. What do other sources of information in dentistry, such as local, regional or national complaints and indemnity and insurance claims, indicate?
- e. What are the current trends in professional indemnity and insurance claims in dentistry?

Feasibility of analysis of GDC Fitness to Practise data

- f. On what basis, and how feasible is it to interrogate FTP data held by the GDC, based on case histories, to identify patterns of complaints and pathways to impairment?
- g. What would be an appropriate methodology(ies) for undertaking this work?

## 1.2 Defining risk for the focus of this study

In a regulatory context, risk is often defined as the product of the **likelihood** of a harmful or undesirable event or action occurring (or a 'hazard' as described in some contexts)<sup>2</sup> and the **consequence** of the event,

---

<sup>1</sup> Dental professionals registered by the GDC (registrants) are expected to comply with the Standards for the Dental Team.

for example the severity of harm caused. The focus of this study is on the factors that could give rise to a risk of departure from the GDC's Standards (subsequently referred to in this report as "the Standards") by dental professionals.

Such departures may be considered to impair a registrant's professional performance and may have the potential to result in negative outcomes for patients.

The **likelihood** of a departure from the GDC's Standards may be influenced by a range of risk factors, and these potential factors are investigated in this study.<sup>3</sup>

### 1.3 Departures from the Standards

The focus of the study is on the factors that may affect the likelihood that a registrant departs from the GDC's Standards. The Risk in Dentistry Survey was conducted before the GDC's current standards were published, so was in the context of Standards for Dental Professionals. However, dental professionals registered by the GDC (registrants) are now expected to comply with Standards for the Dental Team published in September 2013.<sup>4</sup> These Standards comprise nine principles as follows:

1. Put patients' interests first
2. Communicate effectively with patients
3. Obtain valid consent
4. Maintain and protect patients' information
5. Have a clear and effective complaints procedure
6. Work with colleagues in a way that is in patients' best interests
7. Maintain, develop and work within your professional knowledge and skills
8. Raise concerns if patients are at risk
9. Make sure your personal behaviour maintains patients' confidence in you and the dental profession

Any factors that affect the likelihood of a registrant departing from the Standards are a key element in analysing the pathways that could lead to impairment.

### 1.4 Structure of the report

The report is structured as follows:

- Chapter 2 – Conceptual framework for understanding risk in dentistry.
- Chapter 3 – Our methodology.
- Chapter 4 – Overview of perceptions of risk.
- Chapter 5 – Competency risk factors.
- Chapter 6 – Conduct risk factors.
- Chapter 7 – Contextual risk factors.
- Chapter 8 – Conclusions and responses to research questions.
- Chapter 9 – Feasibility analysis of Fitness to Practise data.
- Chapter 10 – Appendix of additional analysis

---

<sup>2</sup> For example, in the Approved Code of Practice that accompanies the Management of Health and Safety at Work Regulations 1999, a hazard is something with the potential to cause harm.

<sup>3</sup> This focus set out in the Research Brief: "the range of factors that may give rise to the risk that a GDC registrant could depart from the Standards".

<sup>4</sup> The General Dental Council (2013) 'Standards for the Dental Team'

- Chapter 11 – Technical Appendix
- Chapter 12 – Bibliography

## 2 Conceptual Framework for Understanding Risk in Dentistry

In this section we set out our conceptual framework for understanding risk in dentistry, which underpins our analysis for this study.

We categorise the factors that may affect the likelihood of registrants departing from the Standards as follows:

- **Competency risk factors.** These relate to skills and knowledge that might affect the likelihood of a departure from the Standards.
- **Conduct risk factors.** These are related to behaviour and attitudes.
- **Contextual risk factors.** These are related to the environment and structures in which individuals work and may include certain work settings and roles.

Although we distinguish between competency, conduct and contextual risk factors, there are clear interactions between each category of risk.

The figure below provides a simple illustration of this conceptual framework.

**Figure 2.1: Conceptual framework for understanding risks in dentistry**



## 3 Methodology

Our analysis of the main competency, conduct and contextual risk factors draws on three main sources of evidence:

- The 2013 ‘Risk in Dentistry’ sample survey of GDC registrants.
- Literature on risk in dentistry and other healthcare professions.
- In-depth interviews with relevant stakeholders in the dental sector and other healthcare professions.

We also identified and explored other sources of information including complaints data, insurance claims, and approaches of other regulators.

### 3.1 2013 Risk in Dentistry Survey

We analysed the full data from the 2013 Registrant Survey on Risks in Dentistry. This was an online survey with an 11% response rate. There were 3,565 respondents out of a representative sample of 32,259 registrants invited to participate in the survey (31.5% of the GDC register). The sample was stratified to obtain representative numbers of responses,<sup>5</sup> and the response rate represents a 1.55% margin of error at the 95% confidence level. The results of the survey were weighted to be representative of the whole GDC registrant population, in terms of gender, age, regional location and other demographic factors.

The survey considered three main areas relevant to our analysis:

- Characteristics of the respondents (e.g. education, professional history, roles and professions, demographic factors etc.) and the environment in which they practise (e.g. work settings and structures).
- Perceptions of the likelihood and severity of different risk factors which could lead to a departure from the GDC’s Standards.
- Perceptions of the impact of certain factors on a dental professional’s practice and performance.

The questions on the likelihood, severity and impact of various risk factors provide a key source of evidence of dental professionals’ perceptions of risk. These might be based on their direct or indirect experience of dentistry, their beliefs about the dental profession, or assumptions. Therefore the survey data provide insights into what registrants currently know or believe about dental practice in the UK.

Throughout the report we use graphs to illustrate our analysis of the survey data. There are two main types of survey question: those which ask respondents about their perceptions on the likelihood and severity of factors that cause dental professionals to fail to meet the GDC’s Standards; and those about the extent to which certain factors affect the risk that the Standards are not met.<sup>6</sup>

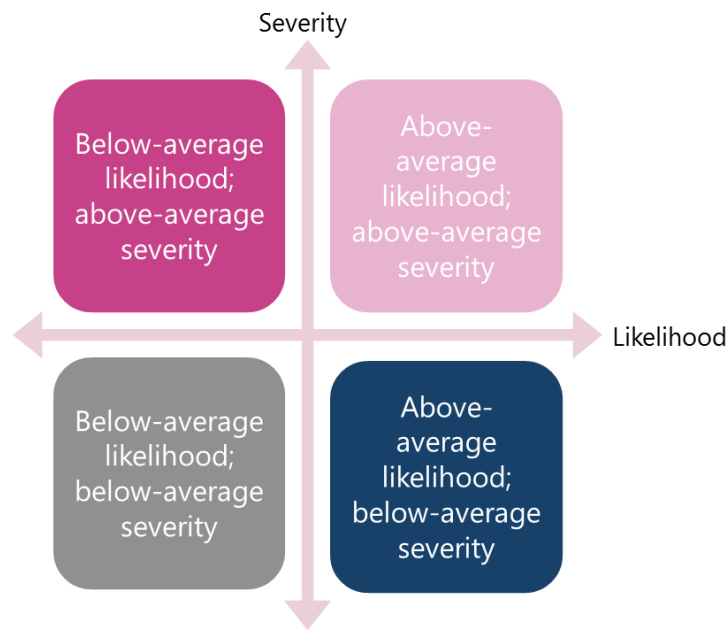
In some cases we make use of quadrant charts to present combined perceptions or severity and likelihood. The axes of the graph cross at the average ranking across the respondents.<sup>7</sup> All risk factors falling *to the right* of the vertical axis are perceived to have above average likelihood of occurring, and all factors falling *above* the horizontal axis are perceived to have above average severity. This is illustrated in the diagram below.

---

<sup>5</sup> The stratification was undertaken across the following categories: Registrant group; Country; Gender; Year of registration or qualification.

<sup>6</sup> As these two survey questions were structured differently, we present the results on different charts in the report. Further detail of how we analysed the survey data is provided in the Technical Appendix.

<sup>7</sup> Details of how we developed numerical rankings are included in the Technical Appendix



The perceptions of the likelihood and severity of risk factors sometimes differ across different groups of dental professionals responding to the survey. These groups include for example professional group, time since qualification, work-place setting etc. This can provide important insights into the divers of risk perception.

## 3.2 Literature

The literature review focussed on reviewing and re-analysing previously identified literature in the context of the conceptual framework. This included around 62 academic studies and 38 items of grey literature. We also reviewed new sources identified during the study.

The literature includes UK dental-specific literature, non-UK dental-specific literature and literature on other healthcare professions. The literature was reviewed and re-analysed in order to ascertain its relevance to the different risk factors that are the subject of this report. Each source was then graded according to the quality of the underlying evidence and the type of study, based on the quality grading schedule set out in Table 3.1 below.<sup>8</sup>

<sup>8</sup> These are aligned with the five levels of evidence adopted by the National Health Service Research and Development Centre for Evidence-Based Medicine (Evidence Based On-Call database 2002).



**Table 3.1: Literature review grading**

The grades of evidence	Strength of evidence
<b>Grade I</b>	Strong evidence from at least one systematic review of multiple randomised studies/trials.
<b>Grade II</b>	Strong evidence from at least one properly designed randomised study/trial of appropriate size.
<b>Grade III</b>	Evidence from well-designed study/trials with non-randomised or small samples.
<b>Grade IV</b>	Evidence from well-designed non-experimental studies from one or more centre.
<b>Grade V</b>	Opinions of respected authorities based on personal experience, descriptive studies or literature searches.

It is worth noting that few papers we reviewed qualify as Grade I or Grade II in terms of randomised trials.<sup>9</sup> This reflects more on the nature of the topic and the difficulty of applying certain research methodologies in this field. Assessing the likelihood and severity of risk factors leading to performance impairment in dentistry is not a topic that easily lends itself to randomised controlled trials for example.

### 3.3 Interviews

A series of 44 semi-structured interviews were undertaken during 2013 with 40 dental and healthcare organisations to further explore the dental context and perceptions of the risk in dentistry.

The organisations interviewed included:

- Other dental sector regulators in the UK.
- Professional bodies in the dental practice field.
- Regulators in other healthcare sectors.
- Educational and training institutions in the dental practice field.

We studied the notes from these interviews which covered a wide range of issues. They offer helpful context for the evidence in the literature and the registrant risk survey. However it is important to remember that the views expressed are subjective and often based on anecdotal evidence.

### 3.4 Other data

We have also investigated and analysed as far as practicable other available data sources. These include:

- NHS Business Services Authority reports on dental fraud.<sup>10</sup>
- Dental insurance and indemnity providers.
- The Care Quality Commission's practice inspections.
- Complaints data from the Dental Complaints Service (DCS).<sup>11</sup>
- The NHS National Clinical Assessment Service.<sup>12</sup>

<sup>9</sup> Where evidence is based on large-scale representative surveys we grade this as Grade II.

<sup>10</sup> NHS Business Services Authority (2012) Dental Contractor Loss Analysis Exercise

<sup>11</sup> The Dental Complaints Service is funded by the GDC but operates at arms' length. The DCS looks into complaints about private dental services provided by dental practices in the UK. The DCS does not address complaints about NHS treatment, nor commercial or contractual issues. See <http://www.gdc-uk.org/Membersofpublic/Raisingaconcern/Pages/Dental-Complaints-Service.aspx>

<sup>12</sup> The NCAS is a division of the NHS Litigation Authority which helps to improve patient safety by resolving concerns about professional practice of dentists and other healthcare workers. The NCAS operates in England, Northern Ireland, Scotland and Wales.

- Published analysis of GDC Fitness to Practise data.<sup>13</sup>

### 3.5 Assessment of the evidence

The focus of this work is on the main risk factors in dentistry, and we present the evidence for these in the main body of the report. We have however reviewed the evidence for a wider range of potential risk factors, and details of the evidence for these and why we have not considered them to be ‘main’ factors is included in the Appendix.

In order to reach a conclusion as to whether the combined evidence indicates that a factor should be considered as important or not, we applied a simple assessment methodology. A risk factor was considered as important if it met the following criteria:

- The risk factor was considered by dental professionals responding to the Risk in Dentistry Survey to be above-average in likelihood, or significant (these gradings differ for different survey questions).
- There is good-quality literature that shows that the risk factor is significant. We gave priority to papers graded at IV and above.
- There is other empirical evidence such as other survey results or complaints data, that suggest the risk factor is important.

In many cases there was not available evidence from other empirical data and therefore we placed the most weight on the literature and the Risk in Dentistry Survey. In some cases the Risk in Dentistry Survey did not include evidence on a particular risk factor, but if the literature was robust enough and indicated that the risk factor was significant then we concluded as such. In some cases the risk factor was mentioned in the survey evidence but was not considered above average in likelihood by respondents; if this was combined with weak or inconclusive literature evidence then we concluded that this was not a main risk factor.

---

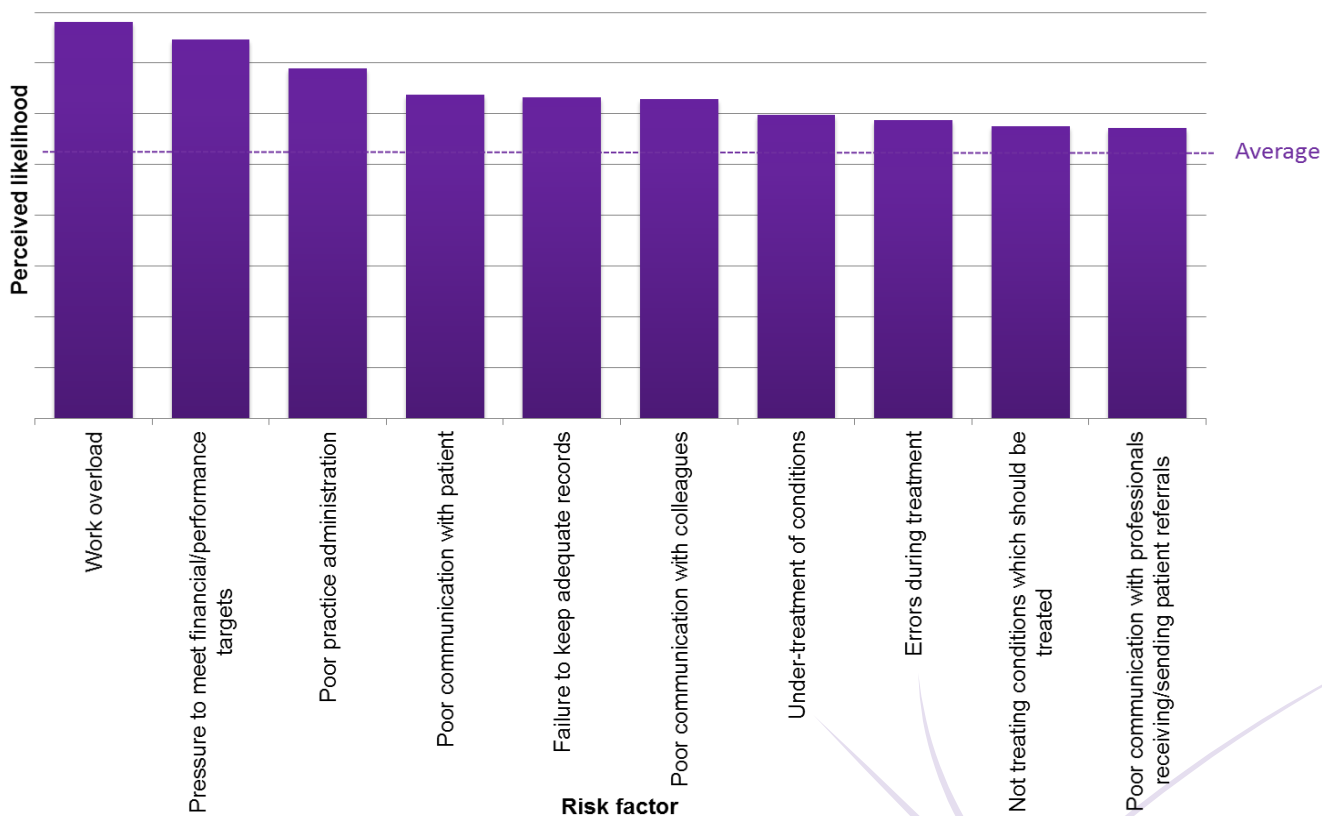
<sup>13</sup> Our use of the GDC’s FtP data is limited to analysis that has already been conducted and published, as an original analysis of the data was not within the scope of this work. We do set out possible methodologies for such an analysis in Chapter 9.

# 4 Dental Professionals' Perceptions of Risk

This chapter provides an overview of dental professionals' perceptions of the main competency, conduct and contextual risk factors as evidenced in the 2013 Risk in Dentistry Survey. The results of the survey provide a valuable picture of registrants' perceptions of risk. The more detailed analysis in the following chapters consolidates this evidence with evidence from other sources.

The chart below illustrates the ten factors perceived by dental professionals in the UK to be most likely to increase the risk of a departure from the GDC's Standards. These risk factors are those perceived to be above-average in likelihood by dental professionals (the average line in the chart represents the average perceived likelihood across all the risk factors included in the survey question).

**Figure 4.1: The top ten risk factors perceived by dental professionals**

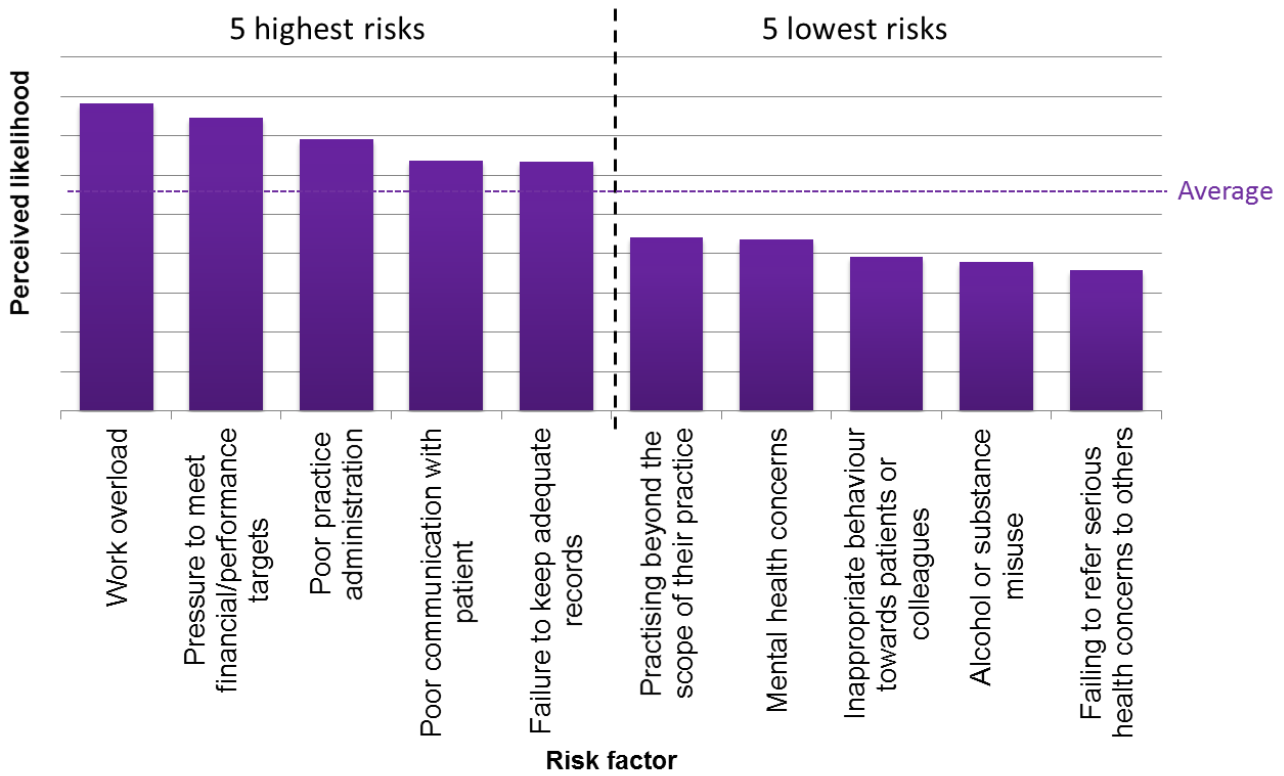


Source: 2013 Risk in Dentistry Survey.<sup>14</sup> The Average line represents the average likelihood across all risk factors included in Question 26.

<sup>14</sup> Based on responses to Question 26: “We list below a number of factors that, if they arise, could mean dental professionals may not practice at the standard they should. Please tell us (a) how often you think these risk factors arise in dentistry and (b) the negative impact of each one.”

To provide a picture of the distribution of perceived risk, we compare the top five risk factors in terms of likelihood with the bottom five in the chart below. As can be seen, the bottom five risk factors are perceived by dental professionals to be well below the average level of likelihood across risk factors. The five least likely risk factors include health issues, inappropriate behaviour and clinical behaviours.

**Figure 4.2: Most and least likely risk factors perceived by dental professionals**

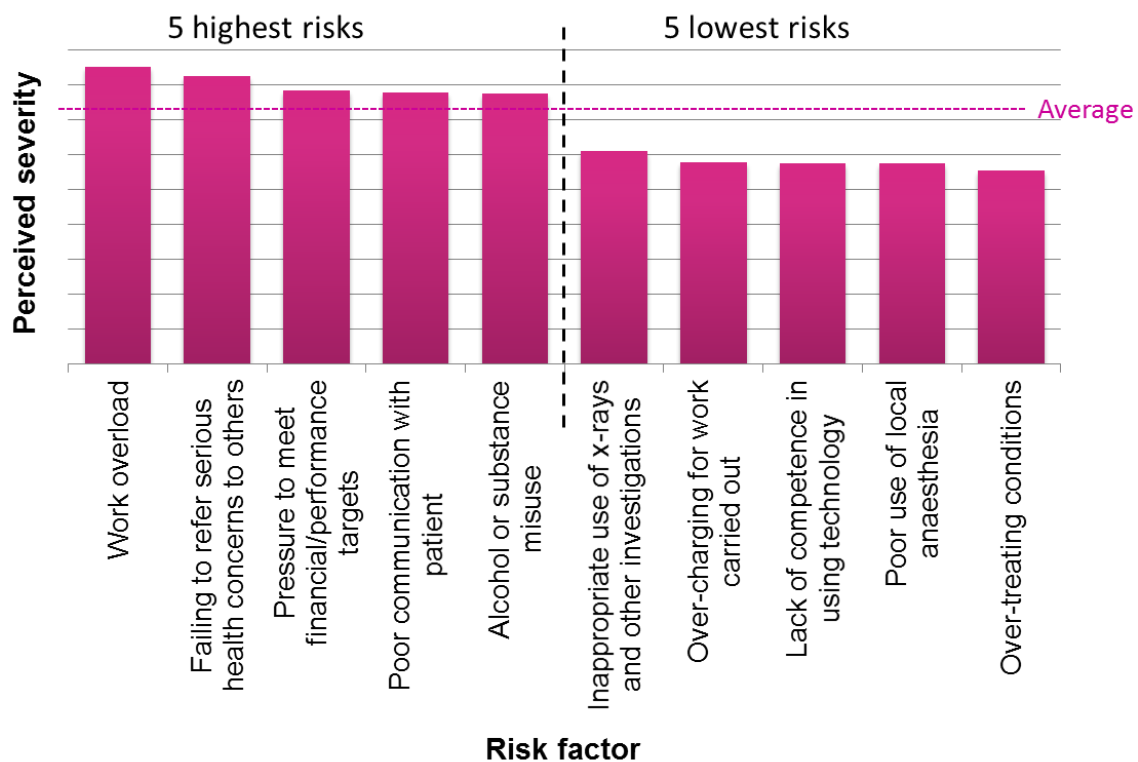


Source: 2013 Risk in Dentistry Survey, based on responses to Question 26

In addition to the likelihood of occurrence, it is also important to consider the potential negative impact if certain risks are realised. There may be risk factors which are less frequent but result in a very severe outcome if realised. The chart below presents the top and bottom five risk factors in terms of the perceived negative impact (severity). It is interesting to note that some of the risks perceived to be least likely in Figure 4.2 are perceived to be among the most severe in Figure 4.3, such as 'failing to refer serious health concerns to others' and 'alcohol or substance abuse'. Some factors are perceived to be both highly likely and highly severe, such as 'work overload' and 'pressure to meet financial/performance targets'.

There is less variation in the perceived severity of the risk factors compared to the perceived likelihood; as can be seen, the difference in the level of severity between the most and least severe risk factors presented in Figure 4.3 is less than the difference in the level of likelihood between the most and least likely risk factors presented in Figure 4.2.

**Figure 4.3: Most and least severe risk factors perceived by dental professionals**



Source: 2013 Risk in Dentistry Survey, based on responses to Question 26

The perception of the likelihood and severity of factors varies across different groups of dental professionals, for example by profession, country of practice and work setting.

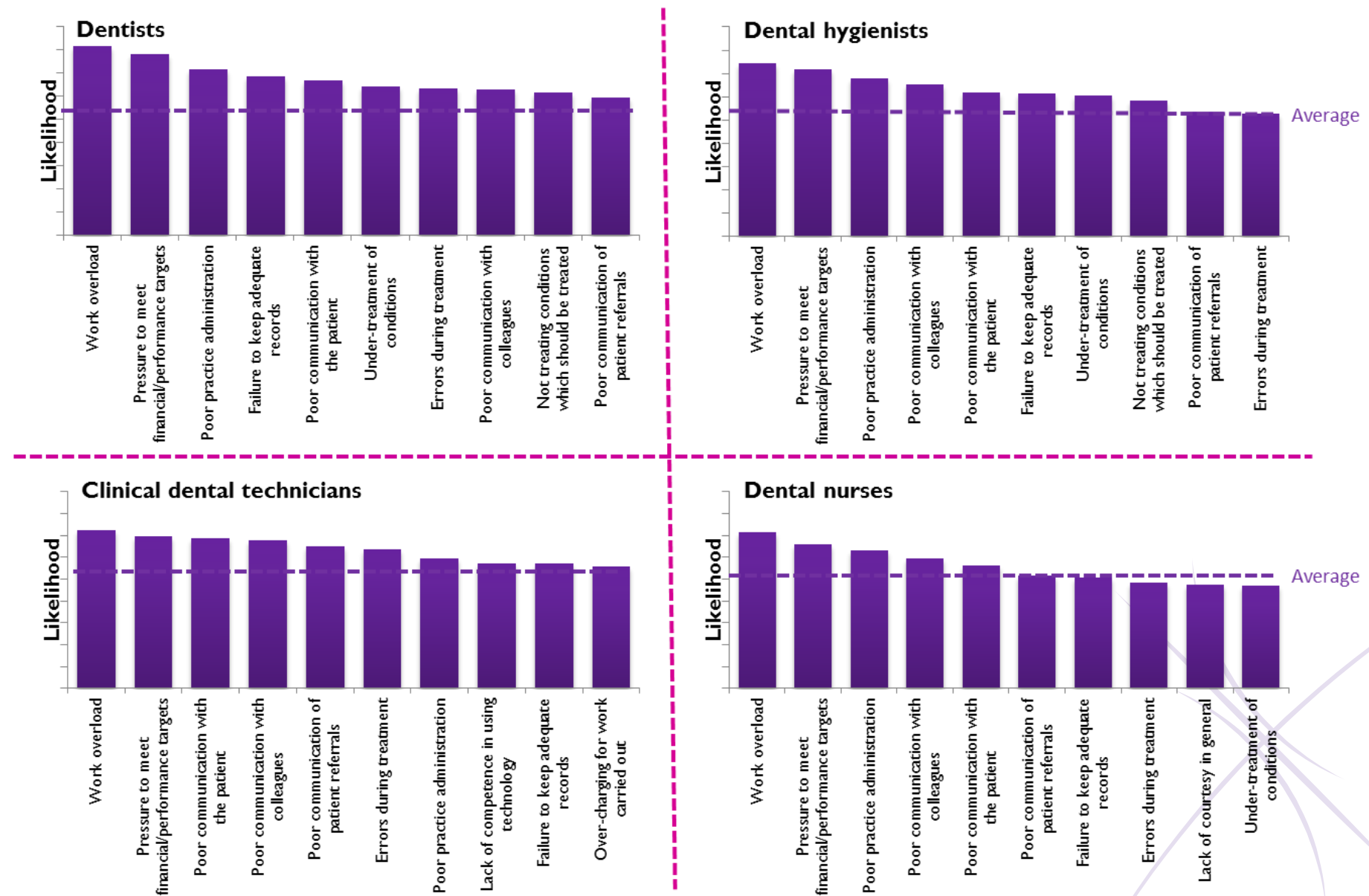
#### 4.1.1 Differences in perceptions of risk across professional groups

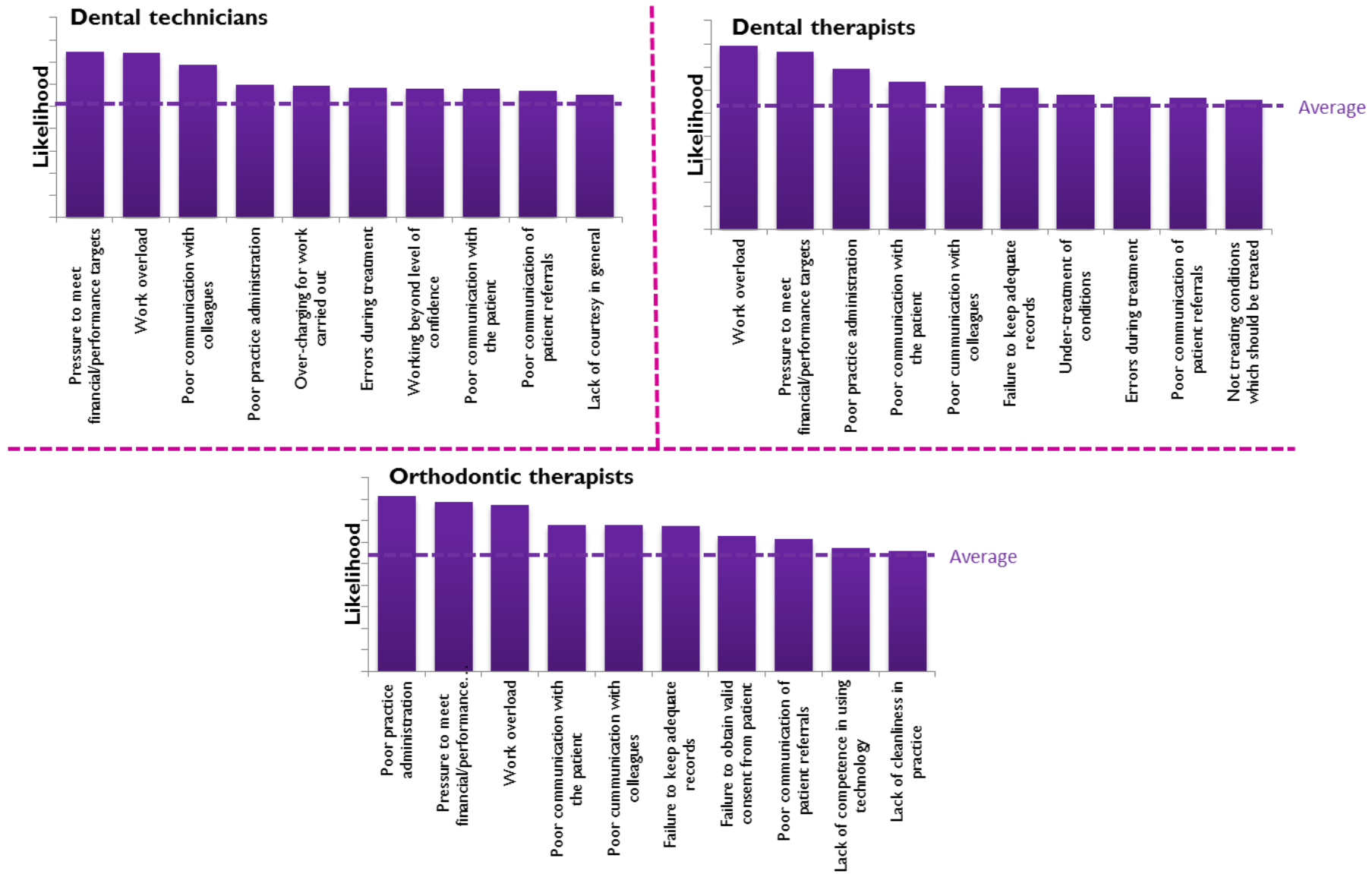
The charts on the following pages provide more detail on the differences in the perception of the top ten risk factors between professional groups.

The charts show that all the professional groups included a similar set of factors in the top ten, with work overload and pressure to meet financial and performance targets among the most likely risks for all groups. However, there is some variation in the relative perceived likelihood for some risk factors across the different groups, which may reflect their different roles within the dental team. The most notable differences are:

- Orthodontic therapists perceived 'poor practice administration' as the most likely risk. They also saw a 'lack of competence in using technology' as a main risk (although this factor was not ranked in the top 10 by other professions).
- Clinical dental technicians perceived 'poor practice administration' to be a less likely risk compared to other professions.
- Clinical dental technicians perceived 'poor communication with colleagues' as a particularly severe factor compared with other professional groups.
- Dental nurses were the only profession to see a 'lack of courtesy in general' as a main factor.
- Dental technicians and clinical dental technicians were the only professions to see 'overcharging' as a main risk.
- Dentists and clinical dental technicians perceived 'errors in treatment' as more likely than other professional groups. This may reflect the scope of their practice in treating patients.

Figure 4.4: Top 10 most likely risk factors, perceived by different professional group





Source: 2013 Risk in Dentistry Survey, Question 26

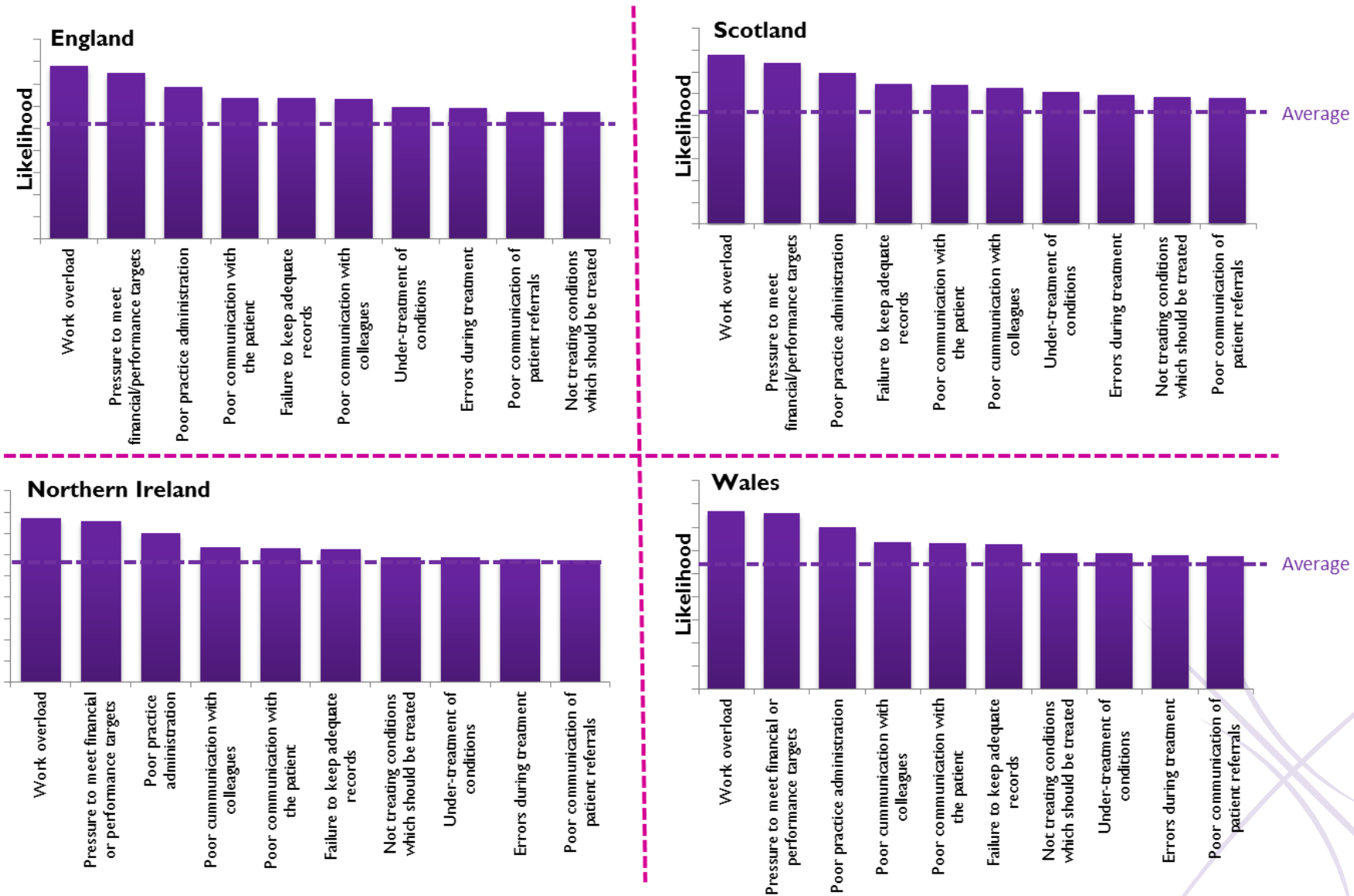


#### 4.1.2 Differences in perceptions of risk across countries in the UK

The charts below present the top ten risk factors as perceived by dental professionals working in England, Northern Ireland, Scotland and Wales. As can be seen there is little difference in the perception of the frequency of different risks by country. While there are differences in the relative importance of some risk factors (for example, 'poor communication with the patient' is ranked fourth highest in England compared to fifth highest in the other countries), these differences are not notable.

Dental professionals working in Northern Ireland perceive the general level of likelihood across risk factors to be slightly lower than those working in other countries (this can be seen by the height of the bars in the charts), but again these differences are not significant.

Figure 4.5: Top 10 most likely risk factors, by country



Source: 2013 Risk in Dentistry Survey, Question 26

### 4.1.3 Differences in perceptions of risk across practice settings

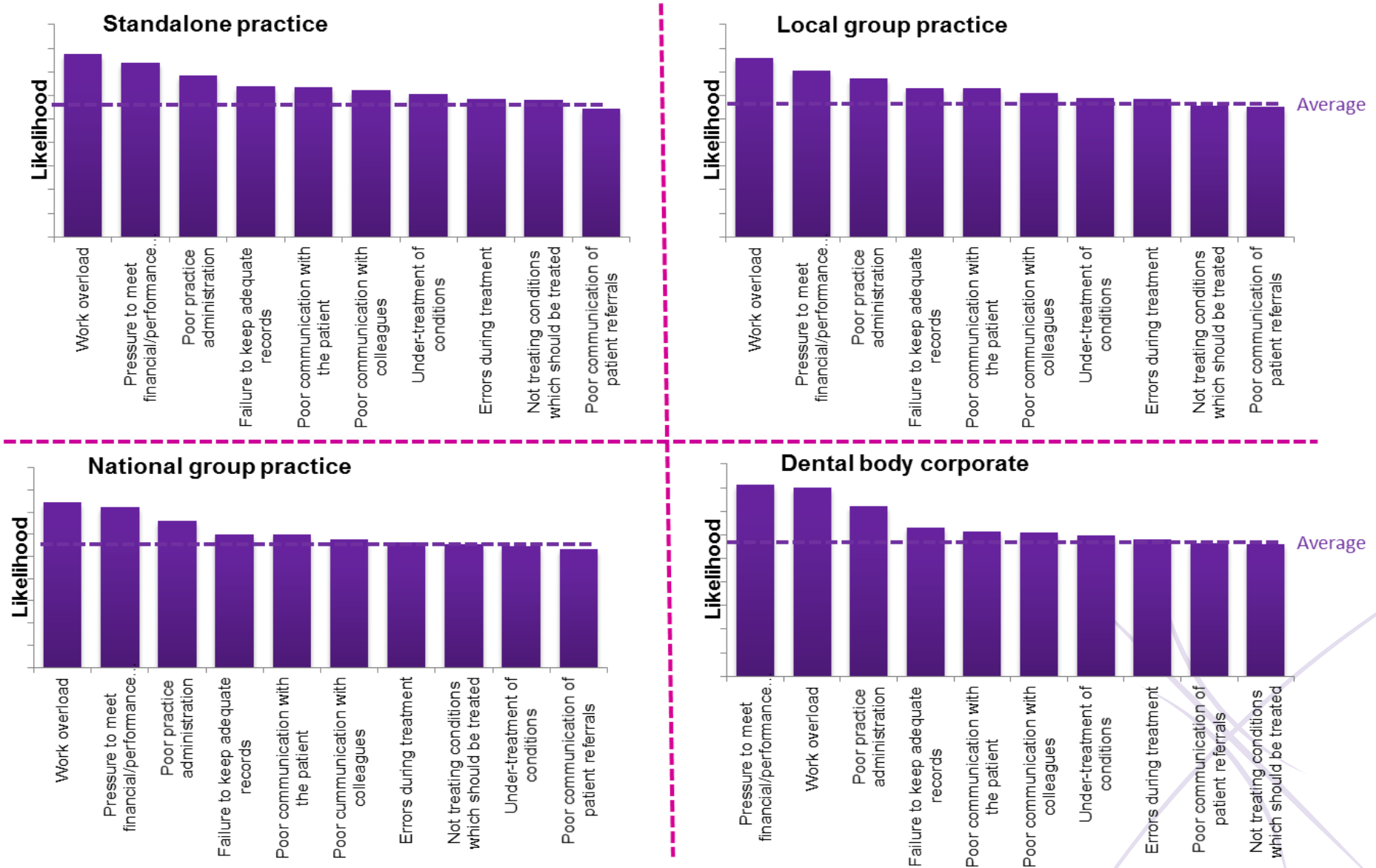
To the extent that risk perceptions vary across groupings which are *external* to individuals (e.g. by working environment), these themselves may be considered risk factors. This is because a professional's perception of risk will be informed in part by his/her practical experience, and if a professional working in a certain environment has a higher perception of risk then this suggests that that environment may in part be associated with higher risk.

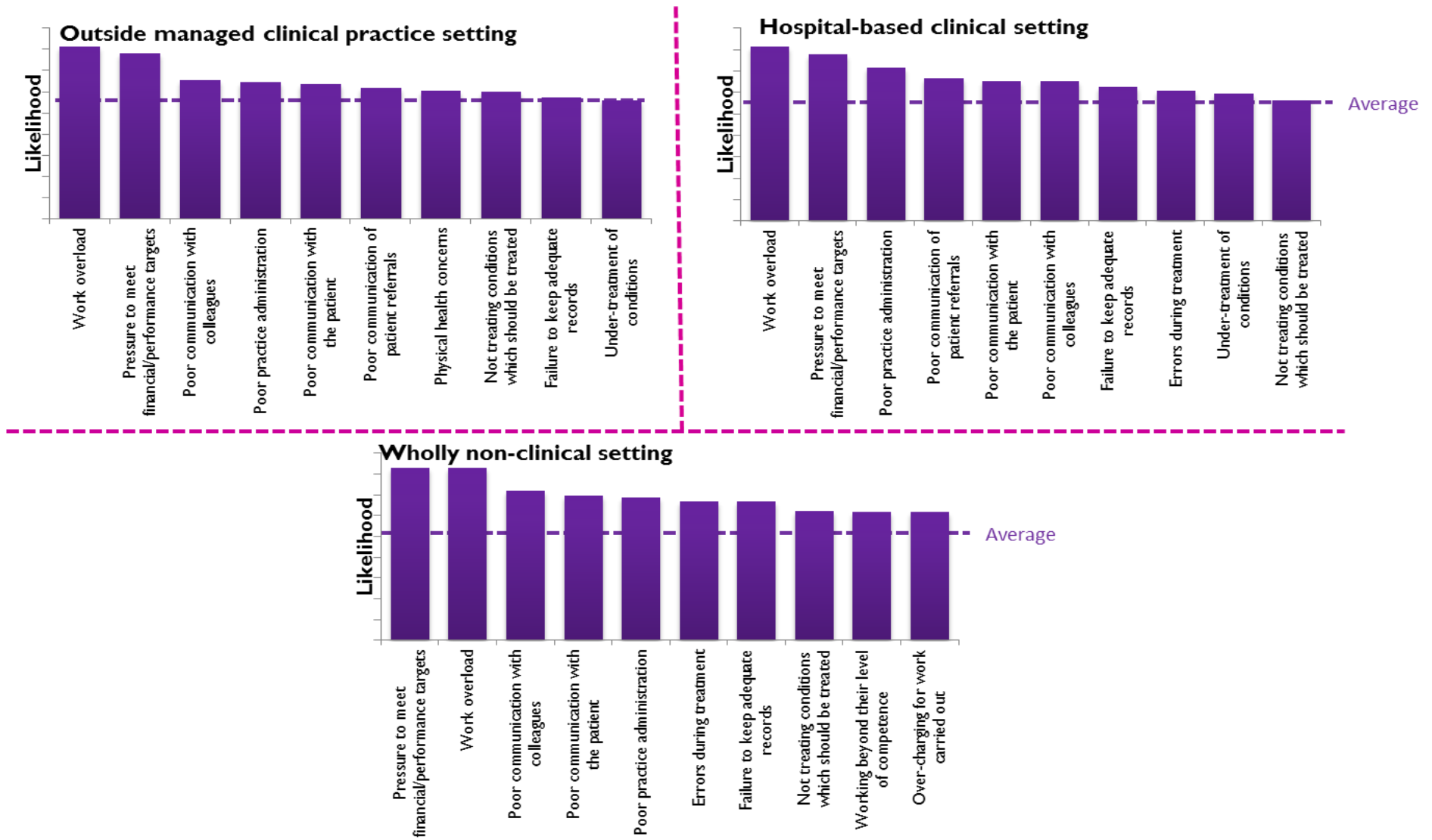
The charts below present the top ten most likely risk factors as perceived by dental professionals in different practice settings.

As can be seen, similar risk factors were perceived by dental professionals working in different practice settings. There are however some differences in the relative perception of risks across the groups:

- 'Pressure to meet financial or performance targets' was perceived as the most likely risk by those working in dental body corporates, and by those working in wholly non-clinical settings.
- Those working outside a managed clinical setting and those in a wholly non-clinical setting perceived 'poor communication with colleagues' to be relatively more likely than professionals working in other settings (ranking it as the third most likely factor).
- Those working in a wholly non-clinical setting were the only group to perceive 'working beyond the level of competence' as a risk factor.

Figure 4.6: Top 10 most likely risk factors, by practice setting



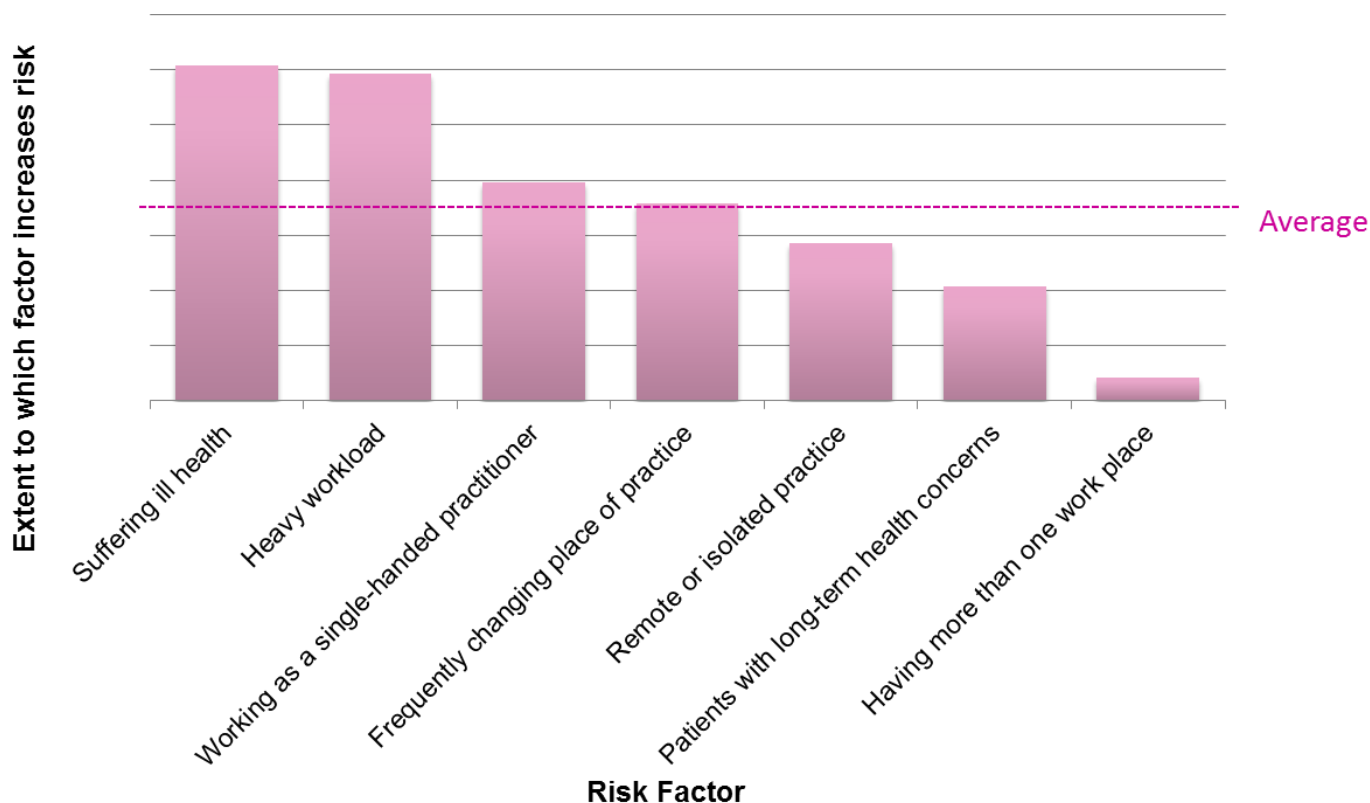


Source: 2013 Risk in Dentistry Survey, Question 26

#### 4.1.4 Additional risk factors

In addition to the above risk factors, the survey data provide evidence of other factors which dental professionals perceive may negatively impact performance and increase the risk that Standards are not met. These factors are derived from a different survey question to those described above, and therefore we present them separately.<sup>15</sup> The chart below illustrates the relative negative impact of these factors. As can be seen, the main, above-average risk factors are suffering ill health, heavy workload and working as a single-handed practitioner.

**Figure 4.7: Factors which may increase the risk that Standards are not met**



Note: the chart shows the perceptions of all dental professionals responding to the survey. The Average line represents the average perceived negative impact across all risk factors included in this survey question.

Source: 2013 Risk in Dentistry Survey, based on responses to Question 28<sup>16</sup>

In the following chapters we combine the results from the 2013 Risk in Dentistry Survey with further evidence from the literature and other data sources and discuss in more detail the main competence, conduct and contextual risk factors. As described in section 3.5 above, we consider factors perceived as above-average likelihood by dental professionals to be important (provided this is supported by other evidence), although there are some risk factors which are not identified in the survey (either as above-average likely, or at all) but which are highlighted as important in the literature or other data sources.

<sup>15</sup> The relevant survey question here (Question 28) asks for the perceived negative impact of each factor on performance. This is different to the previous survey question (Question 26) which asked about the likelihood and severity of potential risk factors. See the Technical Appendix for more detail on how these different questions were scored.

<sup>16</sup> Question 28: "Some factors may affect a dental professional's practice and performance. For each of the factors listed below, please tell us what you think the impact is."

# 5 Competency Factors

## 5.1 Introduction

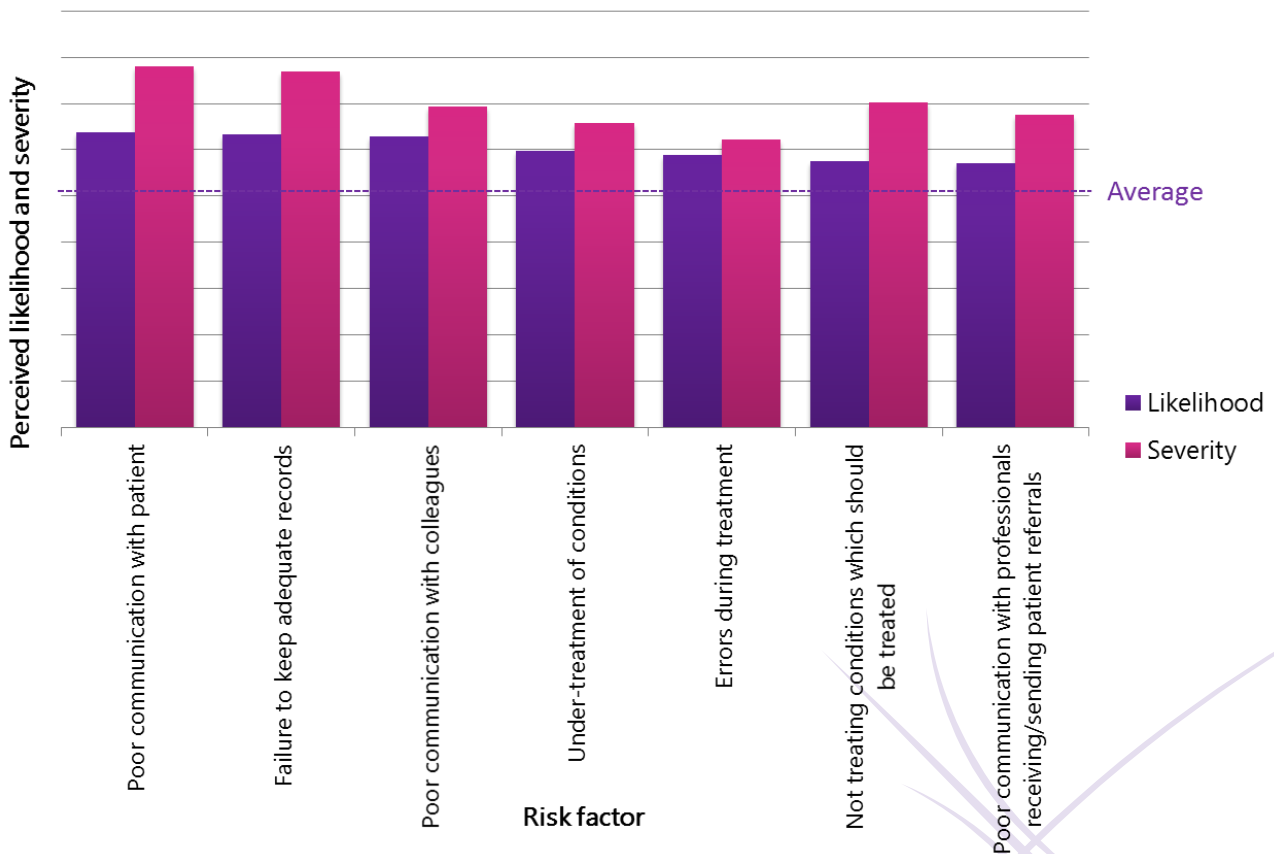
Competency factors are those related to skills and knowledge which may affect the likelihood that a registrant departs from the Standards.

Based on the survey responses and supported by the literature review and interviews the following factors are identified as being the most likely to affect registrants’ practice in accordance with the Standards.

- Poor communication, which includes communication with the patient, with colleagues and with professionals receiving/sending patients.
- Inadequate record-keeping.
- Poor treatment, which includes treatment errors, not treating conditions that should be treated and under-treating conditions.

The GDC 2013 Risk in Dentistry Survey shows dental professionals’ perceived risk of these competency factors. These are illustrated in the chart below.

**Figure 5.1: Main competency risk factors perceived by all dental professionals**



Source: 2013 Risk in Dentistry Survey

We also refer to other potential risk factors which we investigated but concluded, based on the evidence, were not the most likely to affect registrants’ practice. Fuller details of the evidence is presented in the Appendix.

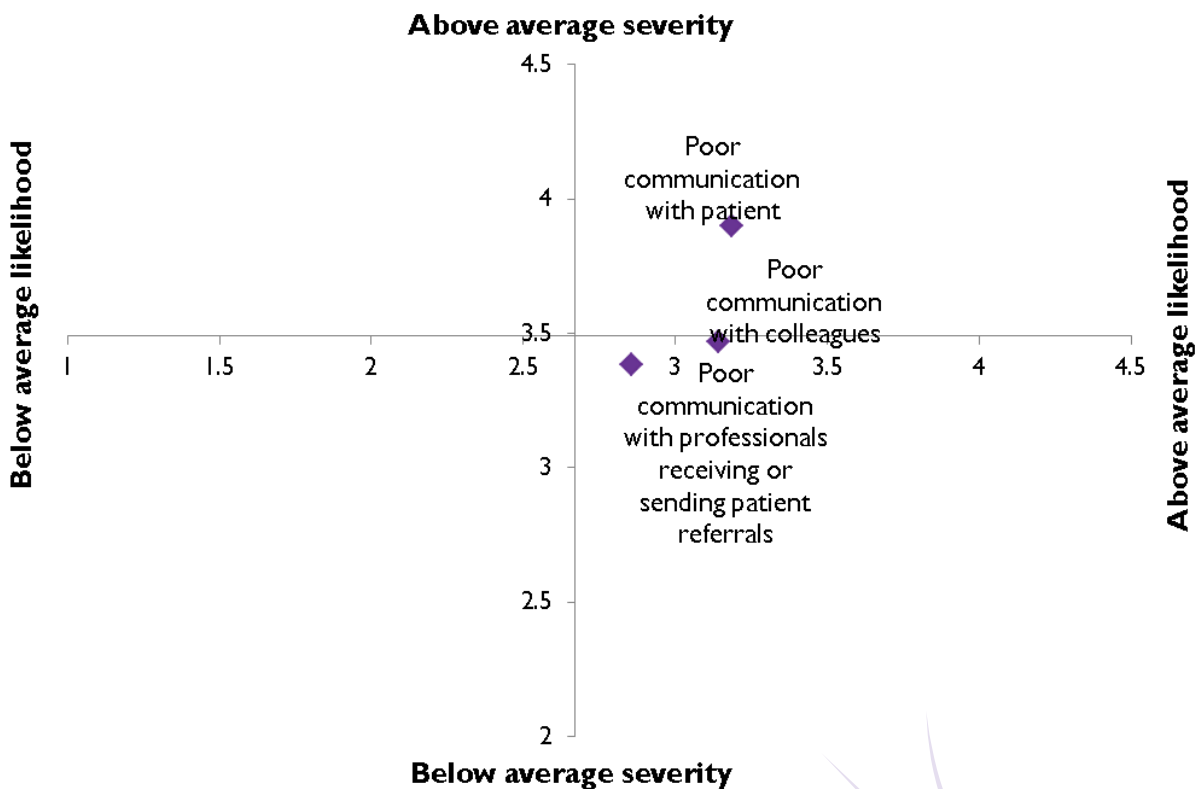
## 5.2 Poor communication

Communication of dental professionals with patients and colleagues is highlighted in the evidence as an important factor which may lead to a departure from the Standards.

In the *Risk in Dentistry Survey*, respondents were asked to rate the likelihood and severity of risk in relation to poor communication with the patient; with colleagues; and with other professionals in the context of patient referrals. All dental professionals considered that these types of poor communication were above-average in likelihood, as illustrated in Figure 5.1 above.

The potential negative impacts of poor communication with patients were perceived to be more severe than other forms of poor communication. Dental professionals perceived other forms of poor communication to be below average in severity. The graph below illustrates the combined perceived likelihood and severity of these risk factors.

**Figure 5.2: Perceived likelihood and severity of risk factors relating to poor communication**

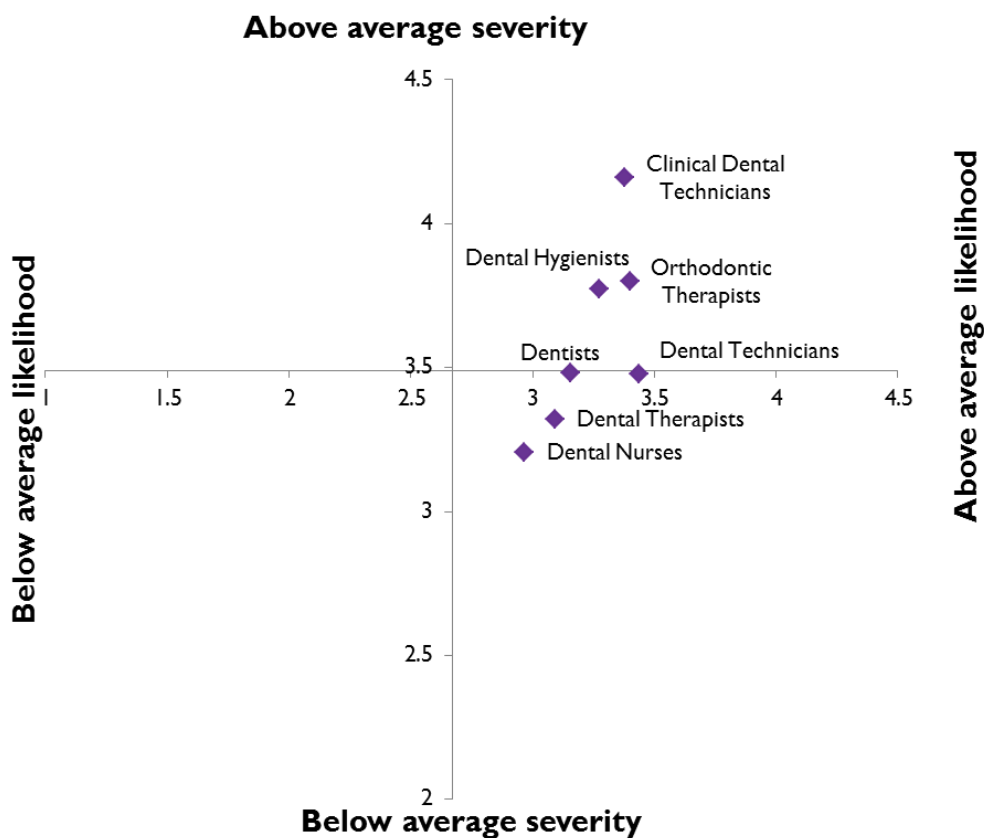


Note: the graph shows the responses of all dental professionals participating in the survey. The scale on the axes represents the extent to which the risk factor is considered to be the above or below average. The axes cross at the average perceived risk of all risk factors across all respondents. Source: 2013 Risk in Dentistry Survey

There is some variation in the perceived likelihood and severity of ‘poor communication with colleagues’ among different professional groups. Most notable is that clinical dental technicians perceive poor communication with colleagues to be more severe than all other groups. This is illustrated in the chart below.



**Figure 5.3: Perceived likelihood and severity of ‘poor communication with colleagues’, by different professional groups**



Source: 2013 Risk in Dentistry Survey

Of the recent complaints received by the [Dental Complaints Service \(DCS\)](#), those relating to communication about treatment are the second most frequent — round 12% of all complaints related to this category in the second half of 2013.<sup>17</sup>

The GDC’s [2012 Patient and Public Survey \(2012, II\)](#)<sup>18</sup> captures public perceptions about the key issues in dentistry.<sup>19</sup> Key findings of this survey in relation to communication include:

- 22 per cent of respondents say they were not informed about what to expect from their last visit to the dentist at all, with a further 18 per cent claiming they were only partially informed.
- 63 per cent of respondents claim that they received no written treatment plan and 34 per cent purporting to have received no verbal treatment plan.
- 19 per cent report that the disclosure of treatment cost was not clear and less than half (48 per cent) judging it very clear.

The GDC’s [2011 Patient and Public Survey \(2011, II\)](#)<sup>20</sup> was based on a similar size public survey. When asked to grade the importance of good communication skills on a scale of 1-10, the mean score across all respondents was 9.50. This was scored more important by survey respondents than measures of professional qualifications, accreditation and regulation. Furthermore, when asked for the main reasons

<sup>17</sup> Source: GDC, Council Performance Reports Quarter 2 and Quarter 3, 2013. Breakdown of complaints into these categories was not available for earlier quarters.

<sup>18</sup> Ipsos MORI (2012). ‘Patient and Public Survey 2012.’ Report for the General Dental Council.

<sup>19</sup> The research methodology comprised a survey of 1,609 members of the public, with data weighted to ensure a nationally representative sample, as well as more in-depth qualitative phone interviews with ten members of the public.

<sup>20</sup> ComRes (2011). ‘The Annual Patient and Public Survey.’ Report for the General Dental Council.

which underpin patient confidence in a dental professional, good communication skills was the third most common response, cited by 43 per cent of respondents. Similarly, poor communication skills were ranked as the fourth most likely reason not to trust a dental profession, with the related issue of a lack of cost transparency the third most likely.

While the 2012 Patient and Public Survey identifies shortfalls in dental professionals' communication with patients, the 2011 Survey emphasises the importance of such communication to the public.

Evidence from other UK dental-specific literature includes:

- [Gulati et al. \(2012, III\)](#)<sup>21</sup> analyse claims data from the NHS Litigation Authority in the field of oral and maxillofacial surgery for the period April 1995 to August 2010. They find that many of these cases related to poor doctor-patient communication, particularly in obtaining valid patient consent.
- [Thusu et al. \(2012, III\)](#)<sup>22</sup> who analyse the National Patient Safety Agency's database on patient safety incidents for 2009 and calculate that only 5 per cent of the 2,012 incidents assessed were related to communication errors. This finding contests the hypothesis about the relative likelihood of communication errors.
- [Patel et al. \(2011, IV\)](#)<sup>23</sup> who find that communication problems are a common source of patient complaint and cite Dental Protection Limited's finding that seven out of ten litigation cases in oral healthcare concern poor communications. However the evidence does not shed light on whether the poor communication caused harm to the patient.

Outside the UK, there is other dental-specific literature which speaks to the importance of communication skills:

- [Attwood \(2004, III\)](#)<sup>24</sup> categorises the 61 formal complaints received by the Irish General Dental Council in 2003 and finds that 18 per cent of these concerned dissatisfaction with dental fees. He says that this largely represents a failure to meet patient expectations; a problem which he believes better communication at the outset would help alleviate.
- [Lopez-Nicholas et al. \(2011, III\)](#)<sup>25</sup> look at 16 years of claims data from the College of Dentists in Murcia, Spain and find that written consent was absent in just under half of the cases analysed (although verbal consent was obtained in the majority of cases). They consider that their results show evidence of poor communication, and highlight the importance of good communication skills in avoiding malpractice claims.
- [Conti et al. \(2013, V\)](#)<sup>26</sup> argue that dental treatment has specific peculiarities, such as the relationship between dentistry and aesthetics, which make communication skills all the more important. They also stress the importance of shared-decision making and patient autonomy for informed consent.

Evidence from other healthcare sectors also stresses the importance of good communication, including the impact it has on patients' perceptions of risk, clinical skills and wider good practice:

<sup>21</sup> Gulati, A., Herd, M. K., Nimako, M., Anand, R., and Brennan, P. A., (2012). 'Litigation in National Health Service oral and maxillofacial surgery; review of the last 15 years.' *British Journal of Oral Maxillofacial Surgery*, vol. 50(5), pp.385-388.

<sup>22</sup> Thusu, S., Panesar, S., Bedi, R., (2012) 'Patient safety in dentistry - state of play as revealed by a national database of errors'. *British Dental Journal*, vol. 213(3).

<sup>23</sup> Patel, R., Eaton, K. A., Garcia, A., Rincon, V., & Brooks, J., (2011) 'An investigation into the numbers of dentists from 19 European Economic Area (EEA) member states currently registered to work in the United Kingdom and key differences between the practise of dentistry in the UK and their member states of origin.' *British Dental Journal*, vol. 211(3), pp.133-137.

<sup>24</sup> Attwood, D. (2004). 'The Dental Council and complaints against dentists.' *Journal of the Irish Dental Association*, vol. 50(3), pp. 108-109.

<sup>25</sup> Lopez-Nicholas, M., Falcón, M., Perez-Carceles, M. D., Osuna, E., Luna, A., (2011). 'The role of a professional dental organization in the resolution of malpractice claims the professional dentist college in the region of Murcia (Spain).' *Medicine and Law*, vol. 30(1), pp.55 - 63.

<sup>26</sup> Conti, A., Delbon, P., Laffranchi, L., Paganelli, C. (2013), 'Consent in dentistry: ethical and deontological issues'. *Journal of Medical Ethics*, vol. 39(1), pp.59 – 61.

- [Freeth et al. \(2012, III\)](#)<sup>27</sup> investigate preparedness to practice in osteopathy using survey feedback and find that good communication underpins key clinical skills, such as thorough record-keeping, detailed case histories and accurate prognosis, and also strengthens other aspects of good practice, e.g. maintaining and growing a patient base.
- [Leach et al. \(2011a<sup>28</sup>, 2011b<sup>29</sup>, III\)](#) found that osteopathic patients surveyed said that they received a lack of information prior to treatment such that the procedures undertaken, and any side effects that arose, came unexpectedly. They also found communication problems to be a common theme across all complaints data.

The results of the in-depth interviews supports the findings from the literature and the survey. There was a general perception among interviewees that poor communication constitutes a significant problem, with two interviewees believing it to be the biggest source of complaint in dentistry. A couple of respondents were concerned about language problems, particularly among dentists from overseas, as even slight changes in word emphasis can change the meaning of what is trying to be communicated. Most respondents who made reference to communication problems did so in general terms, although a few interviewees picked out specific communication issues, including: communicating cost, treatment options and whether NHS or private; developing treatment plans through joint discussion with the patient; and disclosing all necessary treatment and post-treatment information in order to gain informed consent from the patient. Finally, one respondent said that dental training needs to better reflect these concerns, as training tends to focus on technical issues and takes good communication skills as a given.

The above evidence indicates that poor communication is a key factor in complaints and litigation claims, and that dental professionals perceive poor communication to be among the most likely factors that may lead to a departure from the GDC's Standards.

### 5.3 Inadequate record-keeping

The [Risk in Dentistry Survey](#) shows that dental professionals perceive inadequate record-keeping as an important factor in increasing the risk of departure from the Standards. As shown in Figure 5.1, dental professionals perceive inadequate record-keeping to be above-average in likelihood of occurrence. Other evidence from literature supports the value of good record-keeping, highlights the consequences of inadequate record-keeping, and provides examples of inadequate record-keeping among dental professionals.

We investigated the perceptions of risk across professionals working in different roles and found that those working in dental administration or business support and management roles perceived inadequate record-keeping to be a more likely risk than respondents in other roles. This is illustrated in Figure 5.4 below.

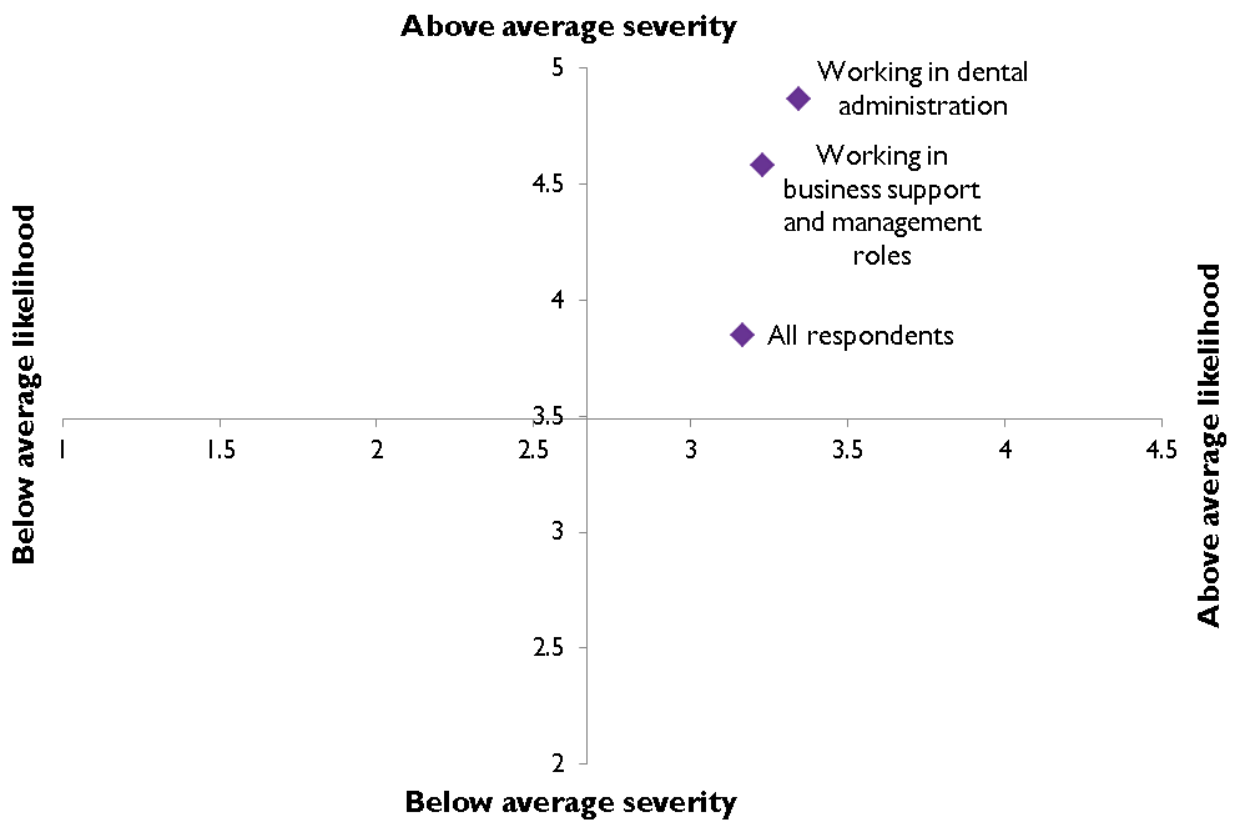
---

<sup>27</sup> Freeth, D., McIntosh, P., and Carnes, D., (2012) 'New Graduates' Preparedness to Practice', Preparedness to Practice Study, final report, March 2012.

<sup>28</sup> Leach, J., Cross, V., Fawkes, C., Mandy, A., Hankins, M., Fiske, A., Bottomley, L., and Moore, A. (2011). 'Investigating osteopathic patients' expectations of osteopathic care: the OPEn project.' Report for the GOC.

<sup>29</sup> Leach, J., Fiske, A., Mullinger, B., Ives, R., Mandy, A. (2011). 'Complaints and claims against osteopaths: a baseline study of the frequency of complaints 2004–2008 and a qualitative exploration of patients' complaints.' Report for the CONDOR: the Consortium for Delivering Osteopathic Research.

**Figure 5.4: Perceived likelihood and severity of the failure to keep adequate records**



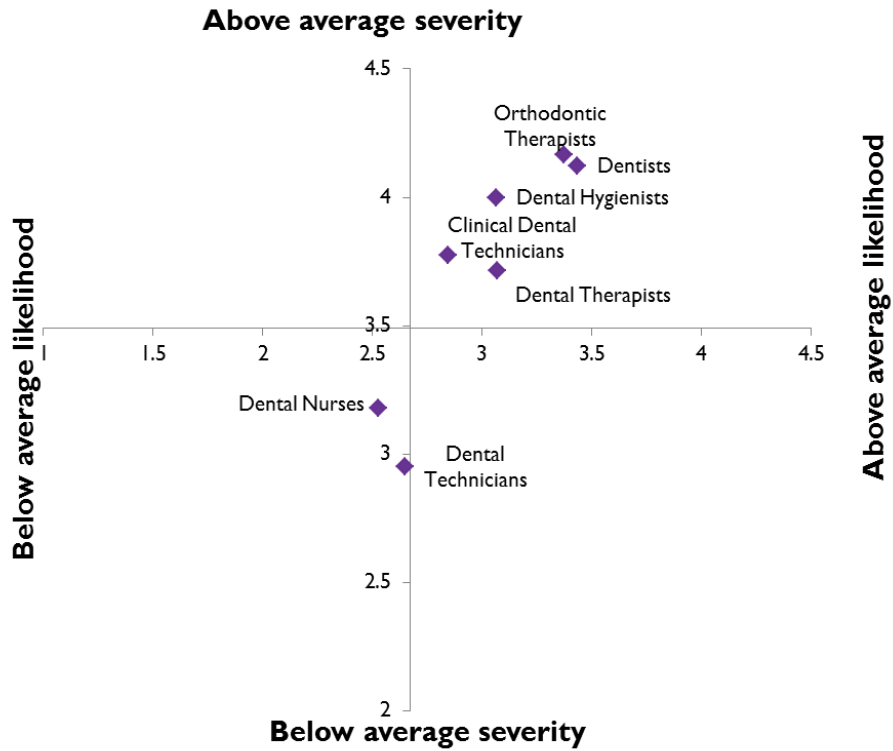
Note: The scale on the axes represents the extent to which the risk factor is considered to be above or below average. The axes cross at the average perceived risk of inadequate record-keeping across all respondents.

Source: 2013 Risk in Dentistry Survey

Those involved in dental administration may have a more comprehensive oversight of records and therefore a more accurate perception of the quality of records, which suggests that their perception of inadequate recording keeping may reflect reality to a greater degree than other respondents.

Perceptions of the likelihood and severity of inadequate record-keeping varied across professional group. Most notable were the perceptions of dental nurses and dental technicians, which were significantly lower than other groups, as shown in the chart below.

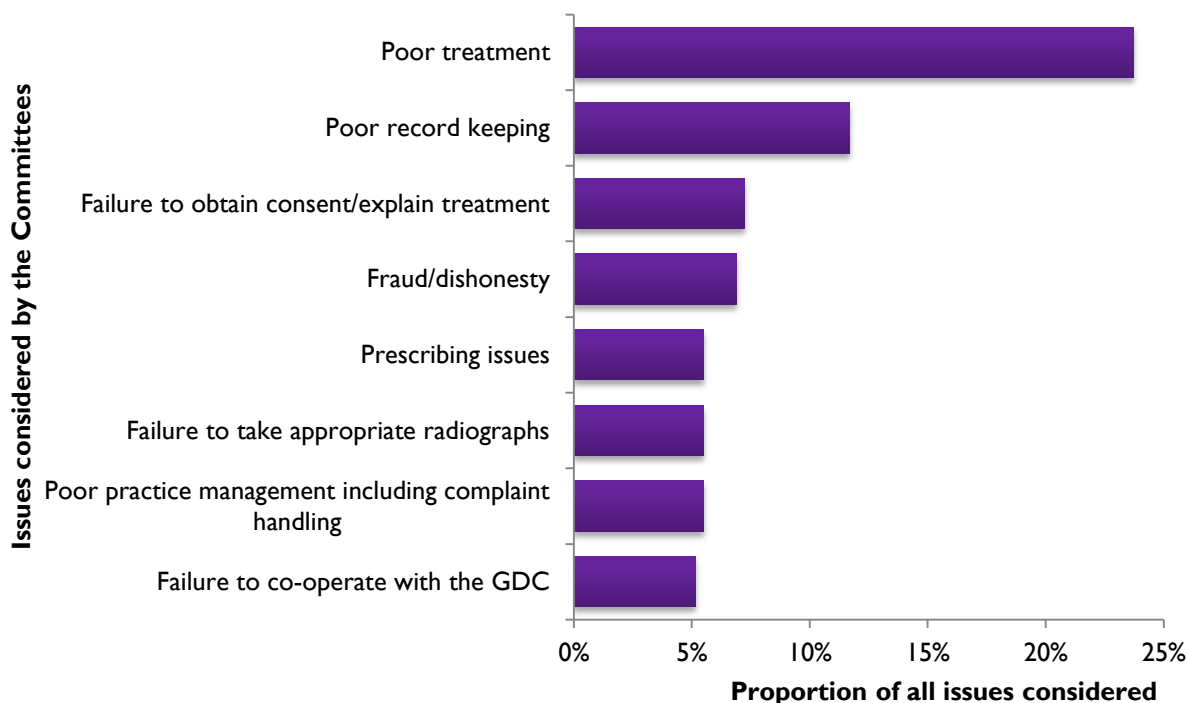
**Figure 5.5: Perceived likelihood and severity of ‘failure to keep adequate records’, by different professional groups**



Source: 2013 risk in Dentistry Survey

Inadequate record-keeping was the second most common issue considered by the GDC's Professional Conduct Committee or the Professional Performance Committee in 2013, representing 12% of all issues considered, as shown in the chart below.<sup>30</sup>

**Figure 5.6: Issues considered by the GDC PPC/PCC, 2013**



Source: GDC Annual Report and Accounts, 2013

Thusu *et al.* (2012, III)<sup>31</sup> look into dental patient safety error incident reports in 2009 and find that 48 per cent of the incident reports were pre-procedural. They believe that this underlines the importance of keeping accurate patient records, and ensuring the correct consent forms are signed and the correct patient notes used. They also identify a potential hazard to patient safety that could arise from poor record-keeping which is that patients could have to undergo a repeat x-ray which would unnecessarily expose them to more radiation.

Spicer (2008, II)<sup>32</sup> assesses the quality of record-keeping against 14 Clinical Governance standards across 134 GDP practices in the East Midlands. The study found that whilst treatment planning, dental charting and patient information were generally recorded to a high standard, record-keeping on medical history, conformity of soft tissue examination and administration more frequently fell short of the standards. Whilst this provides some evidence on inadequate record-keeping, it does not link this with impaired practitioner performance.

Other literature on this issue includes the NCAS (2009, III)<sup>33</sup> report that poor record-keeping is a frequent concern of NHS bodies and a common factor in many of the cases they assess. Morgan (2001, IV)<sup>34</sup>

<sup>30</sup> GDC, Annual Report and Accounts 2013. Record-keeping was not included as an issued considered by the Fitness to Practise Committees in earlier Annual Reports.

<sup>31</sup> Thusu, S., Panesar, S., Bedi, R., (2012) 'Patient safety in dentistry - state of play as revealed by a national database of errors'. *British Dental Journal*, vol. 213(3).

<sup>32</sup> Spicer, R. (2008). 'Bytes and bites - using computerized clinical records to improve patient safety in general dental practice.' *Dental Update*, vol. 35(9), pp. 614-621.

<sup>33</sup> National Patient Safety Agency (2009). 'Professionalism – dilemmas and lapses.' National Clinical Assessment Service.

<sup>34</sup> Morgan, R. G. (2001). 'Quality evaluation of clinical records of a group of general dental practitioners entering a quality assurance programme.' *British Dental Journal*, vol. 191(8), pp. 436-441.

investigated 47 GDP practices across England and Wales and found that only 45 per cent of records included complete medical histories, just 17 per cent gave treatment plans and less than 10 per cent recorded diagnoses. This is a small-sample study and therefore the results cannot be considered representative, but nevertheless highlight inadequate record-keeping.

Gulati *et. al.* (2012, III)<sup>35</sup> use data on litigation cases from the NHS Litigation Authority specifically concerning the speciality of oral and maxillofacial surgery between April 1995 and August 2010. They found that failure to defend litigation cases could sometimes be linked to poor, ineligible or insufficient record-keeping.<sup>36</sup>

Many in-depth interviews referred to the overall problem of poor record-keeping, rather than drawing out specific risks associated with it. Respondents highlighted underlying causes such as the lack of clarity when taking notes, and a lack of computer literacy of some dental professionals. One interviewee said that detail of the discussions that underpin informed consent is often not recorded, which may lead to problems for the professional in the case of litigation.

The data presented above show that dental professionals consider inadequate record keeping to be an important risk in dentistry. The literature supports this, showing that poor record-keeping is a common problem in dentistry; that it underlies many patient compensation claims and that it hampers dental professionals defence in litigation cases.

## 5.4 Poor treatment

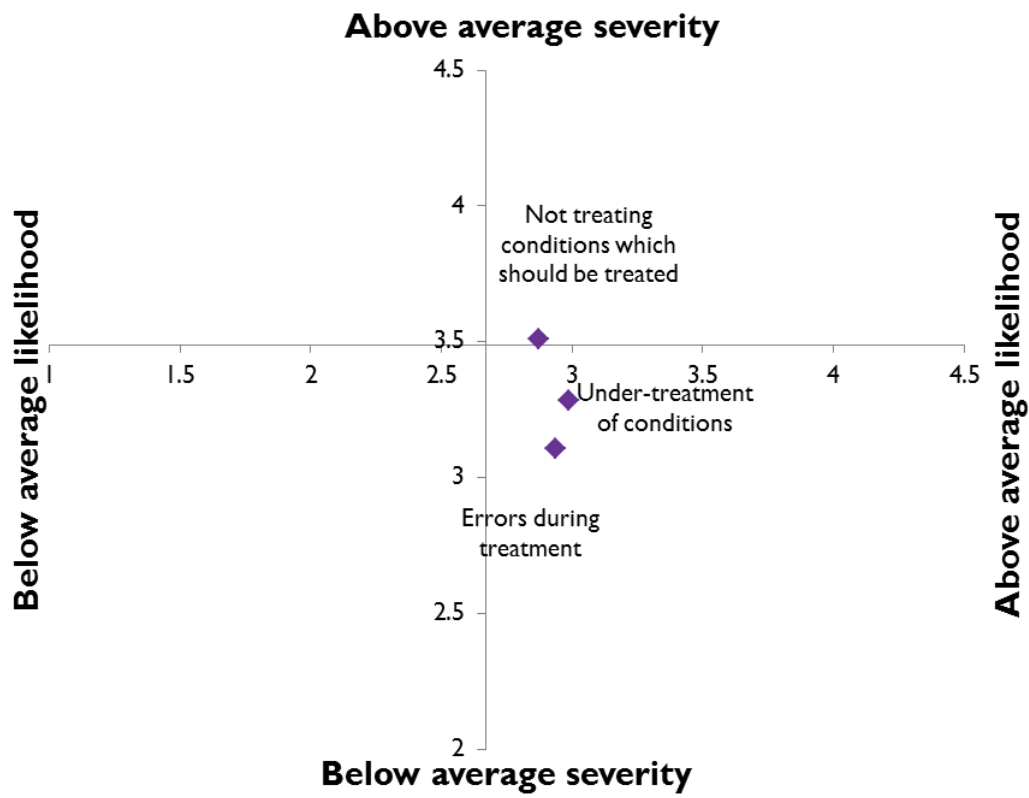
The evidence from the Risk in Dentistry, empirical data and literature, indicates that poor treatment is an important risk factor. We consider poor treatment to include under-treatment of conditions; errors during treatment; and not treating conditions which should be treated. These are perceived by all dental professionals to have above-average likelihood. The perceived negative outcomes associated with these three types of poor treatment varies, with 'not treating conditions which should be treated' perceived as most severe by dental professionals. The relative likelihood and severity of risks relating to poor treatment are illustrated in the chart below.

---

<sup>35</sup> Gulati, A., Herd, M. K., Nimako, M., Anand, R., and Brennan, P. A., (2012). 'Litigation in National Health Service oral and maxillofacial surgery; review of the last 15 years.' *British Journal of Oral Maxillofacial Surgery*, vol. 50(5), pp.385-388.

<sup>36</sup> A similar conclusion is reached by: Holmes, S. M., and Udey, D. K. (2011). 'What are the lessons we can glean from a review of recent closed malpractice cases involving oral and maxillofacial infections?' *Oral Maxillofacial Surgery Clinics of North America*, vol. 23(4), pp. 601-607.

Figure 5.7: Perceived likelihood and severity of risks relating to poor treatment

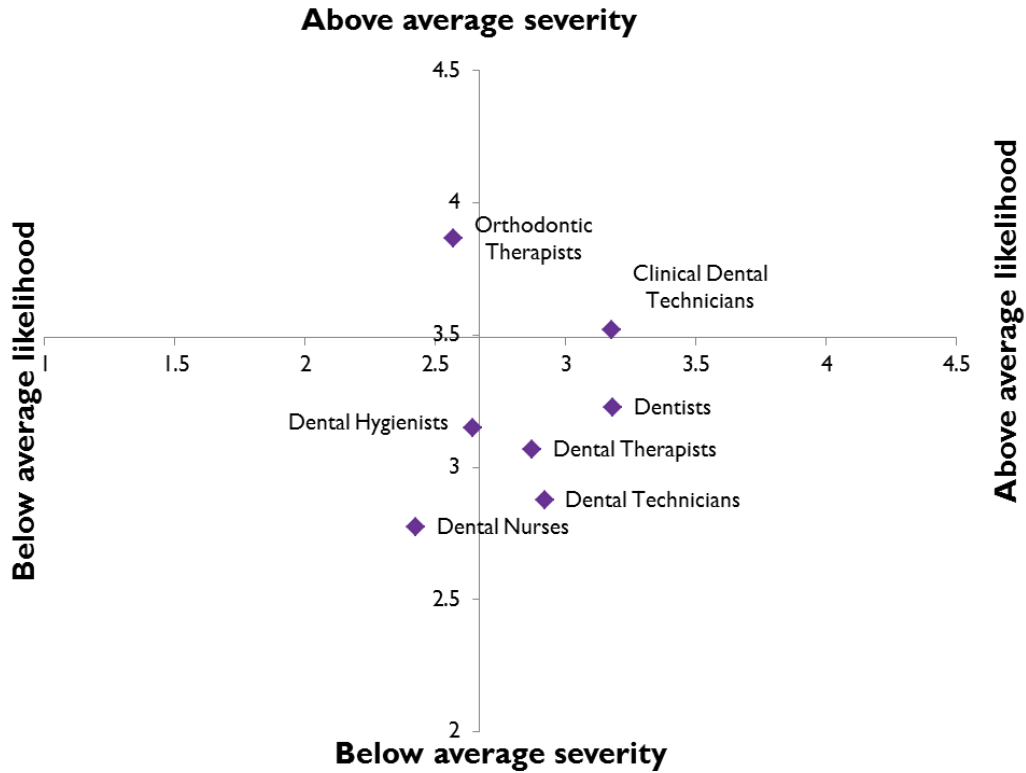


Source: 2013 Risk in Dentistry Survey



The perceived severity and likelihood of poor treatment varies across professional group. Most notable is the perceptions around errors in treatment — orthodontic therapists perceive this to be a more severe risk than other professionals groups, whereas dentists and clinical dental technicians perceive this to be more likely to occur than other professional groups. This is illustrated in the chart below.

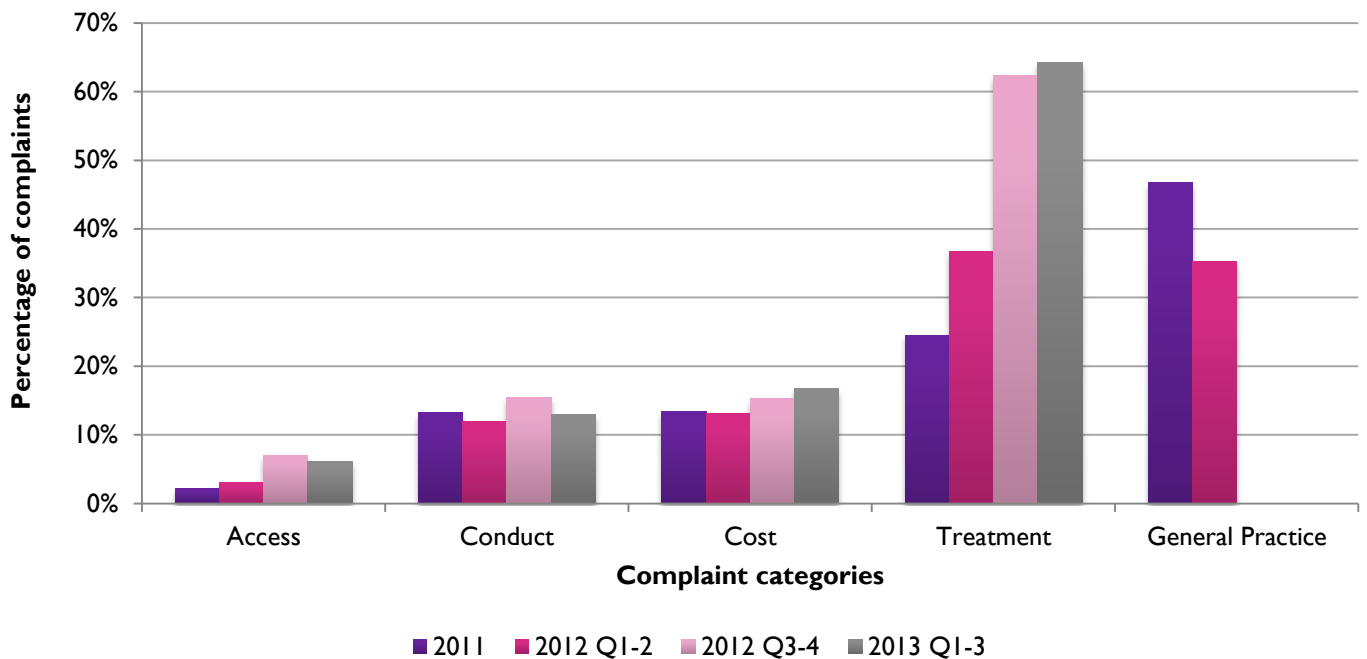
**Figure 5.8: Perceived likelihood and severity of ‘errors in treatment’, by different professional groups**



Source: 2013 Risk in Dentistry Survey

Complaints related to poor treatment are the most frequent of all complaints received by the Dental Complaints Service (DCS).<sup>37</sup> This is illustrated in the chart below. The way in which the DCS classifies complaints over time has changed, but complaints about treatment have been a significant proportion of all complaints over time.

**Figure 5.9: Complaints to the DCS, 2011 - 2013**



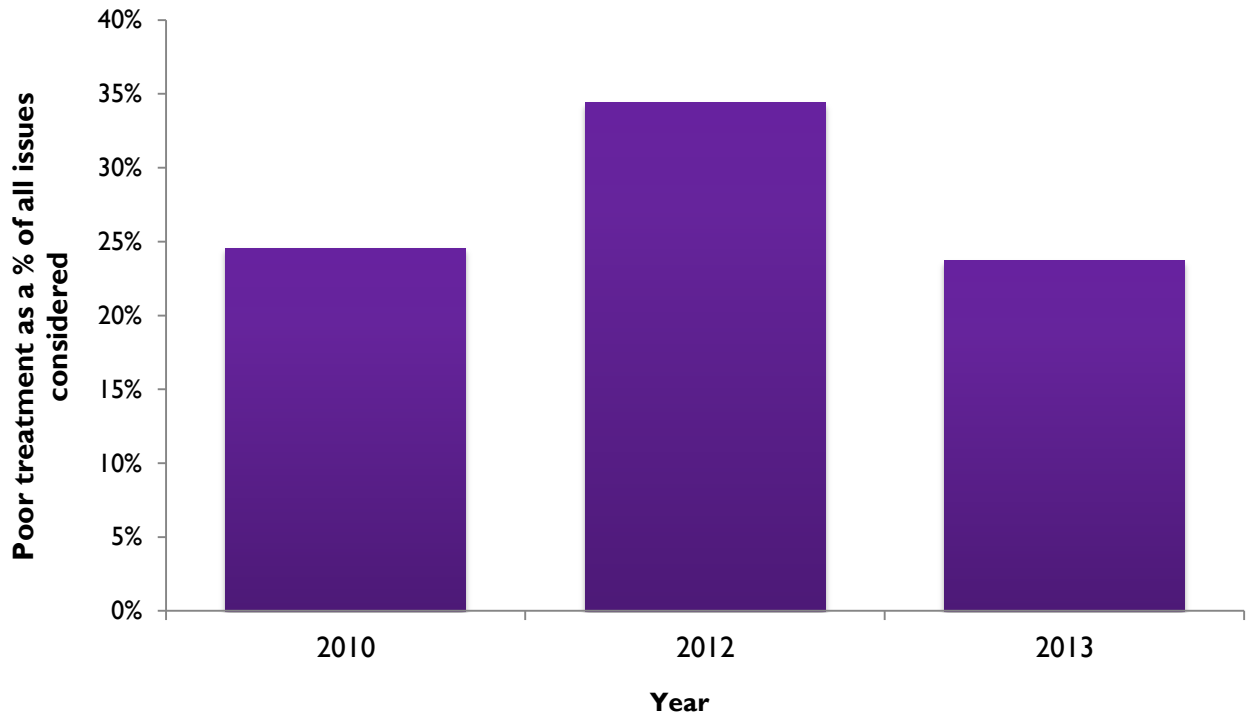
Note: the category for 'General Practice' was not included after 2012 Q3-4, and it is possible that some complaints previously classified as 'general practice' before this date were subsequently classified as 'treatment'.

Source: Dental Complaints Service report to the GDC, Council Performance Report, 2011 - 2013

<sup>37</sup> The DCS looks into complaints about private dental services provided by dental practices in the UK. The DCS does not deal with complaints about NHS dental treatment, nor commercial or contractual issues or allegations of impaired fitness to practise of dental professionals. See <http://www.gdc-uk.org/Membersofpublic/Raisingaconcern/Pages/Dental-Complaints-Service.aspx>

Poor treatment has also been the most frequent issue considered by the GDC's Professional Conduct Committee or the Professional Performance Committee in 2013, 2012 and 2010, as a part of Fitness to Practise processes (information on the issues considered by the Committees was not provided in the 2011 Annual Report).<sup>38</sup> The chart below presents the proportion that poor treatment accounts for out of all issues considered, over the years: 24%, 35% and 25% over 2013, 2012 and 2010 respectively. As a comparison, the next most frequent issues considered by the Committees accounted for 12%, 11% and 10% in 2013, 2012 and 2010 respectively.

**Figure 5.10: Poor treatment as a proportion of all issues considered by the PPC/PCC**

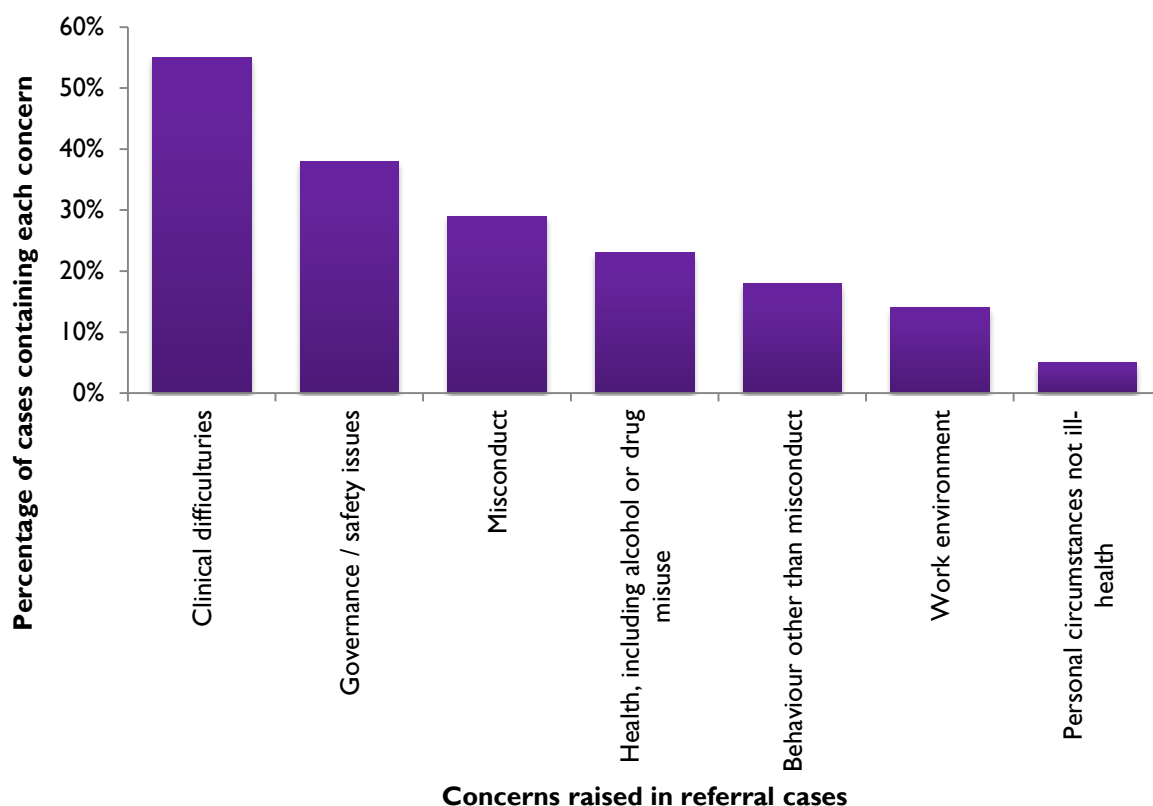


Source: GDC Annual Report and Accounts 2013, 2012, 2010

<sup>38</sup> GDC, Annual Report and Accounts 2013, 2012, 2010.

Similarly, the main cause of dentist referrals to the NHS National Clinical Assessment Service from between 2007 and 2009 is described as “clinical difficulties”.<sup>39</sup> This is shown in the figure below.

**Figure 5.11: Concerns raised in NCAS referrals, 2007 - 2009**



Source: NHS National Clinical Assessment Service. The NCAS covers all four countries in the UK, but referrals from Scotland were only included in 2008.

The above data indicate that poor treatment is a key factor that could give rise to risk in dentistry. It is possible that these failures are also exacerbated by others, such as work overload.

Poor treatment may be particularly frequent or the consequences of poor treatment may be particularly severe in certain specialities. Givol *et. al.* (2010, III)<sup>40</sup>, in an analysis of 5,217 dental malpractice complaints in Israel, report that endodontic claims are the most frequently filed malpractice claims in dentistry. They also cite Hapcook (2006)<sup>41</sup> who reports that endodontic procedures account for 17 per cent of malpractice claims in dentistry, almost double the percentage in the other specialty practice areas, and Rene and Owall (1991)<sup>42</sup> who find that malpractice cases as a result of endodontics were very common in Sweden, representing 14 per cent of claims.

Givol *et. al.* (2010) also state that the technical skills of the dental practitioners performing root canal treatments require improvement. All possible risks and complications should be considered and explained to the patient before treatment.

<sup>39</sup> The NCAS is a division of the NHS Litigation Authority which helps to improve patient safety by resolving concerns about professional practice of dentists and other healthcare workers. The NCAS operates in England, Northern Ireland, Scotland and Wales.

<sup>40</sup> Givol, N., Rosen, E., Taicher, S., Tsesis, I., (2010). 'Risk management in endodontics.' *Journal of Endodontics*, vol. 36(6), pp. 982-984.

<sup>41</sup> Hapcook, C. P. (2006) 'Dental malpractice claims: percentages and procedures.' *Journal of the American Dental Association*, vol. 137(10), pp. 1444-5.

<sup>42</sup> René, N. and Owall, B. (1991) 'Dental malpractice in Sweden.' *Journal of Law and Ethics in Dentistry*, vol. 4, pp. 16-31.

Gulati *et. al.* (2012)<sup>43</sup> find evidence of treatment problems. They use anonymised data from the NHS Litigation Authority (NHSLA) for all cases registered with the oral and maxillofacial surgery (OMFS) speciality from April 1995 to August 2010. The highest number of claims (n = 117; 37%) related to dentoalveolar and minor oral surgery. Claims were made most commonly for perceived unnecessary pain postoperatively (generally not compensated), dentoalveolar damage (to adjacent tooth or removal of the wrong tooth), neurological deficit, or soft tissue injury. Of the 52 claims paid, 8 were for drill burns, 13 for extraction of the wrong tooth, and 6 for nerve injuries. Dentoalveolar and minor oral surgery form the highest proportion of routine workload in most OMFS units and the greatest number of claims during the study period came from these areas. This is not surprising because of the high volume of cases.

Evidence of poor treatment in these areas may relate in part to the inherent clinical risk in this area. For example, Webber (2010, V)<sup>44</sup> notes that endodontic procedures are challenging and technically demanding.

Based on the empirical evidence and literature, we consider treatment failures to be an important factor that may increase the risk that dental professionals do not practise at the standard they should.

## 5.5 Other potential risk factors

In order to reach conclusions on the main risk factors, we assessed the evidence for a wider range of potential risk factors that have been raised in the interviews or other sources. We present a detailed assessment of the evidence in the Appendix, and summarise our conclusions here.

### 5.5.1 Length of time in practice

The available evidence from the literature, interviews and data sources does not enable us to draw clear conclusions on the extent to which length of time in practice may increase the likelihood that an individual may depart from the Standards. Whilst the NHS National Clinical Assessment Services report provides clear evidence that older dental professionals are more likely to be referred than younger, it does not provide any insight into the underlying reasons for this.<sup>45</sup> Other literature does not provide robust evidence in support this risk factor, referring mainly to indirect factors associated with length of time in practice such as reduced CPD engagement and slower adoption of good practice guidelines. We therefore do not consider this factor to be significant.

### 5.5.2 Non-UK dental qualifications

The available evidence from the literature, interviews and data sources does not enable us to draw clear conclusions on the likelihood that dental professionals with non-UK qualifications may be more likely to depart from the Standards. We therefore conclude that this is not a main risk factor, although we recommend that further research into this risk factor would be valuable.

### 5.5.3 Transition to independent practice

We investigated whether the transition from training to independent practice could be an important risk factor in increasing the likelihood of impaired practice. We found that the evidence for this is very limited.

---

<sup>43</sup> Gulati, A., Herd, M. K., Nimako, M., Anand, R., and Brennan, P. A., (2012). 'Litigation in National Health Service oral and maxillofacial surgery; review of the last 15 years.' *British Journal of Oral Maxillofacial Surgery*, vol. 50(5), pp.385-388.

<sup>44</sup> Webber, J. (2010). 'Risk management in clinical practice. Part 4. Endodontics.' *British Dental Journal*, vol. 209(4), pp. 161-170.

<sup>45</sup> NHS National Clinical Assessment Service, Concerns about professional practice and associations with age, gender, place of qualification and ethnicity - 2009/10 data, February 2011

Furthermore, there is evidence from an analysis of GDC FtP data<sup>46</sup> which shows that newly qualified registrants are *less* likely to enter into FtP proceedings, a finding which contradicts the hypothesis of increased risk in the transition to independent practice.

#### 5.5.4 Barriers to CPD

We investigated whether barriers to undertaking sufficient CPD was an important factor affecting the risk of departure from the Standards. The literature and survey data highlight potential barriers to CPD, but does not provide sufficient evidence that such barriers might affect the risk of departure from the Standards or lead to impairment. Further details on the evidence is presented in the Appendix.

---

<sup>46</sup> General Dental Council (2013) 'Item 7 Transition to Independent Practice Group Meeting', Council Meeting 26 September 2013

# 6 Conduct Factors

## 6.1 Introduction

Conduct risk factors are those factors stemming from the behaviour of practitioners that could lead to a departure from the GDC's Standards. These risk factors are not the result of a lack of skill or knowledge but relate to behaviours and attitudes. Conduct factors also includes behaviour that is inappropriate towards patients and colleagues.

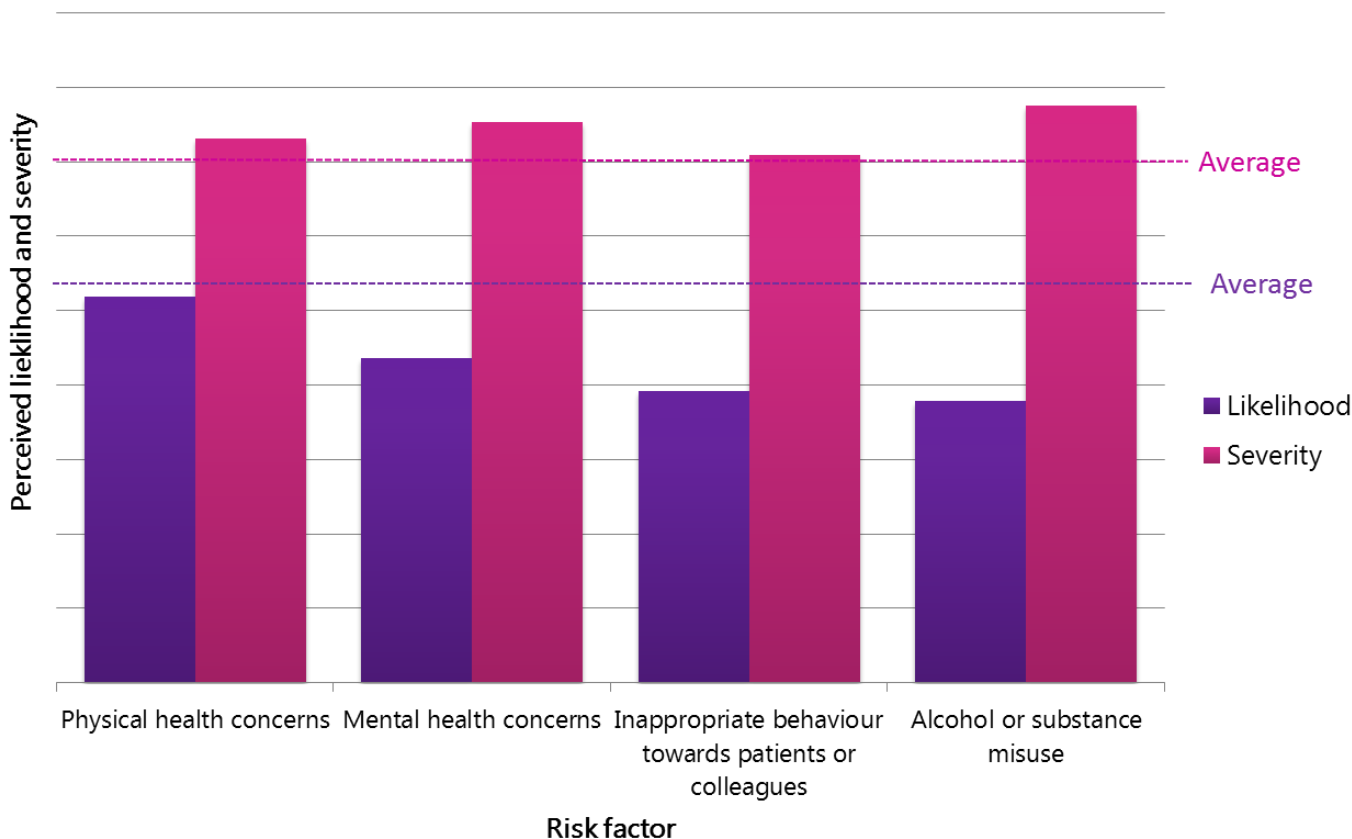
Based on the survey responses and supported by the literature review and interviews, the following factors are identified as being the most likely to affect registrants' practice in accordance with the Standards.

- Health issues, which include physical health concerns, alcohol or substance abuse, and mental health concerns.
- Lack of professionalism, which includes inappropriate treatment of patients and lack of courtesy.

The GDC 2013 Risk in Dentistry Survey shows all dental professionals' perceived risk of these conduct factors. These are illustrated in the chart below.

Dental professionals perceive these risk factors to be below average in likelihood, as shown by the lower dotted 'Average' line. On the other hand, dental professionals perceive the negative impacts of these risks, when they occur, to be above-average in severity, as shown by the upper dotted 'Average' line.

**Figure 6.1: Main conduct risk factors perceived by all dental professionals**



Note: The lower Average dotted line represents the average likelihood perceived by all dental professionals across all risk factors. The upper Average dotted line represents the average severity perceived by all dental professionals across all risk factors.  
 Source: 2013 Risk in Dentistry Survey, Question 26

We also refer to other potential risk factors which we investigated but concluded, based on the evidence, were not the most likely to affect registrants' practice. Fuller details of the evidence is presented in the Appendix.

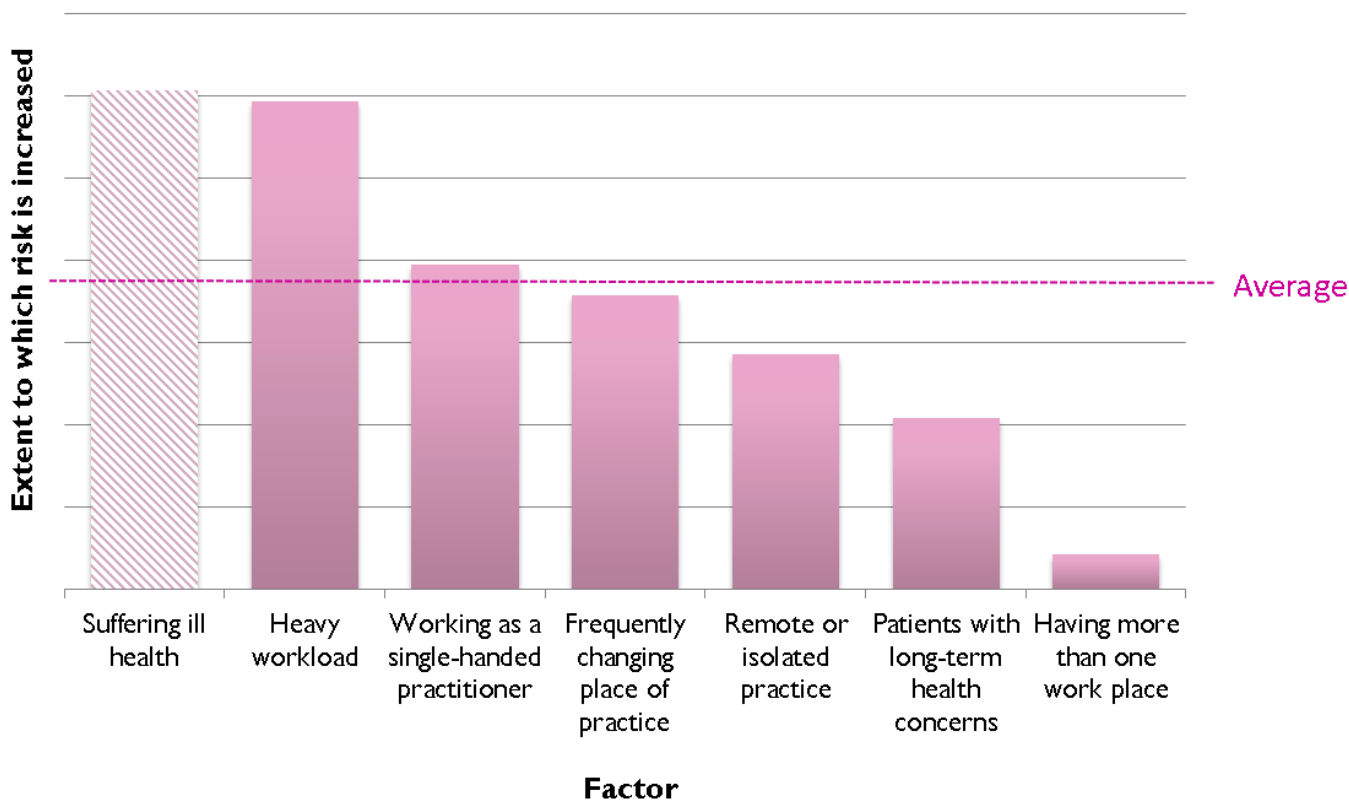
## 6.2 Health issues

In the Risk in Dentistry Survey, respondents were asked to rate the likelihood and severity of three risk factors relating to health issues: mental health concerns; physical health concerns; and alcohol or substance misuse concerns. As seen in Figure 6.1, physical health concerns is perceived to be the most likely to occur. Although dental professionals considered these three health issues to be below-average in likelihood, they did perceive them to be above-average in severity.



In a different question, the survey asked respondents which factors may increase the risk of a departure from the GDC’s Standards. As highlighted in Figure 6.2 below, suffering ill health (the shaded bar) was perceived to be the most risky factor, well above the average perceived riskiness across all factors (represented by the dotted line).

**Figure 6.2: Factors perceived to increase the risk that Standards are not met**



Note: the chart shows the perceptions of all dental professionals participating in the survey. These factors are derived from a different survey question to that for the likelihood and severity of risks. More details are set out in the Appendix.  
 Source: 2013 Risk in Dentistry Survey, Question 28

Myers and Myers (2004, II)<sup>47</sup> analyse survey data covering a stratified random sample of 2,441 UK GDPs. The study found high instances of stress and poor health among GDPs: 60 per cent of GDPs said they were nervous, tense, depressed or had difficulty sleeping, 58 per cent said they got headaches, 48 per cent claimed they were tired for no apparent reason, and 32 per cent showed signs of minor psychiatric symptoms. Regression analysis suggests that all of these problems, as well as alcohol abuse, are related to work stress, including time and scheduling pressures, job dissatisfaction and instability of dentist-patient relationship. In terms of physical health, the data showed that almost seven out of ten GDPs suffered from backache and over one third would be classed as overweight or obese. Whilst this evidence does not draw explicit links between poor health and impaired performance, it does show widespread examples of poor health.

The National Patient Safety Agency (2011, V)<sup>48</sup> carry out a literature review of primarily UK-based studies and finds some evidence to suggest that dentists may be more prone and reactive to stress than the average individual, and that long-term stress can develop into clinical disorders like burnout and depression, as can alcohol and drug abuse. Clinical disorders, such as depression, can be further compounded by a reluctance to seek professional help, because of the perceived shame of doing so. The National Patient

<sup>47</sup> Myers, H. L., Myers, L. B. (2004). 'It's difficult being a dentist: stress and health in the general dental practitioner.' *British Dental Journal*, vol. 197(2), pp. 89-93.

<sup>48</sup> NHS National Patient Safety Agency (2011). 'Factors influencing dental practitioner performance: a literature review.'

Safety Agency's literature review finds some studies which report that "... as a profession, dentists show high rates of suicide providing some objective evidence of high levels of psychological distress". Furthermore, Kelly and Bunting (1998)<sup>49</sup> using ONS data report that suicide rates among male dental practitioners are approximately two and a half times the national average.

There is also evidence on this risk factor in the literature in other healthcare contexts:

- Phipps et al. (2010, II)<sup>50</sup> find that pharmacists who experience stress or ill health are perceived as more prone to poor decision making and abuse of practice resources.
- Morrow et al. (2012, IV)<sup>51</sup>, based on a systematic literature review, find that fatigue among doctors can lead to adverse outcomes for cognitive and psychomotor skills, which could ultimately jeopardise patient safety. One example of the increased prevalence of clinical errors in a medical setting is the increase in needlestick injuries associated with practitioner fatigue.

Health and lifestyle issues receive moderate coverage in the interviews. One interviewee said that poor quality dental care tends to be due to underlying factors like the practitioners' health, rather than their level of competence. Half of those who raised this issue spoke of the day-to-day stresses of dentistry, with dentistry seen as a particularly stressful profession. One respondent said that stressful encounters with patients can lead to wider problems or sub-standard performance, such as failing to conduct necessary tests due to fear of upsetting the patient. On top of patient-related stresses, it was highlighted that dental professionals may also have to cope with the financial stresses of running a business and the stress of the changing regulatory environment.

The evidence from the Risk in Dentistry Survey and other evidence above suggests that health issues is an important risk factor in dentistry. The survey shows that dental professionals perceive suffering ill health to be the main factor that may increase the risk that Standards are not met, and also that they consider alcohol and substance abuse and mental health problems to be particularly severe (even though below-average in likelihood). The literature provides evidence of poor health among dentists, and of consequences of poor health and stress in other healthcare sectors. The interviews support these findings.

### 6.3 Lack of professionalism

The importance and role of professionalism is reflected in much of the literature. Wellie (2004, V)<sup>52</sup> defines this as 'the social contract between the profession and the public (which) entails a collective responsibility of the members of the profession to serve the public good'. According to Wellie, lack of professionalism can capture a wide range of behavioural issues, both active, such as aggression and disrespect, and passive like failure to attend meetings and a lack of punctuality. We use this definition in investigating whether a lack of professionalism can be considered a significant risk factor in dentistry.

The 2013 Risk in Dentistry Survey shows that dental professionals perceive inappropriate behaviour towards patients (or colleagues) as above-average in severity although, as with the other conduct factors, this is not perceived to be particularly likely. This is shown in Figure 6.1 above.

There is also evidence from the literature to suggest that this is an important risk factor.

---

<sup>49</sup> Kelly, S. and Bunting, J. (1998) 'Trends in Suicide in England and Wales, 1982-1996. *Population Trends*, vol. 92, pp. 29-41.

<sup>50</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) 'Risk Assessment in Pharmacy Practice'

<sup>51</sup> Morrow, G., Burford, B., Carter, M., Illing, J. (2012). 'The Impact of the Working Time Regulations on Medical Education and Training: Literature Review.' Report for the General Medical Council.

<sup>52</sup> Wellie, J. V. (2004). 'Is dentistry a profession? Part 2. The hallmarks of professionalism.' *Journal of the Canadian Dental Association*, vol. 70(9), pp. 599-602.

The [National Patient Safety Agency report \(NPSA, 2009, V\)](#)<sup>53</sup> refers to analysis conducted on a sample of 1,198 consecutive advice cases concerning dentists, doctors or pharmacists between 2007 and 2008 by the NCAS. Cases, or ‘case management services’, are a means of bringing practitioner referrals to a resolution, predominantly through providing advice and support. They found that behaviour of practitioners was a concern in 56% of cases analysed, and was also the sole concern in 23% of cases. Furthermore, aggression was the most common grounds for seeking advice (one in 13 practitioners). Behavioural issues were seen to have the most marked effect on communication, teamwork and management and leadership.

[Masella \(2007, V\)](#)<sup>54</sup> argues that ‘it is only within the context of professionalism that specialised knowledge and technical expertise find meaning’. They criticise the lack of importance given to professionalism, morality and ethics in US dental schools,<sup>55</sup> especially since research quoted in the study suggests a significant connection between student moral reasoning and clinical performance.

[Brosky et al \(2003, III\)](#)<sup>56</sup> found that dental practitioners’ behaviour can affect patients’ wellbeing. The authors surveyed 200 patients in order to profile their perceptions about the professionalism of students and staff in the University of Minnesota’s School of Dentistry. They found that the physical attire of the dental professional affects a patient’s comfort and anxiety, as does the first impression the dental professional gives.

[Lopez-Nicholas et al. \(2011, III\)](#)<sup>57</sup> stress the need for good behavioural (or “soft”) skills alongside clinical skills, as complaints about behaviour were found to be common in their analysis of claims presented to the College of Dentists in Murcia in Spain. The claims data suggest that practitioners need to better understand, and respect, their limitations, which implies some practitioners may work beyond their level of competence.

Evidence from other healthcare contexts also highlights how a lack of professionalism can be a common source of complaint and how it can ultimately undermine patient care:

- [Papadakis et al. \(2006, II\)](#)<sup>58</sup> undertake a case-control study to investigate the link between disciplinary action against practicing physicians and unprofessional behaviour in medical school. The study included 235 graduates across three medical schools who were disciplined by state medical boards between 1990 and 2003, as well as 469 ‘control’ physicians. Their analysis found unprofessional behaviour to be a good forecaster of the likelihood of board disciplinary action against practitioners, with students who have at least three instances of unprofessional behaviour being eight times more likely to receive later disciplinary action compared to the control group. Professional behaviour is considered as a much better predictor of practice performance than any academic measure.

---

<sup>53</sup> National Patient Safety Agency (2009). ‘Professionalism – dilemmas and lapses.’ National Clinical Assessment Service.

<sup>54</sup> Masella, R. S. (2007). ‘Renewing professionalism in dental education: overcoming the market environment.’ *Journal of Dental Education*, vol. 71(2), pp. 205-216.

<sup>55</sup> A similar point is raised by: Chamberlain, T. C., Catano, V. M., Cunningham, D. P. (2005). ‘Personality as a predictor of professional behaviour in dental school: comparisons with dental practitioners.’ *Journal of Dental Education*, vol. 69(11), pp. 1222-1237.

<sup>56</sup> Brosky, M. E., Keefer, O. A., Hodges, J. S., Pesun, I. J., and Cook, G. (2003). ‘Patient perceptions of professionalism in dentistry.’ *Journal of Dental Education*, vol. 67(8), pp. 900-915.

<sup>57</sup> Lopez-Nicholas, M., Falcón, M., Perez-Carceles, M. D., Osuna, E., Luna, A., (2011). ‘The role of a professional dental organization in the resolution of malpractice claims the professional dentist college in the region of Murcia (Spain).’ *Medicine and Law*, vol. 30(1), pp.55-63.

<sup>58</sup> Papadakis, M. A., Teherani, A., Banach, M. A., Knettler, T. R., Rattner, S. L., Stern, D. T., et al. ‘Disciplinary action by medical boards and prior behaviour in medical school’. *Journal of Medical Licensure and Discipline*, vol. 353(25), pp. 2673–82.

- Scraggs *et al.* (2012, V)<sup>59</sup> carry out a Rapid Evidence Assessment literature review for the General Medical Council (GMC) and one of the key findings emerging from this literature review is how bad habits and behaviour patterns of doctors can impede good practice. This includes an observational study by Grol *et al.* (1998, III) who look at the uptake of 47 different recommendations from ten national clinical guidelines, surveying 61 general practitioners in the Netherlands. They find that when practice guidelines require changes to existing practice they are followed in 44 per cent of cases, compared to 67 per cent of cases where no change is required.
- Rosenstein and O'Daniel (2008, III)<sup>60</sup> use an earlier study by VHA West Coast (a regional office of VHA Inc. – a national alliance of not-for-profit hospitals across the US) which surveys 4,530 US healthcare staff between 2001 and 2006. They identify common disruptive behaviours to include abuse, disrespect and criticising colleagues in front of others and find that such behavioural qualities are fairly consistent across healthcare professions. Rosenstein and O'Daniel ultimately find that this inappropriate behaviour has a negative impact on patient care quality, increasing the frequency of medical errors and adverse events. Over two-thirds of respondents perceived a detrimental impact of disruptive behaviour on quality of care, with a quarter even suggesting a link with patient mortality.
- KPMG (2010, V)<sup>61</sup> looked into alternative revalidation models for the General Osteopathic Council (GOsC). They drew interesting conclusions from other healthcare sectors, for example, the finding that the majority of complaints in optical procedures were related to conduct failures, not clinical deficiency. This report also draws on the work of Leach *et al.* (2010) which analyses GOsC complaints data and finds that conduct and communications were the second most common complaints category, constituting 21% of the total complaints made.

The interview feedback in this area is limited. Reference was made to the importance of dental professionals' manner, aside from their clinical skills. One respondent said they had little concern about professionalism, but one or two others spoke of instances of patients falling out with dentists and of disputes between, and bullying of, colleagues. A couple of interviewees also said that they see a lack of empathy and the caring approach these days.

The evidence from the literature indicates that a lack of professionalism may increase the risk of impairment, and could be an important risk factor. Given the strength of the literature evidence, we conclude that this could be considered an important risk factor.

## 6.4 Other potential risk factors

### 6.4.1 Dishonesty and abuse of trust

Issues relating to dishonesty, abuse of trust and misleading patients were raised by several interview respondents, and therefore we investigated the evidence to assess whether this could be considered an important risk factor. This issue was not observed in the data from the Risk in Dentistry Survey, nor was there convincing evidence from the literature, although there is some data on instances of fraud. Details of the evidence we reviewed is set out in the Appendix.

---

<sup>59</sup> Scraggs, E., Brereton, L., Newbould, J., Drabble, S., Tiefensee, C., Schweppenstedde, D., Miani, C., and Ling, T. (2012). 'Factors that encourage or discourage doctors from acting in accordance with good practice.' Report prepared for the General Medical Council.

<sup>60</sup> Rosenstein A., and O'Daniel, M. (2008) 'Managing disruptive physician behaviour: Impact on staff relationships and patient care', *Neurology*, vol.70, pp.1564-1570.

<sup>61</sup> KPMG (2010). 'Report B – A report on the review of the work undertaken by other regulators to outline, costs, benefits, financial and regulatory risks.' Report prepared for the General Osteopathic Council.

# 7 Contextual Factors

## 7.1 Introduction

This section explores those factors that are external to the individual but could affect dental professionals practice in accordance with the GDC's Standards. Contextual risk factors could directly influence the risk of impairment, and/or could interact with competency and conduct risk factors.

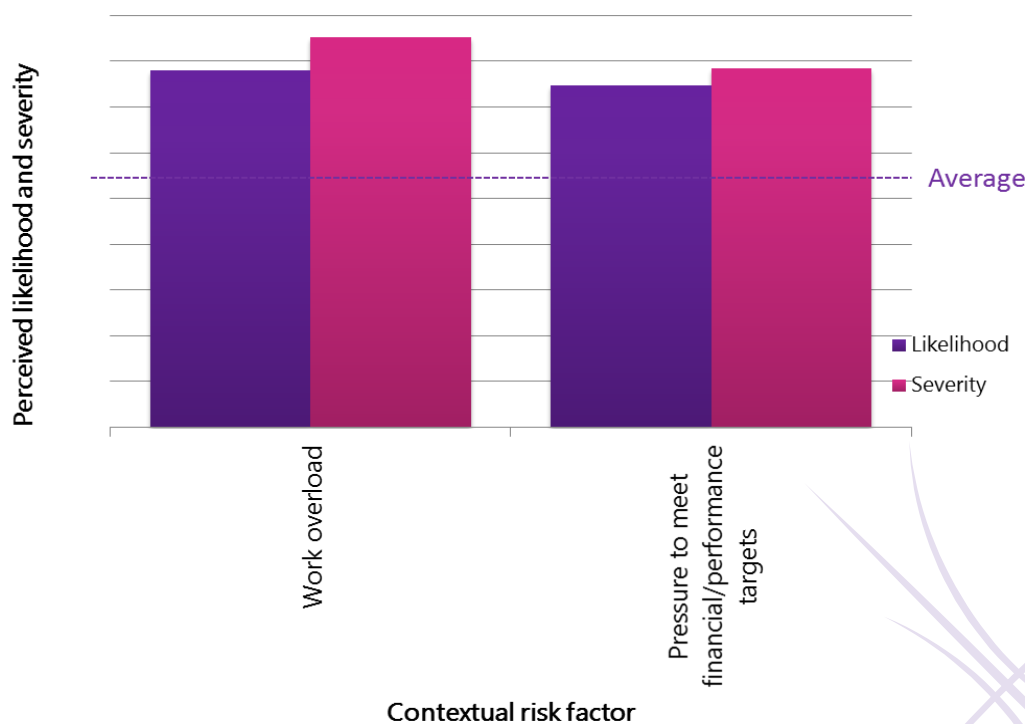
Based on the 2013 Risk in Dentistry Survey responses and supported by the literature review and interviews, the following factors are identified as being the most likely to affect registrants' practice in accordance with the Standards.

- High workload
- Isolated practice
- Financial incentives and pressures
- Gender

Dental Professionals' perceptions of these risk factors are shown in the two figures below. These are presented separately as the data are drawn from two different survey questions.

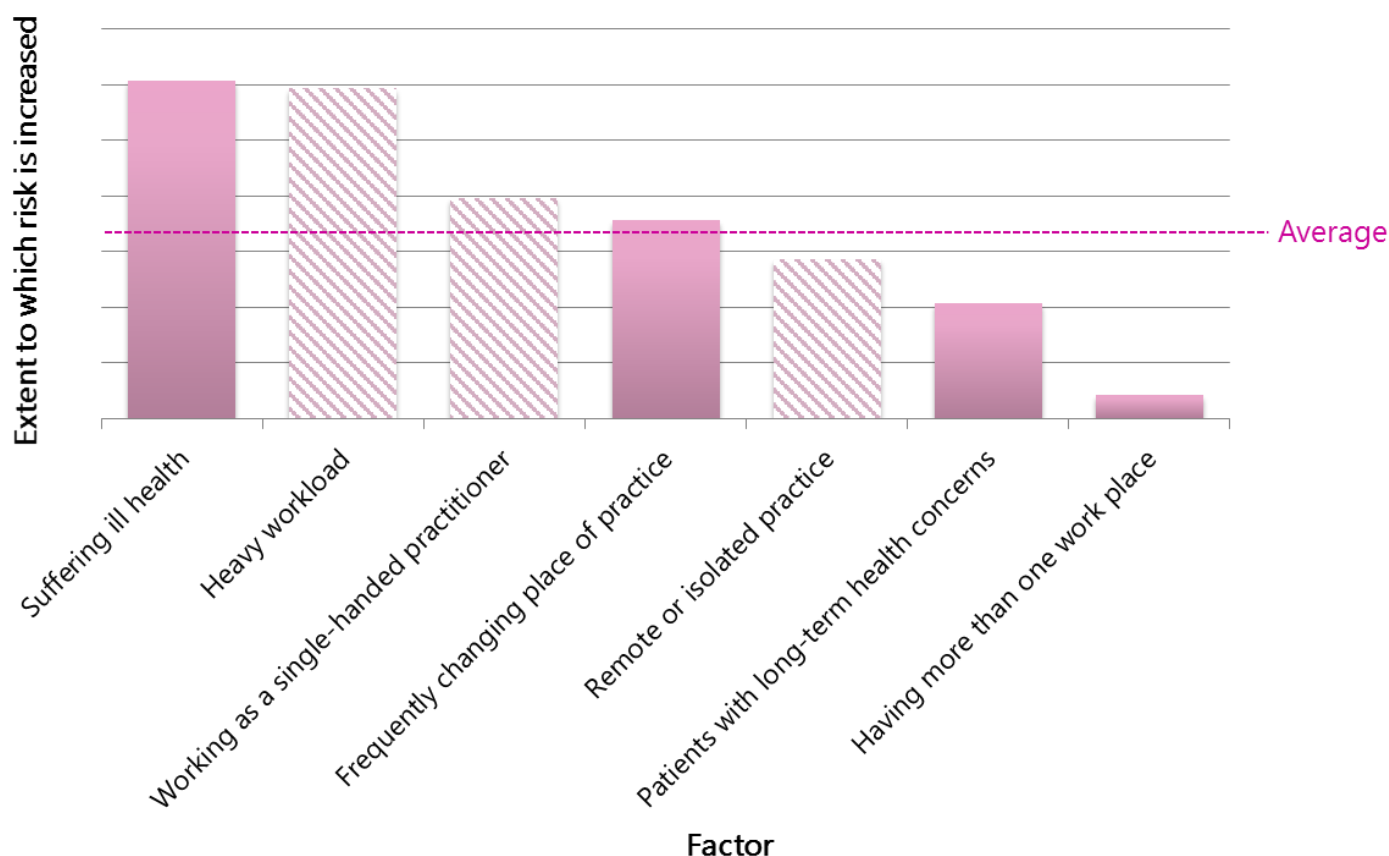
As can be seen in Figure 7.1, both work overload and pressure to meet financial or performance targets are considered by all dental professionals to be well above average in likelihood. Dental professionals also consider the outcomes of these factors to be similarly severe.

**Figure 7.1: Contextual risk factors perceived by all dental professionals**



Source: 2013 Risk in Dentistry Survey, Question 26

Figure 7.2 shows dental professionals' perceptions of the extent to which heavy workload, working as a single-handed practitioner and isolated practice (shaded in the chart) increase the risk that GDC Standards are not met.

**Figure 7.2: Factors perceived to increase the risk that Standards are not met**

Note: the chart shows the responses of all dental professionals participating in the survey. These factors are derived from a different survey question to that for the likelihood and severity of risks in Figure 7.1. More details are set out in the Appendix.  
Source: 2013 Risk in Dentistry Survey, Question 28

We also refer to other potential risk factors which we investigated but concluded, based on the evidence, were not the most likely to affect registrants' practice. Fuller details of the relevant data are presented in the Appendix.

## 7.2 Work overload

In the 2013 Risk in Dentistry Survey, dental professionals were asked about their perceptions of the likelihood and severity of work overload in affecting their practice in accordance with the Standards. Work overload was perceived to be the highest among all potential risk factors included in this question, as illustrated in Figure 4.1 in Chapter 4. Additionally, in a different survey question, heavy workload was perceived to be an important factor in increasing the risk that GDC Standards are not met, as illustrated in Figure 7.2 above.

The literature provides evidence to support this, mainly highlighting the impact that heavy workload has on practitioners' time pressures and stress, which in turn may increase the risk that standards are not met.

Myers and Myers (2004, II)<sup>62</sup> conduct a nationwide survey using a stratified random sample of 2,441 GDPs. They find that 45 % of GDPs described themselves as having to work too quickly in order to see as many patients as possible. Furthermore, 64% of GDPs said that constant time pressures led to 'a lot' or 'a great deal' of stress. Similarly, when asked what impact being behind schedule had on their stress levels, 68% of

<sup>62</sup> Myers, H. L., and Myers, L. B. (2004). 'It's difficult being a dentist': stress and health in the general dental practitioner.' *British Dental Journal*, vol. 197(2), pp. 89-93.



GDPs said that it caused ‘a lot’ or ‘a great deal’ of stress. Chapter 5.5.4 on conduct factors highlights stress as a key risk factor detrimental to the health of dentists, which in turn can increase the risk of impairment.

The literature also discusses problems related to work overload in relation to other healthcare professions:

- Avery *et al.* (2012, II)<sup>63</sup> analyse prescribing errors among doctors over one year for a 2% sample of the patients across 15 general practices in England. They find that heavy workload, and the associated time pressures and possible stress, make prescribing errors ‘almost inevitable’. They make other key observations from interview feedback, which include:
  - The failure of appointment systems to manage patient demand as a particular source of stress.
  - High workload and time pressures as creating a constant degree of risk, due to a lack of time to think or ‘deal with the patient properly’.
  - The stress created by high workload environments, rather than a lack of knowledge, as tending to lead to prescribing errors.
- Dornan *et al.* (2009, II)<sup>64</sup> use a multi-method approach to investigate the underlying causes of prescribing errors by foundation trainees. The most frequent explanation for errors was rushing in filling out prescriptions, which was attributed to heavy workloads and the pressures of multitasking.
- Phipps *et al.* (2010, II)<sup>65</sup> find that many interview participants identified workload as a risk factor in pharmacies. This was found to be closely related to staffing levels. One respondent spoke of how the stress and time pressure created cause people to rush and make simple mistakes, while another said that the need to multitask made it difficult to give a task one’s full attention and increases the likelihood of errors slipping through.

Work overload was raised as an issue in a moderate number of interviews. One respondent said that there are areas where there are not enough dentists, while another said that recruitment freezes in hospitals had placed an extra workload on incumbent practitioners. Another point that was made that, if payment is based on the amount of treatment rather than the number of people, then this lead may lead to dentists being overworked. The interviews suggest that dentists are not usually keen to cut their workload as their income would fall and so, instead, they work under greater time pressures, start to cut corners etc. which could increase the risk against patient safety.

The evidence from the Risk in Dentistry Survey shows that dental professionals perceive work overload to be the factor most likely to result in a departure from the GDC’s Standards. The evidence from literature is not extensive, but does support the perception that work overload may lead to high stress levels and increased errors and mistakes. We therefore conclude that this should be considered as an important risk factor.

### 7.3 Isolated practice

We define isolated practice as situations where practitioners do not interact with others and, although more likely, it does not exclusively refer to sole practitioners and geographically isolated practices. Rule (2010, V)<sup>66</sup> states that the structure of dentistry somewhat lends itself to professional isolation because,

<sup>63</sup> Avery, T., Barber, N., Ghaleb, M., Dean Franklin, B., Armstrong, S., Crowe, S., Dhillon, S., Freyer, A., Howard, R., Pezzolesi, C., Serumaga, B., Swanwick, G., and Talabi, O. (2012). ‘Investigating the prevalence and causes of prescribing errors in general practice: The PRACtICe Study.’ Report for the General Medical Council.

<sup>64</sup> Dornan, T., Ashcroft, D., Heathfield, H., Lewis, P., Miles, J., Taylor, D., Tully, M., and Wass, V. (2009). ‘An in depth investigation into causes of prescribing errors by foundation trainees in relation to their medical education.’ EQUIP study. Report for the General Medical Council

<sup>65</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) ‘Risk Assessment in Pharmacy Practice’.

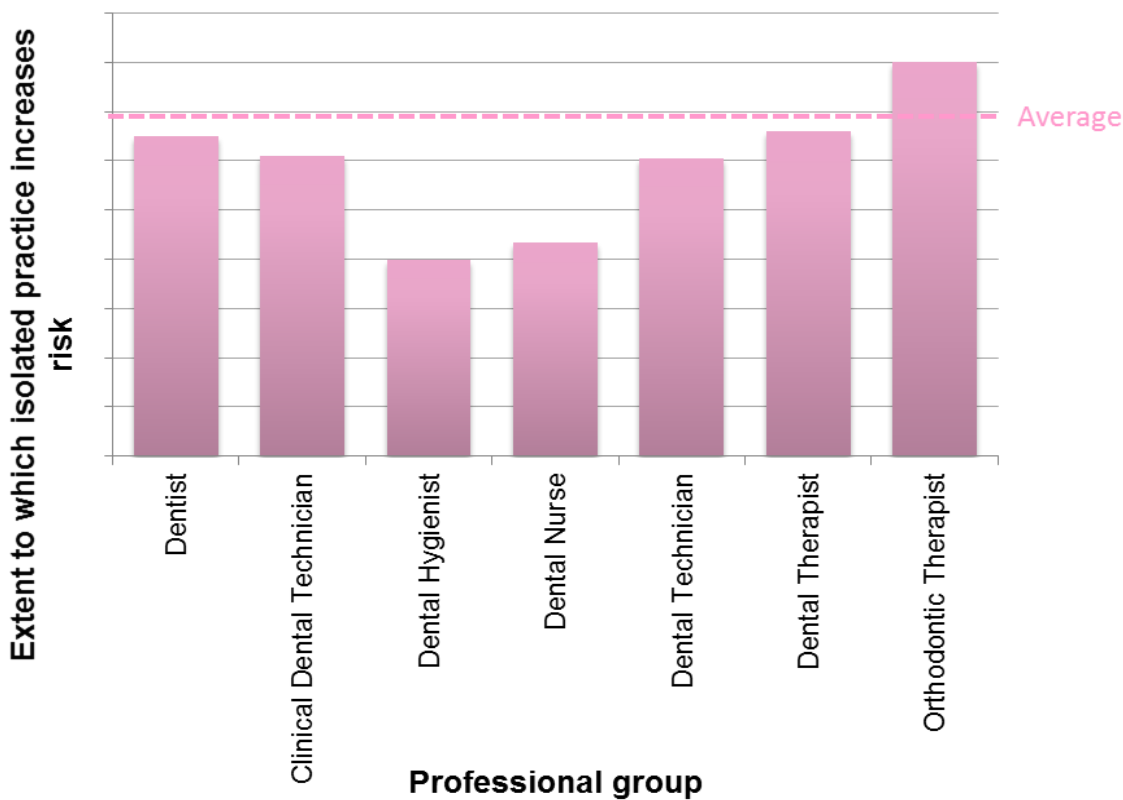
<sup>66</sup> Rule, J. T. (2010). ‘How dentistry should approach its problems: a vote for professionalism.’ *Journal of the American College of Dentists*, vol. 77(4), pp. 59-67.

while physicians tend to work with lots of colleagues in clinics or hospitals, dentists usually work independently or in relatively small practices.

In the 2013 Risk in Dentistry Survey, working in a remote or isolated practice was perceived by dental professionals to increase the risk that Standards are not met, and was the fourth most likely factor associated with context, as shown in Figure 7.2 above. The survey also shows that dental professionals perceive that working as a single-handed practitioner also increases the risk that Standards are not met (although being a single-handed practitioner will not necessarily imply isolated practice).

The perception of the negative impact of isolated practice varies across different dental professions. As seen in the figure below, the majority of professionals perceive the risk from isolated practice to be below the average level across all factors, with the exception of Orthodontic therapists. Dental hygienists and nurses have the lowest perception of risk arising from isolated practice — this may reflect the extent to which these professionals work in teams.

**Figure 7.3: Perception of risk associated with isolated practice, by professional group**



Source: 2013 Risk in Dentistry Survey

We also investigated whether the perception of risk associated with isolated practice varied across country. As seen in the chart below there is very little variation.



**Figure 7.4: Perception of risk associated with isolated practice, by country**

Source: 2013 Risk in Dentistry Survey

The [National Patient Safety Agency \(2011, V\)](#)<sup>67</sup> carry out a review of largely UK literature to look at pathways to impairment in dentistry. They find that dental practitioners who lack access to professional networks, either formal or informal, also lack support mechanisms, which could ultimately undermine performance and patient safety.

[Bullock et al. \(2003, III\)](#)<sup>68</sup> survey all GDPs across three deaneries in England. They conclude that, controlling for other effects, the number of partners in a practice positively affects the probability of a dentist completing in excess of 50 hours of CPD annually. This probability among of dentists working in a practice with four or more other professionals was found to be nearly twice that of those working in single-handed practices. This does not provide evidence that those in single-handed practice are more likely to be at risk of impairment, but does suggest that those in single-handed practice are less likely to undertake regular CPD, which in turn might be detrimental to performance.

Outside the UK dental setting [Gorter et al. \(2012, IV\)](#)<sup>69</sup> survey oral and maxillofacial surgeons (OMFSs) in the Netherlands and find that they, as a group, have a much lower frequency of burnout. In part they attribute this to the fact that these dental specialists tend to work as part of larger teams than the average dental professional, which gives OMFSs better access to peer support and thereby reduces the risk of burnout.

[Moss and Gaughf \(2006, V\)](#)<sup>70</sup> find that many dentists work in professional isolation, not interacting with their peers, and state that the impacts of this can be problematic as they are unable to relieve stress by

<sup>67</sup> NHS National Patient Safety Agency (2011), 'Factors influencing dental practitioner performance: a literature review'.

<sup>68</sup> Bullock, A., Firmstone, V., Fielding, A., Frame, J., Thomas, D., and Belfield, C., (2003). 'Participation of UK dentists in continuing professional development.' *British Dental Journal*, vol. 194, pp. 47-51.

<sup>69</sup> Gorter, R. C., Jacobs, B. L., and Allard, R. H. (2012). 'Low burnout risk and high engagement levels among oral and maxillofacial surgeons.' *European Journal of Oral Sciences*, vol. 120(1), pp. 69-74.

<sup>70</sup> Moss, S. B., and Gaughf, N. W. (2006). 'Dentist impairment: risk factors, signs, prevention, and treatment.' *Texas Dental Journal*, vol. 123(4), pp. 350-355.

discussing issues with their peers, and it leaves them freer to abuse controlled substances if they are under stress.

The literature also covers the potential risks associated with isolated practice in other healthcare professions:

- Phipps *et al.* (2010, II)<sup>71</sup> consider interview feedback from staff, managers and patients in pharmacy. Working in isolation was frequently cited as a risk factor: the presence of other pharmacy staff was thought to have a positive impact on practice (for example by providing peer guidance; additional human resources to help cope with workload; and a safeguard against risky practice) and thus working in isolation could increase the likelihood of poor practice.
- Watts (2009, III)<sup>72</sup>, using data from the GMC, estimate a one in 100 chance of being called to FtP hearings for GPs working alone, compared with a one in 600 chance for those in group practices. This implies that single-handed GPs are at a greater risk of impairment (although the study did not report on the possible underlying causes of the FtP cases).
- Freeth *et al.* (2012, III)<sup>73</sup> use a multi-method approach to analyse transition to practice in osteopathy. They find that group and multidisciplinary practice settings, especially busy ones, are far more conducive to improving practitioner confidence and range of expertise than lone practices.
- Europe Economics (2010, III)<sup>74</sup>, based on a literature review, stakeholder consultation, and analysis of available data, identify isolated practice as a contextual risk factor in optometry, and stress that this may not necessarily, or exclusively, apply to geographically isolated or sole practitioners. The lack of colleague supervision or review could lead to mistakes or areas for improvement going unobserved, while an absence of shared learning opportunities are seen as detrimental to ongoing knowledge development.

The issue of isolated practice is one of the most common issues raised by the interviews. Some saw isolated practice as a greater concern for single-handed practices, remote rural practices and those practices not engaging with their contracting bodies and other professionals. However, one interviewee made the point that it is easier to recognise problems in a single-handed practice than in a large practice where individual performance might be hard to disentangle.

The evidence presented above suggests that isolated practice is an important factor.

## 7.4 Financial incentives and pressures

We consider financial incentives and pressures both in terms of the financial incentives and pressures faced by the individual, such as the incentives created by the form of wage contract, but also in terms of the wider commercial strategy of, and pressures on, the practice.

Data from the 2013 Risk in Dentistry Survey show that dental professionals perceive pressure to meet financial and performance targets to be a factor that is both above-average likelihood of occurring. This can be seen in Figure 7.1 above. Indeed, this factor was perceived to be the second most likely in leading to a potential departure from the GDC's Standards, as shown in Figure 4.1 in Chapter 4.

Of all the respondents to the survey, dentists perceived this risk factor to be more likely and severe than other professionals, as shown in Figure 7.5 below. This contextual factor may therefore affect dentists to a greater extent than other professionals.

---

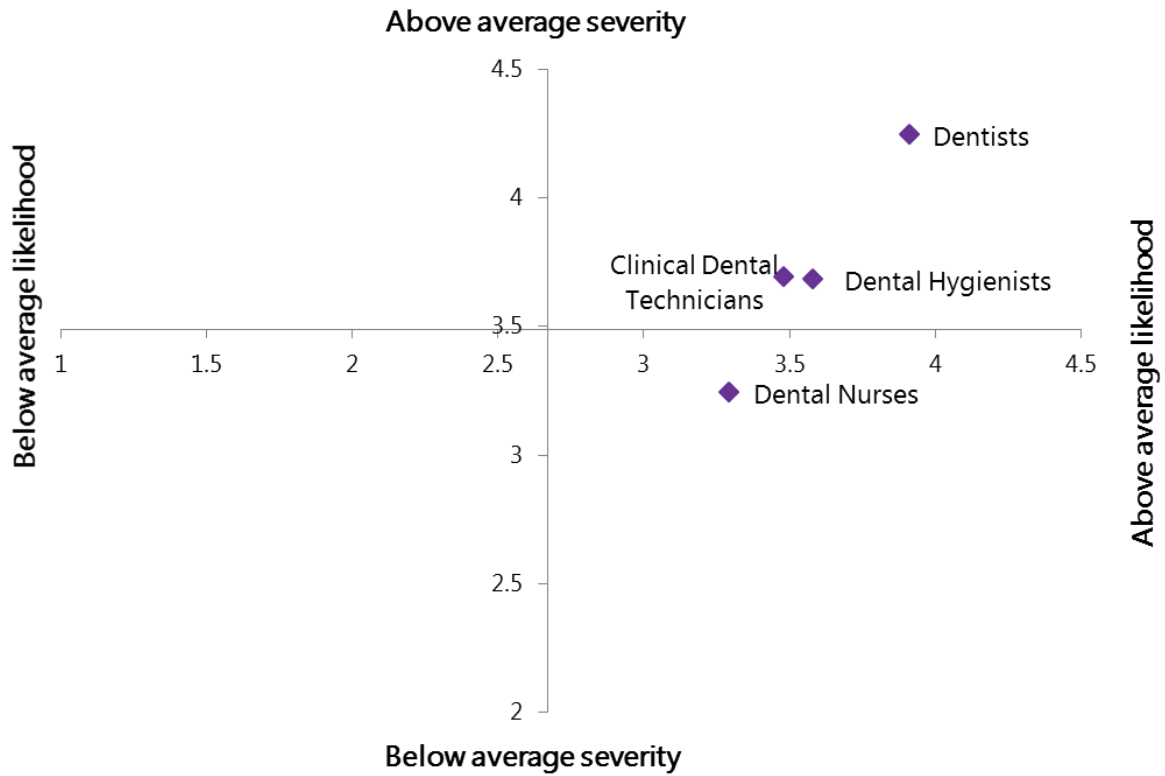
<sup>71</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) 'Risk Assessment in Pharmacy Practice'.

<sup>72</sup> Watts, S. (2009). 'Solo GPs face more GMC hearings.' Downloaded from <http://news.bbc.co.uk/1/hi/programmes/newsnight/8163826.stm>, 22<sup>nd</sup> July 2009.

<sup>73</sup> Freeth, D., McIntosh, P., and Carnes, D., (2012) 'New Graduates' Preparedness to Practice', Preparedness to Practice Study, final report, March 2012.

<sup>74</sup> Europe Economics (2010). 'Risks in the Optical Profession.' Report prepared for the General Optical Council.

**Figure 7.5: Differences in perceived risks from pressure to meet financial and performance targets, by different professional groups**

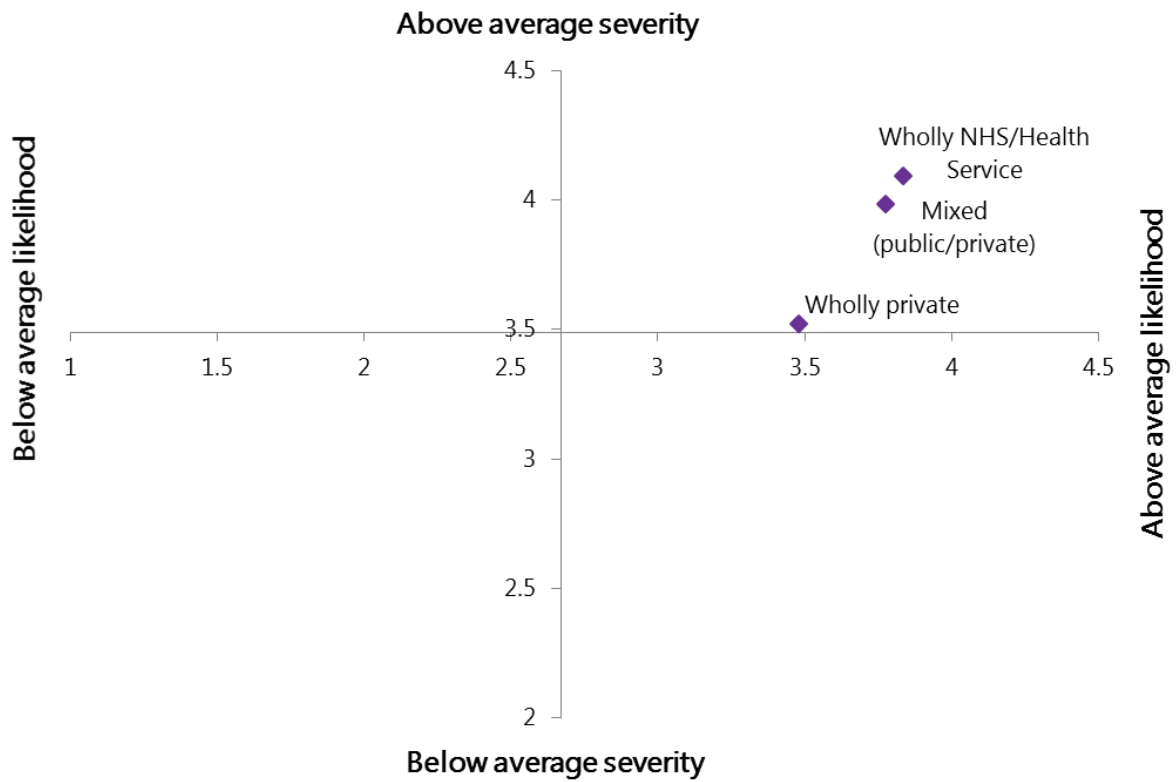


Note: The scale on the axes represents the extent to which the risk factor is considered to be above or below average. The axes cross at the average perceived risk of pressure to meet financial targets across all respondents.

Source: 2013 Risk in Dentistry Survey

This risk factor is also perceived to be more likely and severe by those working in wholly NHS practices or in the Health Service, as shown in Figure 7.6 below. This may suggest that those working in a wholly NHS/Health Service context may face increased pressure to meet financial and performance targets, and this may increase the risk of impaired practice.

**Figure 7.6: Differences in perceived risks from pressure to meet financial and performance targets, by mode of delivery**

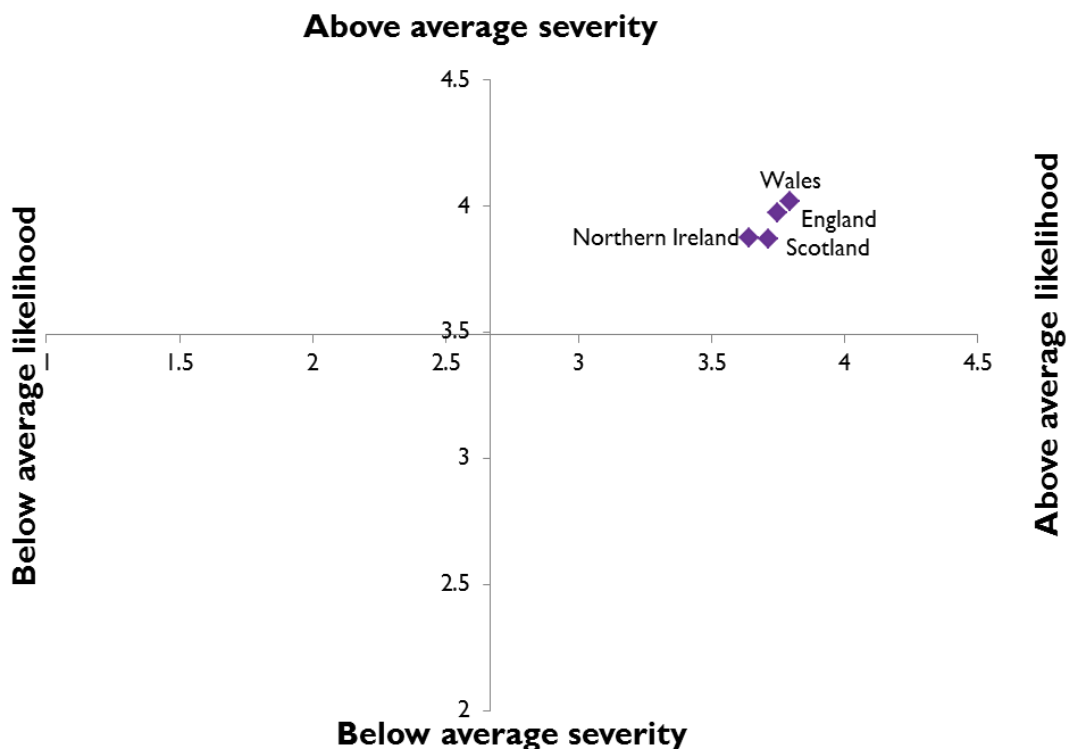


Note: The scale on the axes represents the extent to which the risk factor is considered to the above or below average. The axes cross at the average perceived risk of pressure to meet financial targets across all respondents.

Source: 2013 Risk in Dentistry Survey

We investigated whether the perception of this risk varied across the four countries of the UK, but the survey data show this not to be the case, as shown in the chart below. Dental professionals from the four countries perceived a similar level of likelihood and severity.

**Figure 7.7: Differences in perceived risks from pressure to meet financial and performance targets, by country**



Note: The scale on the axes represents the extent to which the risk factor is considered to be above or below average. The axes cross at the average perceived risk of pressure to meet financial targets across all respondents.

Source: 2013 Risk in Dentistry Survey

There is a large volume of literature which supports the finding that financial pressures and incentives might increase the risk of impairment or of a breach in the Standards. Myers and Myers (2004, II)<sup>75</sup> use a stratified random sample of 2,441 GPs in the UK to look at what factors underpin stress in GPs. Over 46 per cent of those surveyed said that they experienced stress as a result of seeing more patients than they wanted because of income reasons. This suggests that financial considerations can have knock-on effects on other risk factors such as stress.

The GDC Annual Patient and Public Survey 2013 (2013, II)<sup>76</sup> finds that 39 per cent of respondents agree, to some extent, that dental professionals put their own profit needs ahead of patient care (and only 29 per cent disagreed with this statement). This is supported by interview evidence which suggests that dentists can be under pressure to recommend more expensive treatment plans in order to increase profits.

The Annual Survey of Registrants 2013 (2014, II)<sup>77</sup> found that financial issues were the second most frequent cause of pessimism about the future, with 61% of dental professionals identifying this issue from a list of multiple options. Financial issues were a more frequent cause for pessimism among those registered for less than one year. Issues relating to financial incentives and pressures were also drawn out in the interviews as part of the survey. Interviewees highlighted that dental practitioners can make referrals for

<sup>75</sup> Myers, H. L., and Myers, L. B. (2004). 'It's difficult being a dentist: stress and health in the general dental practitioner.' *British Dental Journal*, vol. 197(2), pp. 89-93.

<sup>76</sup> Ipsos MORI (2012). 'Patient and Public Survey 2012.' Research Report for the General Dental Council.

<sup>77</sup> Venture Research (2014). 'Annual Survey of Registrants 2013.' Research Report for the General Dental Council, March 2013.

straightforward procedures (which they should be competent to undertake) as there was no financial incentive to undertake them. Interviewees also cited a move towards private dentistry because of the financial pressures, and even potential losses, that could occur under the NHS contract.

Harris *et al.* (2011, IV)<sup>78</sup> use data from a qualitative study of 20 dental practitioners and note evidence of conflict between personal interests and altruistic motives in a small practice setting. Dentists do appear to show altruistic motives and a drive to achieve high standards of treatment, but this may lead to tensions with cost containment in a fee-per-item remuneration system. A key external motivation was seen to be the pressure to ensure financial viability which pushed dental professionals beyond what they regarded as a comfortable rate at which to work.

Steele (2009, V)<sup>79</sup> conducts an independent review of the current NHS dental services in England and asserts that, over the last 60 years of NHS dentistry, the incentives have been there to provide a lot of treatment frequently, rather than to provide treatment that will last. He makes the point that, as laboratory costs are incurred by the dentist, there is an incentive to seek the lowest possible price of laboratory work, e.g. by using inferior materials or by sub-contracting work overseas where quality assurance measures may be less stringent. He therefore proposes that 'the quality of a service and the outcomes it achieves are explicitly recognised in the reward system of the revised contract'.

Johnson (2011, V)<sup>80</sup> argues that there are significant pressures on new practitioners to take on extra patients in order to help service their student loans. He says that this can have a profound effect on referrals, with dentists failing to refer complex treatments that require a specialist and/or failing to refer those procedures in which they have only infrequent experience.

Mills and Batchelor (2011, V)<sup>81</sup> advocate the use of quality indicators in dental care and regret how these were overlooked by the Unit of Dental Activity (UDA) system used in the 2006 General Dental Service contract in England. However, they recognise that this is not the approach used in Scotland and refer to a paper by Clarkson *et al.* who study the change in the Scottish contract arrangements and find a 9.8% increase in compliance with fissure sealant placement when the new financial incentive is provided. Mills and Batchelor see financial incentives as an important driver of dental professionals' behaviour and, therefore, they promote financial incentives that focus on quality not quantity, and outcome rather than activity.

Literature from outside the UK dental context also attests to the impact of financial pressures and incentives on patient care:

- Postma *et al.* (2011, III)<sup>82</sup> analyses the nature of complaints using records of the Health Professions Council of South Africa for the period 2004 to 2009. They find that a high proportion of complaints were clinically or fraud related, and use the case of root canal treatment to demonstrate how a conflict of interest (i.e. trade-off) may arise between providing good quality treatment and financial viability.
  - In terms of clinical errors, they find several cases where root canal treatments failed and left incomplete without the patient being informed. Although this may sometimes reflect incompetence or negligence, they argue that it could also be a deliberate choice by dentists who are wary of the high cost of repeating root canal treatment.

---

<sup>78</sup> Harris, R. V., Dancer, J. M., and Montasem, A. (2011). 'The impact of changes in incentives and governance on the motivation of dental practitioners.' *International Journal of Health Planning and Management*, vol. 26(1), pp. 70-88.

<sup>79</sup> Steele, J. (2009). 'NHS dental services in England: an independent review.'

<sup>80</sup> Johnson, W. T. (2011) 'Busyness, the dental workforce and endodontics'. *Journal of Endodontics*, vol. 37(9), pp.85-86.

<sup>81</sup> Mills, I., and Batchelor, P. (2011). 'Quality indicators: the rationale behind their use in NHS dentistry.' *British Dental Journal*, vol. 211(1), pp. 11-15.

<sup>82</sup> Postma TC, van Wyk PJ, Heymans JH, White JG, Prinsloo PM (2011) 'An analysis of complaints against oral health professionals charged with misconduct at the HPCSA: 2004-2009'. *South African Dental Journal*, vol. 66(9), pp. 420-425.

- In terms of fraud, they believe that the lower potential for financial revenues among dental therapists means that they are more likely to commit fraud. This is reflected in the complaints data, with fraud the most prevalent complaint against dental therapists in South Africa, and with a substantially higher proportion of dental therapists (5.5%) charged with misconduct than dentists (2%).
- Voinea-Griffin et al. (2010, V)<sup>83</sup> draw on a literature review and existing Pay for Performance systems (P4P) in the US to provide a set of guidelines for the development of P4P in UK dentistry. P4P is defined as ‘an incentive system aimed at linking provider reimbursement to the quality of care provided’. They find many studies in this field were inconclusive on the existence of a link between P4P and the quality of care, and believe that the lack of evidenced-based quality indicators in dentistry means that the adoption of P4P is currently not feasible. They cite work from several other studies in this area:
  - Atchison and Schoen (1990) who find that over-treatment is more likely in fee-for-service practices, while under-treatment and less expensive service provision is more likely in capitated practices.
  - Mellor et al. (1997) who find that for capitated dental practices’ provision of preventative dental treatments was relatively higher and provision of restorative dental treatments relatively lower.
  - Clarkson et al. (2008) who, in a randomised control trial, find that fee-for-service was more cost effective in increasing the provision of certain dental services than education.
- Rule (2010, V)<sup>84</sup> says that ethical issues, like commercialism, have always been a part of dentistry and that dentistry should look towards a more ethically-driven and action-oriented model. Public disconnectedness has grown, in part, out of rising commercial competition between dentists, including salesmanship tactics, for-profit sales of dental products in practices and misleading advertising. They reference Rule and Welie (2009) who say that this growing disconnect ‘is nothing less than the transformation of dentistry from a profession to a business’.

The literature also considers this issue in other healthcare contexts:

Scraggs et al. (2012, V)<sup>85</sup> use a Rapid Evidence Assessment literature review and find mixed views on the role of financial incentives in good medical practice. Examples of this conflicting literature include:

- Horder, Bosanquet and Stocking (1986) who look into the factors affecting GP behaviour and find little evidence of the efficacy of financial incentives in prompting behavioural change.
- The King’s Fund (2011) who find that performance incentive schemes are biased towards financial motivations and that not enough emphasis is placed on non-financial motivators such as colleague recognition.

Scraggs et al. also draw on interview evidence, with one respondent saying that doctors are now more financially conscious than ever before, and a further two participants reporting that finances were being used as an excuse to defy good practice.

Commercial considerations were a very common issue raised in the interviews. Several interviewees referred to the conflict between delivery high quality dental care and running a commercially successful practice. This conflict of interest could mean that the dental professional is not always motivated by what is best for the patient and the dental professional could develop bad practices to maximise returns, such as:

- being biased in the advice one offers to patients;

<sup>83</sup> Voinea-Griffin, A., Rindal, D. B., Fellows, J. L., Barasch, A., Gilbert, G. H., and Safford, M. M. (2010). ‘Pay-for-performance in dentistry: what we know.’ *Journal of Healthcare Quality*, vol. 32(1), pp. 51-58.

<sup>84</sup> Rule, J. T. (2010). ‘How dentistry should approach its problems: a vote for professionalism.’ *Journal of the American College of Dentists*, vol. 77(4), pp. 59-67.

<sup>85</sup> Scraggs, E., Brereton, L., Newbould, J., Drabble, S., Tiefensee, C., Schweppenstedde, D., Miani, C. and Ling, T. (2012). ‘Factors that encourage or discourage doctors from acting in accordance with good practice.’ Final report prepared for the General Medical Council, April 10<sup>th</sup> 2012.



- misleading patients into choosing private supply;
- working outside one's area of competency (e.g. working on implants as it is more lucrative);
- devoting less time to each patient by cutting back on consultations and consultation write ups (including record-keeping); and
- re-using disposable items.

Many interviewees talked about what may influence this conflict of interest:

- Three respondents said that commercial incentives may be most appealing to those in midlife when personal financial pressures can be greatest. This could reinforce other risks such as a work overload, as dental professionals may be prepared to take on extra patients, work when they are tired etc., in order to bring in extra income.
- Two respondents argued that due to the cost of qualification and practice set up (which can cost around £50,000 per room according to one interviewee), dentists may be in large debt and so may be more driven by commercial incentives in order to pay back what they have borrowed.
- One respondent said that pay per treatment, rather than per patient, as is the case under the NHS's 'Units of Dental Activity' pay scheme in England, Northern Ireland and Wales, can create perverse incentives for dental professionals, widening the disconnect between commercial success and patient care. That said, one respondent said that dentists within corporates receiving a fixed salary have the opposite incentive structure, which could lead to a tendency to undertreat patients.

## 7.5 Gender as a risk factor

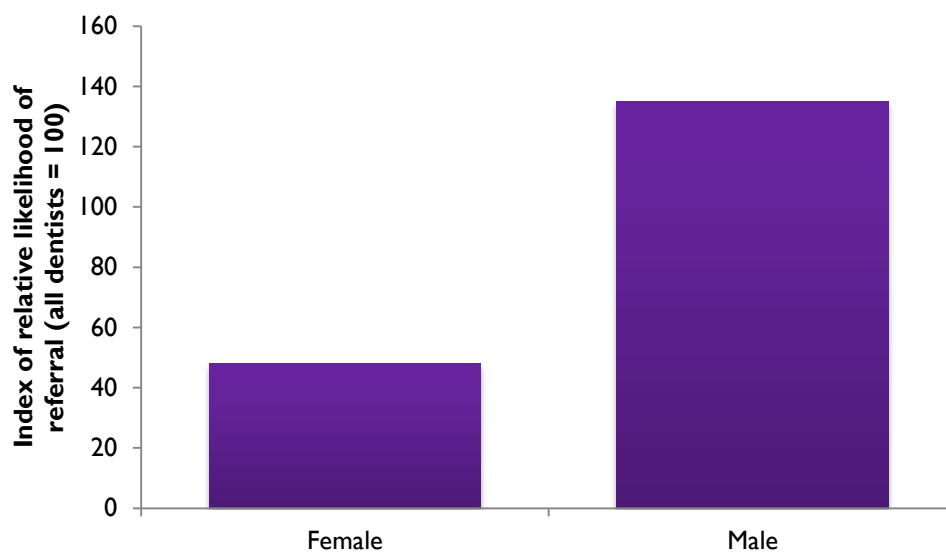
There is evidence in the literature and empirical data that men are more likely to be the subject of complaints and referrals than women. The Risk in Dentistry Survey shows male dental professionals perceive a slightly greater likelihood of risks compared to female dental professionals, but a lower severity of risk. This may imply that male dentists are less sensitive towards the consequences of some risks being realised. Other data and literature also suggest that male dentist are more likely to be the subject of referrals or complaints.

The [NHS National Clinical Assessment services](#) has produced data on the number dentists referred by gender in 2009/10, calculating an index of relative likelihood of referral (the value for all respondents is 100).<sup>86</sup> They report that the likelihood of referral is considerably higher for male dentists.

---

<sup>86</sup> NHS National Clinical Assessment Service, Concerns about professional practice and associations with age, gender, place of qualification and ethnicity - 2009/10 data, February 2011



**Figure 7.8: Relative likelihood of referral across gender, NHS 2009/10**

Note: the chart controls for the relative share of male and female dentists in the workforce.

Source: NHS National Clinical Assessment Services

The NHS National Patient Safety Agency (2011, V)<sup>87</sup> undertook a literature review to explore the factors influencing performance of dentists. Evidence from the National Clinical Assessment Service shows that more male dentists were referred than female dentists. Possible explanations they give for this are:

- A larger number of female dentists work part-time and therefore have a better work-life balance.
- Female dentists may see a lower number of patients on average and therefore are exposed to fewer opportunities where something could go wrong.
- From their literature review, female dentists were seen to have superior communication skills, which may lead to more effective relationships with patients.

In a non-UK context, Perea-Pérez (2011, IV)<sup>88</sup> find that 84.1% of all professional defendants in Spanish court cases relating to oral surgery were male. However it is important to note that they were unsure as to whether this merely reflects the proportion of the oral surgery workforce that is male, or whether males are truly overrepresented and may, therefore, pose greater risk to impairment.

Clay and Conatser (2003, III), in their review of disciplinary cases against doctors in Ohio, found that, compared with location controls, women physicians were significantly less likely to be disciplined than male physicians.<sup>89</sup>

Khaliq et al's (2005, III) study of physicians disciplined by the Oklahoma State Board found that factors, other than age, associated with an increased risk of being disciplined included being male.<sup>90</sup>

Elkin et al. (2011, III)<sup>91</sup> study disciplinary cases in five jurisdictions across Australia and New Zealand for 2000 to 2009. They find that male doctors accounted for over 90 per cent of the cases and that, after

<sup>87</sup> NHS National Patient Safety Agency (2011). 'Factors influencing dental practitioner performance: a literature review.'

<sup>88</sup> Perea-Pérez, B., Santiago-Sáez, A., Labajo-González, M.E., and Albarrán-Juan, M.E. (2011). 'Professional liability in oral surgery: legal and medical study of 63 court sentences.' *Medicina Oral, Patología Oral Y Cirugía Bucal*, vol.16(4), pp.526-531.

<sup>89</sup> Clay and Conatser (2003) 'Characteristics of physicians disciplined by the State Medical Board of Ohio' *Journal of American Osteopath Assoc.* 103(2): 81-8.

<sup>90</sup> Khaliq et al (2005) 'Disciplinary action against physicians: Who is likely to get disciplined?' *American Journal of Medicine*, 118(7): 773-7

<sup>91</sup> Elkin, K. J., Spittal, M. J., Elkin, D. J., Studdert, D. M. (2011) 'Doctors disciplined for professional misconduct in Australia and New Zealand'. *Medical Journal of Australia*, vol. 194(9), pp. 452-456.

adjusting for differences in mean working hours per week, male doctors were more than four times more likely to be disciplined than their female colleagues. They conclude that “the standard explanation is that female doctors tend to display more of the attributes that underpin a good doctor-patient relationship, thereby provoking fewer patient complaints and reduced exposure to disciplinary processes”.

The topic of gender was not significantly raised in the interviews.

The evidence from the literature and empirical data suggest that men are more likely to be the subject of complaints, referrals or disciplinary action than women and this suggests that men may be at a greater risk of impairment or departing from the Standards than women.

## 7.6 Other potential risk factors

### 7.6.1 Poor practice governance

We define practice governance as the way in which the practice is run and the systems, structures and processes that underpin this. This includes the IT infrastructure, training and communication protocols, systems for employee recruitment, appraisal and support, and processes for reporting and auditing clinical errors. The Risk in Dentistry Survey shows that dental professionals perceive poor practice administration to be a factor with an above-average likelihood of leading to Standards not being met. However, this risk factor is not considered to be severe. Furthermore, there is very little evidence from other sources, including the literature and interviews, to support the conclusion that this is an important factor. We present further details of the evidence we have examined in the Appendix.

### 7.6.2 Working arrangements

We investigated whether working arrangements are likely to increase the risk of impairment in dentistry. Based on the evidence we have reviewed for this study, we consider working arrangements to include whether the professional works full- or part-time, on a temporary or fixed basis, at a fixed premise or domiciliary context, or as a locum practitioner. Whilst there is some evidence from the literature about the risks associated with locum practitioners, this is not strong (and is not found in the context of dental professionals). The evidence from Risk in Dentistry Survey on the risks associated with working arrangement is not strong. We therefore conclude that working arrangements may not be a main factor.

### 7.6.3 Practice settings

We investigated whether certain practice settings may increase the risk of departure from the Standards. Our definition of practice settings includes the type of practice (e.g. standalone practice, group practice, body corporate), the size of practice (e.g. single-handed practice or not) and the mode of delivery (e.g. NHS/health service; private etc).

The limited evidence from the survey and literature suggests that the nature of the practice setting may not be an important factor *directly* affecting the likelihood of risk occurring, although working as a single-handed practitioner was considered by dental professionals in the Risk in Dentistry Survey to be a factor, as seen in Figure 7.2. A description of the evidence we reviewed is included in the Appendix.

However, data from the Risk in Dentistry Survey (shown in Figure 4.6) show that dental professionals working in different practice settings do have different perceptions of risk, which may suggest that the nature of practice settings may indirectly influence the likelihood of risk occurring. We describe these differences in risk perception in more detail in Chapter 8 when answering the research question on whether there are different practice settings which may present different risks.

# 8 Conclusions

## 8.1 Introduction

In this chapter we conclude our analysis by addressing the research questions on risk in dentistry, as set out in the Research Brief.

- What are the main competency, contextual and conduct risks in the practice of dentistry in the UK? What does available literature tell us about pathways to impairment in the practice of dentistry in the UK? Where relevant, international literature may also be drawn upon.
- Is there a different level of risk between the professions regulated by the GDC?
- Are there certain practice settings, working arrangements and roles that may present more or less competency, contextual and conduct risks than others?
- What do other sources of information in dentistry, such as local, regional or national complaints and indemnity and insurance claims, indicate?
- What are the current trends in professional indemnity and insurance claims in dentistry?

This final set of research questions on the feasibility of analysing the GDC's FtP data are answered in the following chapter.

## 8.2 What are the main competency, conduct and contextual risk factors and pathways to impairment?

Chapters 5, 6 and 7 set out the evidence for the main competency, conduct and contextual risk factors that may affect a registrant's performance and the likelihood of a departure from the GDC's Standards. These chapters also set out what the literature indicates about risk factors and pathways to impairment.

The main competency risk factors identified are:

- Poor communication.
- Inadequate record-keeping.
- Poor treatment.

The evidence shows that **poor communication skills** encompass dental professionals' communication with patients and with colleagues, and that effective communication with the patient is particularly important. The 2013 GDC Risk in Dentistry Survey shows that dental professionals perceive all forms of poor communication to be particularly likely to occur and to lead to impaired practice, with poor communication with the patient to have a particularly high negative impact. Surveys of patients indicate that they place considerable weight on communication and similar skills. The literature also identifies shortfalls in dental professionals' communications skills, and provides evidence that this can lead to poor outcomes. Communication concerns are also highlighted in dental complaints data. Poor communication skills was also raised as a potential risk in the interviews.

**Inadequate record-keeping** is highlighted in the Risk in Dentistry Survey as an important risk factor as perceived by dental professionals. The survey shows that this is perceived to be the second most likely competency risk factor. Evidence from literature and interviews supports the value of good record-keeping, highlights the consequences of inadequate record-keeping, and provides examples of inadequate record-keeping among dental professionals.

**Poor treatment** includes under-treatment of conditions; errors during treatment; and not treating conditions which should be treated. The evidence from the Risk in Dentistry Survey and complaints and

Fitness to Practise data indicate that this is a common source of complaint and is perceived by dental professionals to be a factor with above-average likelihood of occurring. Evidence from the literature largely relates to areas of speciality — as it is possible that these findings are due to the greater inherent clinical risks in these areas, and we cannot conclude that dental professionals working in these areas are intrinsically of greater risk than others.

The main conduct risk factors identified in the evidence are:

- Health issues.
- Lack of professionalism.

**Health issues** include poor health, alcohol and substance misuse and mental health issues. The Risk in Dentistry Survey shows that ill health is perceived to be particularly important in increasing the likelihood that Standards are not met. The literature provides further support for the importance of this factor, providing evidence of health and lifestyle concerns among dentists, and evidence that such concerns can increase the likelihood of impaired practice.

**Lack of professionalism** includes a range of behavioural issues. The literature provides clear evidence that behavioural issues negatively affect professionals' practice and patients' wellbeing. The Risk in Dentistry Survey shows that dental professionals perceive inappropriate behaviour towards patients and colleagues to be the second most severe conduct risk factor, although less likely.

The main contextual risk factors identified in the evidence are:

- Work overload.
- Isolated practice.
- Financial incentives and pressures.
- Gender.

**Work overload** is seen by dental professionals as the likely to occur, with the highest negative impact when it does occur. Negative impacts of heavy workload on performance is also found in the literature, for example high levels of stress and ill health.

We define **isolated practice** as situations where practitioners do not interact with others and, although more likely, it does not exclusively refer to sole practitioners or geographically isolated practices. The Risk in Dentistry Survey shows that dental professionals perceive this to be a factor that could cause a practitioner to depart from the GDC's Standards. The literature provides evidence that isolated practice increases the risk of factors which may lead to impairment, such as the lack of support mechanisms, incentives to carry out CPD, and burnout. Literature of non-dental healthcare professions also finds that Fitness to Practise cases are more likely among sole practitioners.

**Financial incentives and pressures** are seen as particularly likely and severe risk factors by dental professionals, as shown in the Risk in Dentistry Survey. This risk factor is perceived to be particularly likely by dentists compared to other dental professionals, and those working wholly in the NHS/Health Service. There is substantial evidence in the literature that financial pressures can increase the risk of poor performance.

Empirical evidence and the literature indicate that **male dentists** in the UK are more likely to be referred to complaints or disciplinary bodies than female dentists. This is also supported by evidence from wider literature.

### 8.3 Is there a different level of risk across professional groups?

The data presented in the report show that there are some differences in the perception of risk across different professional groups, namely dentists, dental nurses, dental hygienists, dental technicians, clinical dental technicians, orthodontic therapists and dental therapists. This is to be expected, as different groups

have different roles and practice scopes within the dental team. Chapter 4 presents the top ten most likely risk factors as perceived by the different groups.

There are a number of similarities across the groups, and the majority of factors appear in all groups' perceived top ten. In particular, work overload and pressure to meet financial and performance targets are perceived by all professions to be among the factors most likely to occur. There are, however, some differences either in the ranking of risk factors or in the level of perceived likelihood.

Dentists perceived most factors to be more likely to occur than other professional groups. This may reflect traditional roles within the dental team in which the dentist takes the primary responsibility for managing the relationship with the patient. Pressure to meet financial and performance targets was seen as particularly likely by dentists compared to other groups, as shown in Figure 7.5 in Chapter 7 above.

Dentists and clinical dental technicians perceived 'errors in treatment' as more likely than other professional groups. This may reflect the scope of their practice in treating patients.

Dental nurses perceived most factors to be less likely to occur than other professional groups (although the majority of the factors included in their top ten were the same as those for other groups). This may reflect an overall lower sensitivity to risk. An interesting difference is that dental nurses were the only profession to see a 'lack of courtesy in general' as a top ten factor.

Dental nurses and dental technicians perceived 'failure to keep adequate records' as a factor less likely to occur, and notable less serious if it did occur, compared to other professional groups, as shown in Figure 5.5 in Chapter 5 above. This may reflect their minimal level of involvement in record keeping.

Orthodontic therapists perceived 'poor practice administration' as the most likely factor, which is notable as all other professional groups perceived either work overload or pressure to meet financial targets as the most likely factor. They were also the only professional group to consider a 'lack of competence in using technology' as a main risk factor, which might reflect that their work involves using technology that is more complex, or changes more frequently, than other professions.

Clinical dental technicians perceived 'poor communication with colleagues' as a particularly severe factor compared with other professional groups, as shown in Figure 5.3 in Chapter 5 (although the perceived likelihood of this factor was similar across all groups). This may suggest that the consequences of poor communication between clinical dental technicians and other members of the dental team may be more severe, even if this may not be more likely to occur.

Dental technicians and clinical dental technicians were the only professions to see 'overcharging' as a main risk, which might reflect that their work can be related to costly treatments and therefore any overcharging is more likely to be notable.

The literature is not strong enough to suggest a clear direct link between a profession group and risk in dentistry. The main reasons for this is that most of the literature and empirical studies to date are in relation to dentists, as opposed to other dental professions, which does not enable comparisons to be drawn. Turner *et al.* (2012, IV)<sup>92</sup> carry out a Rapid Evidence Assessment literature review in order to assess the impact of a possible direct access scheme. In this literature review, they cite earlier studies by Lopez-Jornet *et al.* (2006) and Nicoleta *et al.* (2004) which found evidence of deficiencies in the amount hygienists and dental therapists know about the detection of oral cancer. Furthermore, a study by Turner *et al.* (2011) found that these groups of dental professionals also lacked confidence in their ability to detect oral cancer. This suggests a heightened risk in the area of oral cancer detection for hygienists and therapists, although none of the studies explicitly compared the knowledge of these groups with that of other dental professionals.

There is no notable evidence from the interviews about differences in risks across professions.

---

<sup>92</sup> Turner, S., Tripathee, S., MacGillivray, S. (2012). 'Benefits and risks of direct access to treatment by dental care professionals: A rapid evidence review.' Report for the General Dental Council.

## 8.4 Are there certain practice setting, working arrangements and roles that may present different risks?

We investigated whether certain practice settings, working arrangements or roles are likely to affect the risk of impairment. The evidence does not indicate that the risks directly associated with these factors are significant, but some patterns do emerge in the perception of risks across dental professionals working within different settings.

### Practice settings

Our definition of practice settings includes the type of practice (e.g. standalone practice, group practice, body corporate), the size of practice (e.g. single-handed practice or not) and the mode of delivery (e.g. NHS/health service; private etc).

The Risk in Dentistry Survey shows that all dental professionals perceive that working as a single-handed practitioner may increase the risk that Standards are not met. There is some evidence in the literature of risk associated with single-handed practice among doctors and pharmacists; however, evidence in relation to dentists is not available, and overall the literature is not strong enough to suggest that this is an important risk factor.

The 2013 Risk in Dentistry Survey shows that dental professionals' perceptions of the factors most likely to affect the risk of a departure from the GDC's Standards do vary somewhat across the practice settings in which they work. The top ten most likely factors as perceived by professionals working in different practice settings are illustrated in Figure 4.6 in Chapter 4 above. We summarise the notable differences here.

Those working in dental body corporate practices and those in wholly non-clinical settings perceived 'pressure to meet financial and performance targets' as the most likely factor, compared with those working on other settings who all perceived work overload to be the most likely.<sup>93</sup>

Those working outside a managed clinical setting and those in a wholly non-clinical setting perceived 'poor communication with colleagues' to be relatively more likely than professionals working in other settings (ranking it as the third most likely factor, compared with the sixth rank for other groups). This may suggest that non-managed or non-clinical settings have lower levels of communication found in dental teams based in other settings.

Those working in a wholly non-clinical setting were the only group to perceive 'working beyond a professional's level of competence' as one of the top ten most likely factors.

Those working in a hospital-based clinical setting perceived 'poor communication of patient referrals' to be more likely than those working in other settings (ranking it fourth compared to rankings of nine and ten for other groups). This is unsurprising as those in hospital settings are likely to receive a larger number of referrals from community practitioners, and would be more sensitive to poor communication in this respect.

Dental professionals' perceptions of risk also vary according to the mode of delivery of their services, for example, wholly NHS/Health Service; wholly private; or mixed. Most notably, those working within wholly NHS/Health Service practices perceived 'pressure to meet financial and performance targets' as a factor more likely to occur, and to have a greater negative impact when it does occur, compared with those working within other modes of delivery. This is illustrated in Figure 7.6 in Chapter 7 above. This may suggest that professionals working in this practice setting are exposed to greater pressures around targets which could increase risks.

---

<sup>93</sup> The different settings relevant to this question in the survey include standalone practice; local group practice; national group practice; dental body corporate; outside managed clinical practice; hospital-based clinical setting; and wholly non-clinical setting.



Those working within NHS/Health Service practices also perceive 'poor practice administration' to be more a more likely factor, and to have more serious outcomes when it occurs, than those working in private or mixed practices. This is shown in Figure 10.6 in the Appendix.

Those working within private practice were the only group that perceived 'over-treating conditions' to be among the ten most likely factors; they also perceived the outcome of this risk to be more severe. Whilst not a factor in the top ten, those working within private practice also perceived 'overcharging' to be more likely to occur than those in practices with other modes of delivery. This may suggest that professionals working in private settings are more exposed to financial pressures around overtreatment and charging (although not specifically financial *targets* as referred to in the paragraph above).

### Working arrangements

We consider working arrangements to include whether the professional works full- or part-time, on a temporary or fixed basis, at a fixed premise or domiciliary context, or as a locum practitioner. The evidence from the literature and the Risk in Dentistry Survey is not strong enough to suggest that working arrangements are an important factor affecting risk in dentistry. The survey does show that dental professionals perceive that frequently changing the place of practice may increase the risk that standards are not met. However, we have not seen supporting evidence from the literature or the interviews. Evidence relating to locum practitioners or domiciliary is also not conclusive; indeed, evidence about the risks associated with locum work is contradictory, with some authors claiming that locums may pose a greater risk, whilst others claiming the opposite. Further empirical research into this would be valuable.

The Risk in Dentistry Survey shows that dental professionals' perceptions of risk do vary somewhat according to their working arrangements. The problems viewed as particularly likely by those working as locum practitioners include 'over- and under-treatment', 'pressure to meet financial and performance targets' and 'lack of cleanliness'.

Part-time dental professionals perceive 'not treating conditions which should be treated' and 'failing to obtain valid consent' as particularly more likely than professionals with other working arrangement. This may reflect something about the nature of part-time work — part-time professionals may have their patients seen by other members of the dental team which may result in reduced continuity of treatment and communication with patients.

Professionals with fixed-term or temporary contracts perceive work overload to be a more likely factor than professionals with other working arrangements. This may suggest that those without a permanent contract feel the need to work harder to secure future contracts.

### Roles

The Risk in Dentistry Survey shows that dental professionals who spend their time in education/training roles perceive a higher likelihood and severity of all risk than those who do not. The same is true for those who spend some time in business support/management roles relative to those who do not, although the difference in the perception of risk is not as great. However, there is not a notable difference in the factors perceived most likely to occur across professionals in different roles.

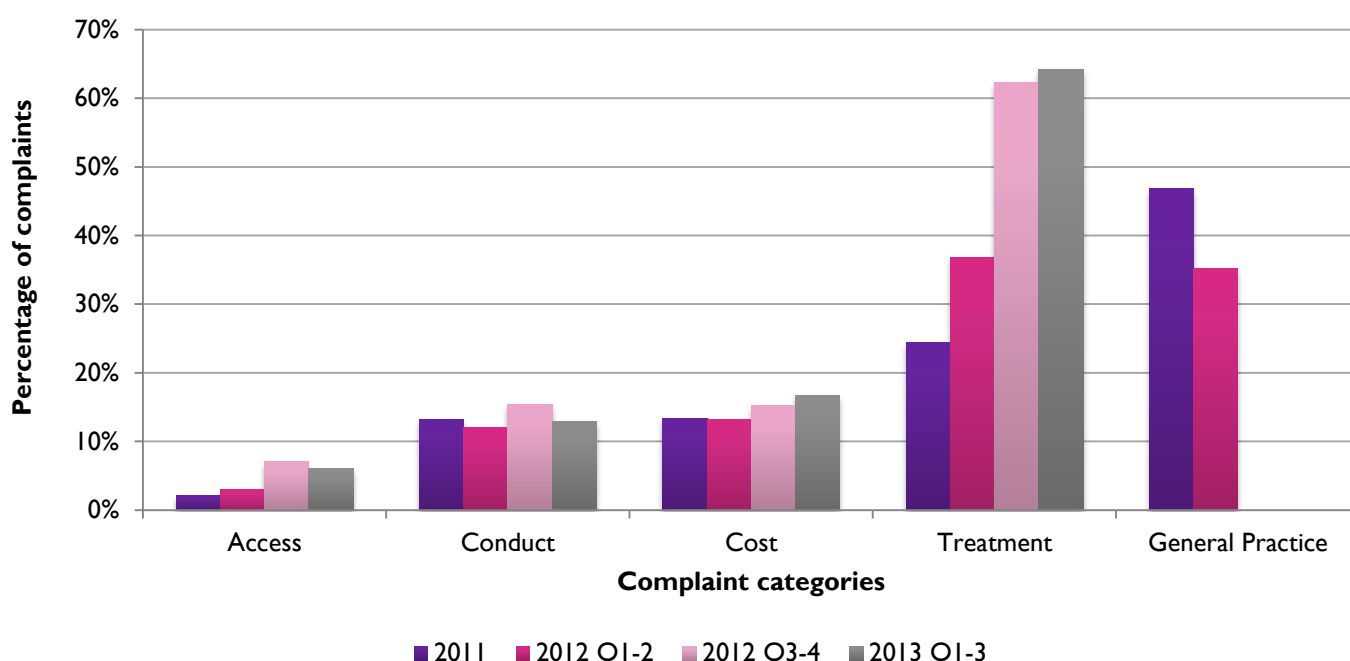
## 8.5 What do other sources of information in dentistry, such as local, regional or national complaints and indemnity and insurance claims, indicate?

### 8.5.1 Dental complaints and cases

Patients with complaints about private dental care received in the UK can contact the Dental Complaints Service (DCS), which then attempts to settle complaints fairly and efficiently. Those complaints may lead to dental professionals being referred to the GDC’s Fitness to Practise team.<sup>94</sup>

The number of complaints received by the DCS is reported by type in Quarterly Performance Reports to the GDC.<sup>95</sup> Complaints have been published in different formats over the years, and so in some years are not directly comparable. In particular, the category ‘general practice’ was no longer used after the second half (Q3 and Q4) of 2012. This is illustrated in the chart below, which we repeat from Figure 5.9 for ease of reference.

**Figure 8.1: Complaints to the DCS, 2011 - 2013**



Note: the category for ‘General Practice’ was not included after 2012 Q3-4, and it is possible that some complaints previously classified as ‘general practice’ before this date were subsequently classified as ‘treatment’.

Source: Dental Complaints Service report to the GDC, Council Performance Report, 2011 - 2013

The trends in complaints data show that:

- Complaints about treatment made up the largest share of complaints for in 2012 and 2013 (between 37% and 65% across the years). These complaints included issues around poor treatment, pain and treatment plans.
- In 2011 complaints about treatment formed a significant share of complaints (24%), although complaints about ‘general practice’ accounted for a greater proportion (47%). However, in this year complaints about treatment only included issues around ‘pain’ and ‘treatment plans’, and it is possible that complaints about other aspects of treatment (e.g. errors) were included in the category ‘general

<sup>94</sup> Complaints are also received directly by the GDC’s Fitness to Practise team and form part of the FtP database.

<sup>95</sup> The reports can be downloaded here: <https://www.gdc-uk.org/Newsandpublications/factsandfigures/Pages/default.aspx>



practice'. Therefore it is possible that in 2011 complaints about treatment represented a higher proportion than indicated in the chart data.

- Complaints about conduct and cost have remained relatively similar over the years, with a slight upward trends in complaints about cost from the second half of 2012.

The level of detail available on the complaints is not extensive and does not enable analysis of the underlying risk factors (e.g. characteristics of the registrant and his/her practice). However, the complaints data do paint a picture of areas of concern in dentistry. Complaints data should not be considered in isolation as they may include complaints which are unfounded and thus not related to actual risk.

In addition to complaints received by the DCS, trends can also be found in the issues considered by the Professional Conduct Committee or the Professional Performance Committee, as a part of Fitness to Practise processes.<sup>96</sup> These data from the PCC and PPC represent alleged failures to meet the GDC Standards, rather than the underlying risk factors which might have contributed to those failures occurring. It is likely that these data paint a more accurate picture of risk than the DCS complaints data, as these cases have undergone some investigation (whereas the complaints may include unfounded complaints). That said, the cases still represent *alleged* impairment until they have been proved and closed.

---

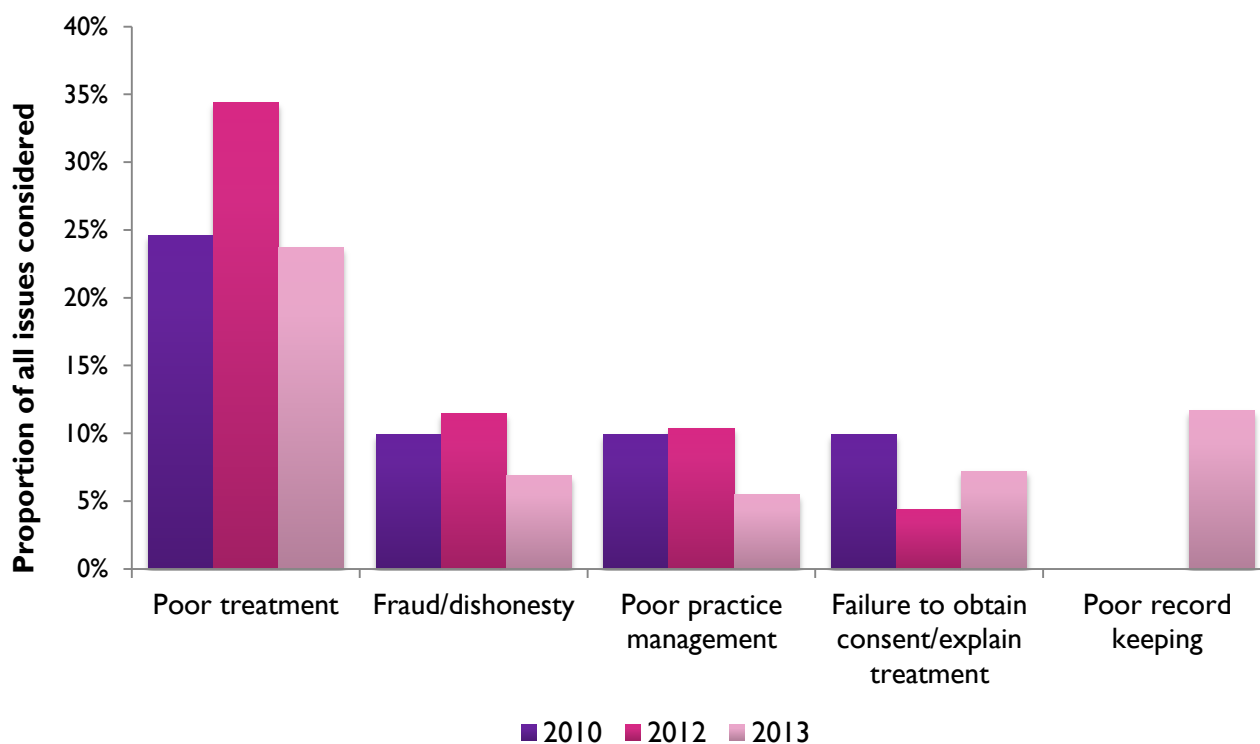
<sup>96</sup> GDC, Annual Report and Accounts 2013

The chart below presents the main issues raised in the cases considered by the PPC and PCC in 2020, 2012 and 2013 (information on the issues considered by the Committees was not provided in the 2011 Annual Report).<sup>97</sup> We summarise the following trends:

- Poor treatment was the most common issue considered in the cases, representing 25%, 35% and 24% of cases in 2010, 2012 and 2013 respectively.
- Fraud and dishonesty was the second most common issue in 2010 and 2012 (representing 10% and 11% of issues respectively), and the fourth most common issue in 2013 (representing 7% of issues).
- Poor practice management was also a common issue, accounting for 10% of cases in 2010 and 2012 and 5% of cases in 2013.
- Poor record-keeping was particularly common on 2013, accounting for second largest share of issues (12%)

Failure to obtain consent or explain treatment was another important issue in 2010 and 2013, accounting for 10%, and 7% of issues respectively

**Figure 8.2: Issues considered by the PCC/PPC, 2010 - 2013**



Source: General Dental Council Annual Reports

### NHS National Clinical Assessment Service

Health organisations and individual practitioners can refer concerns about the performance of dentists, doctors and pharmacists within the NHS to the National Clinical Assessment Service (NCAS). The Service then attempts to resolve those concerns. In internal research, the NCAS has found patterns in why dentists are referred and in the characteristics of those dentists that are referred.<sup>98</sup> This information is presented in the relevant sections of the report, and we summarise the results here.

<sup>97</sup> GDC, Annual Report and Accounts 2013, 2012, 2010.

<sup>98</sup> NHS National Clinical Assessment Service, NCAS Casework – the first eight years, September 2009

- As shown in Section 5.4 on poor treatment, the NCAS found that clinical difficulties were the most frequent issues associated with referrals of dentists over 2007 to 2009. Other common issues were governance/safety issues and misconduct.
- As shown in Section 10.1.1 on length of time in practice, the NCAS found that older dentists (55+ years) were approximately three times more likely to be referred to the Service than the youngest group (<35s).
- In Section 7.5 on gender, we report the findings of the NCAS which show that the likelihood of referral is considerably higher for male dentists.

### 8.5.2 Dental insurers

There is limited detailed information about claims available for analysis as these data are deemed to be commercially sensitive by insurers and indemnifiers. Information in the public domain, such as annual reports from these organisations including the Medical and Dental Defence Union of Scotland (MDDUS), Dental Protection Limited (part of the Medical Protection Society) and the Dental Defence Union (part of the Medical Defence Union), does not include figures or trends about specific claims or risks. Some public information refers to factors which might influence the chances of a claim, but these factors relate more to the behaviour of patients and lawyers than the risk of harm.

For example, the MDDUS reported in 2012 that it believed the volume of claims was being affected by a “growing compensation culture in the UK”, which they believed might be related to broader economic circumstances.<sup>99</sup> They report that the scale of the changes from year to year (for example, a 53% rise in claims for GDPs from 2011) also point to economic and behavioural factors amongst claimants, rather than changes in the actual level of risk.

The Dental Defence Union is part of the Medical Defence Union, and as such does not publish separate Annual Reports. The Medical Defence Union noted a 20% rise in claim notifications over the previous year in 2012 and noted that the increase was particularly pronounced for general practitioners and dentists. The MDU believes that a key reason for that rise in the number of claims is that solicitors have been taking on more cases on the basis of a conditional fee agreement. They are able to quantify the extent to which that has increased: “The percentage of medical claims we receive each year that are funded in this way has increased substantially, from 5 per cent in 2004 to 48 per cent in 2012.”<sup>100</sup> There is no further information on the nature of dental claims.

### 8.5.3 The Care Quality Commission’s practice inspections

The Care Quality Commission (CQC) is an independent regulator of health and social care in England. The CQC currently regulates just over 10,000 dental care practices in England and has inspected nearly all of them to date.<sup>101</sup> Initial inspections were conducted against a sub-set of the 16 outcomes related to the regulations of the Health and Social Care Act 2008. Inspectors chose which outcomes to inspect based on the information held about the dental practice.

A recent Care Update from the CQC (end 2012) found positive results for the dental sector; indeed the figures from their inspections show that the performance of the dental sector is very good compared to other parts of the health and care system in England. Of the 3,021 dental practices the CQC inspected up to the end 2012, 92 per cent were meeting all the standards they check.<sup>102</sup>

<sup>99</sup> MDDUS *Annual Report and Accounts 2012*, Page 6

<sup>100</sup> MDU *Annual Report & Accounts 2012*, Page 6

<sup>101</sup> Care Quality Commission (2014) ‘A fresh start for the regulation and inspection of primary care dental services’, Page 7

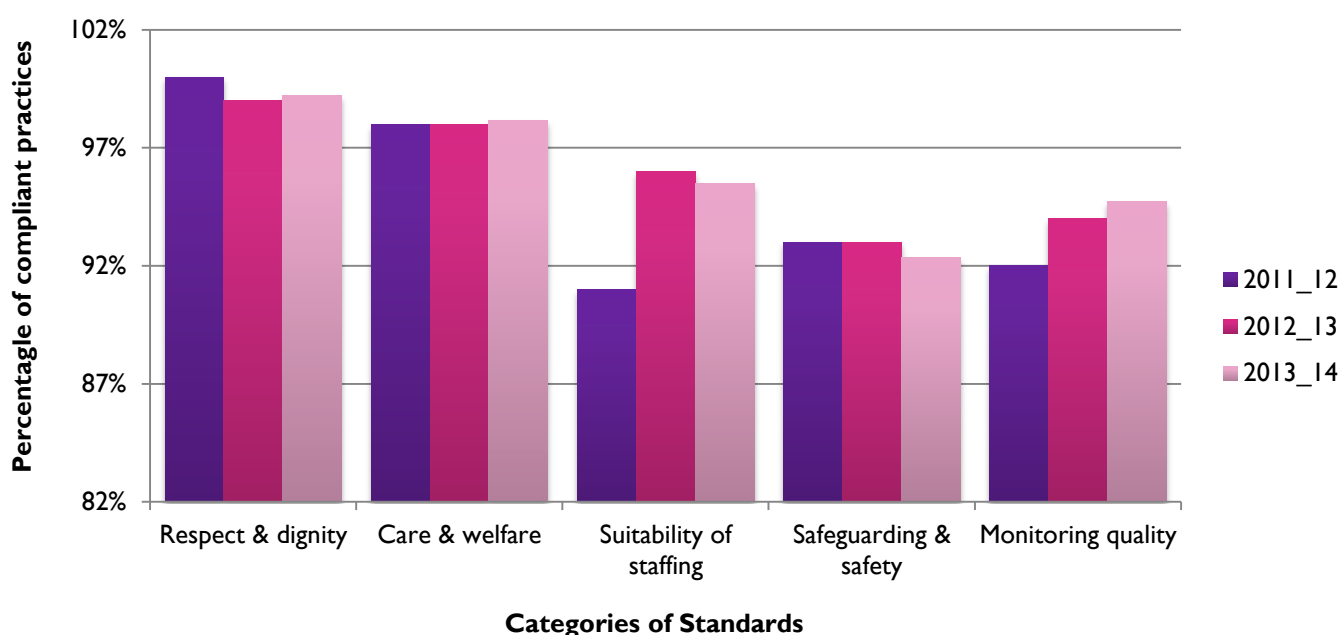
<sup>102</sup> Care Quality Commission ‘Care Update’ Issue 2, March 2013  
[http://www.cqc.org.uk/sites/default/files/documents/cqc\\_care\\_update\\_issue\\_2.pdf](http://www.cqc.org.uk/sites/default/files/documents/cqc_care_update_issue_2.pdf)

Two areas were identified where improvements could be made. From inspections carried out between April and December 2012:

- Only 85 per cent of inspections found staff were being recruited effectively with thorough checks carried out.
- In just 81 per cent of services, patient records were kept up to date, safe and confidential.

More recent, unpublished data from CQC inspections show levels of compliance with the five overarching standards against which inspections are carried out. These are presented in the chart below. As can be seen, compliance is very high across practices in England. In 2013/14 compliance with Safeguarding and Safety was the lowest (although still high at 92% of practices). This Standard includes safeguarding people from abuse; cleanliness and infection control; management of medicines; and safety and suitability of premises.

**Figure 8.3: Compliance among dental practices with CQC Standards**



Source: CQC State of Care data (confidential).

The CQC’s inspection Standards cover the following factors: Safeguarding and safety covers safeguarding people from abuse; cleanliness and infection control; management of medicines; and safety and suitability of premises. Care and welfare covers care and welfare of people, and meeting nutritional needs. Respect and dignity covers respect and involving people who use services. Suitability of staffing covers staffing levels and supporting staff through training and supervision. Monitoring quality covers the monitoring of service quality and responding to complaints. These are focussed on practice-specific factors and therefore do not shed much light on possible risk factors among dental professionals.

The CQC is designing a new risk-based inspection and monitoring approach for dental practices in England, expected to come into effect in 2015/16.<sup>103</sup> It is envisaged that the model will be risk-based, part of the

<sup>103</sup> Care Quality Commission ‘A fresh start for the regulation and inspection of primary care dental services: Working together to change how we regulate primary care dental services’, August 2014 [http://www.cqc.org.uk/sites/default/files/CQC\\_A%20fresh%20start%20Dental%20signposting%20statement%20August%202014.pdf](http://www.cqc.org.uk/sites/default/files/CQC_A%20fresh%20start%20Dental%20signposting%20statement%20August%202014.pdf)

CQC's ongoing work is therefore to find out and understand where the risks in primary care dentistry are.<sup>104</sup> Work in this area includes the following:

- The development of a model to assess the ongoing risks to the quality of care from providers, including dentists.
- The use of themed inspections, focussed on key topics. The topics identified as important could inform conclusions on risk factors in dentistry. However, this approach is also still under development by the CQC.

At this stage it is too early to use the CQC's work to inform our conclusions on risk factors in dentistry.

## 8.6 What are the current trends in professional indemnity and insurance claims in dentistry?

As described above, professional indemnity and insurance claims have been rising. In their annual reports for 2012, MDDUS noted a 54 per cent rise in claims for GDPs from 2011 and the Medical Defence Union noted a 20 per cent rise in claim notifications from the previous year (this covers both dentists and doctors, as the Dental Defence Union does not report figures separately for dentists). However, these claims may not be related to changes in the level of risk associated with dentistry. Insurers note changes in legislation and the wider legal environment (for example, with solicitors taking on more cases on a conditional fee agreement basis) as key drivers in the increase in claims, rather than changes in risk.

---

<sup>104</sup> Care Quality Commission 'A fresh start for the regulation and inspection of primary care dental services: Working together to change how we regulate primary care dental services' August 2014, Page 11 [http://www.cqc.org.uk/sites/default/files/CQC\\_A%20fresh%20start%20Dental%20signposting%20statement%20August%202014.pdf](http://www.cqc.org.uk/sites/default/files/CQC_A%20fresh%20start%20Dental%20signposting%20statement%20August%202014.pdf)

# 9 Feasibility Analysis of Fitness to Practise Data

## 9.1 Introduction

This chapter addresses the following research questions:

- On what basis, and how feasible is it to interrogate FTP data held by the GDC to identify patterns of complaints and pathways to impairment?
- What would be an appropriate methodology(ies) for undertaking this work?

Our work indicates the limited availability of relevant empirical data on risk factors in dentistry. This is particularly the case with data that link risk factors with evidence of *actual* impairment, rather than just a potential risk of impairment.

The GDC's Fitness to Practise (FtP) database is a valuable source of evidence as it records cases which demonstrate actual impairment of various types and severity. This chapter is motivated then to analyse and assess how the FtP database could be augmented (e.g. by adding additional fields) and interrogated to identify patterns in, and pathways to, impairment — and hence increase the relevant evidence base.

In preparing our analysis we engaged with the GDC's FtP team and reviewed anonymised segments of the database in order to understand how information about FtP cases are recorded and how the database currently operates.

We structure our analysis as follows:

- We first provide a description of the content and layout of the FtP database and the procedures by which case information is recorded.
- Based on the type of information contained in the database we describe the potential research questions that the FtP data could answer.
- We then make recommendations for additional information that could usefully be collected to enable a wider set of research questions to be analysed.
- Finally we discuss possible methodologies for interrogating the data in order to answer the research questions identified.

## 9.2 Description of the FtP database

The FtP database contains information on all complaints and referrals received by the FtP team. A complaint against a dental professional can be made either directly to the GDC, or can be referred to the GDC by the Dental Complaints Service (DCS).<sup>105</sup> Each complaint is marked with a unique case number, and information about each case is recorded in the database. A list of the possible information fields (or variables) is included in the Technical Appendix for reference.

A new IT system for the database was introduced in April 2012. We understand from the FtP team that comparisons of cases before and after the changeover may be limited as some classifications differ across the two periods.

---

<sup>105</sup> The DCS looks into complaints about private dental services provided by dental practices in the UK.

### 9.2.1 Overview of a case progression

We set out below a high-level description of the possible FtP stages that a case can pass through. Each of these stages involves a greater level of investigation and scrutiny, and each stage can result in a variety of decisions.<sup>106</sup> This description is simplified and presented only for the purposes of our feasibility analysis — in reality the process may be more complicated.

- Enquiry — all complaints are entered into the FtP database.
- Triage — the complaint is assessed and referred onwards to the next stage, Assessment, if deemed appropriate.
- Assessment — the case is investigated further and referred to the next stage, Investigating Committee, if deemed appropriate.
- Investigating Committee — the case is further investigated and, if deemed appropriate, referred onto various other committees depending on the nature of the case. A new ‘Prosecution’ case is created, although this can still be linked back to the original complaint and associated information.<sup>107</sup>
- Health, Professional Conduct and Professional Performance Committees — there are three further committees to which a case can be referred after the Investigating Committee stage. The possible outcomes from these Committees is detailed in the Technical Appendix, and include decisions such as erasure, suspension, further referral, restoration, etc.

### 9.2.2 Information recorded about each case

Different types of information are recorded about each FtP case. For the purposes of this analysis we identify four main categories of information. These information fields are presented in detail in the Technical Appendix. We refer to these information fields as ‘variables’.

#### Registrant information

Information about the registrant will be key to identifying potential risk factors. The information that is recorded includes:

- Profession (referred to as registrant type in the database) for example dentist, dental nurse and so on.
- Speciality
- Registration date
- Qualification date
- Country of qualification
- Date of qualification
- Qualification institute
- Route to registration
- CPD status of completion of hours in cycle
- Demographic information e.g. age, race, marital status etc.

#### Nature of the case

There are a number of different fields relating to the nature of the complaint or case. These provide information about what type of risk could be associated with the case and also may give an indication of the severity of the risk. The recorded fields include:

- Risk type, for example patient/public safety; registrant safety; reputation of the profession.<sup>108</sup>

---

<sup>106</sup> The various stages and types of decision can be seen in E5 and E7 respectively of the Database Fields described in the Technical Appendix.

<sup>107</sup> The Investigating Committee can decide to take a number of other actions besides referring the case on to one of the committees. We refer the reader to the ‘Decision Made’ fields in the Database Fields in the Technical Appendix.

<sup>108</sup> A detailed list of Risk types is provided at E4 in the Database Fields in the Technical Appendix

- Consideration, which are linked to the GDC's Standards, and include for example not acting fairly and honestly; inaccurate record; failure to provide good quality care etc.<sup>109</sup> This information provides the most detailed description of the nature of the case. Data on consideration have only been recorded since April 2012.<sup>110</sup>

Each stage of the procedure (e.g. fact finding, assessment, Investigating Committee) involves a more detailed investigation, and therefore considerations may be added to or removed from the case depending on the conclusions reached at each stage. Once the case has passed through the Investigating Committee a significant amount of research has been undertaken and it is likely that all the major considerations will have been added at that stage. However, considerations can still be added (or removed) during the later stages, and in order to be certain that the considerations are final, it would be necessary to look at only cases which have been proved and closed.

### Stage of the case

There is no fixed timeline to reach a certain stage.<sup>111</sup> Understanding the stage reached identifies how far a case has progressed and whether it is still in progress or has been closed. Stages include, among others:

- Fact finding.
- Investigating Committee.
- Closed.

### Decision of the case

At each stage there are a number of possible decisions that can be made about the case.<sup>112</sup> These decisions can indicate the severity of the case and include:

- Case cancelled.
- FtP not impaired and case concluded.
- Erasure.
- Conditions.
- Suspension.

In summary, the information contained in the FtP database will enable an analysis of cases by the following categories relevant to the investigation of risk:

- Registrant characteristics (to inform risk factors).
- Nature of the case (to inform the type of impairment and therefore significant risks in dentistry).
- Decision of the case (to inform the assessment of the severity of the risks).
- Stages of the case (may also inform severity).

## 9.2.3 Structure of the database

The FtP database is currently structured into several main tables, each table including specified information fields. Information relating to each case is linked to a unique case identifier to enable cross-referral between tables. (We understand that registrant characteristics are also linked to each case by this identifier.) In other words, it is possible to manually combine information fields from different tables for each individual case.

We understand that the FtP team is introducing a new reporting software that will facilitate this matching process and enable data across the different tables to be combined and reported automatically rather than

---

<sup>109</sup> A detailed list of Considerations is provided at E8 in the Database Fields in the Technical Appendix

<sup>110</sup> As considerations are added and removed at each stage, depending on whether new evidence comes to light, cases which began before 2012 can still have considerations assigned based on stages completed after 2012.

<sup>111</sup> A detailed list of Case Stages is provided at E5 in the Database Fields in the Technical Appendix

<sup>112</sup> A detailed list of Decisions is provided at E7 in the Database Fields in the Technical Appendix



manually. This will be beneficial in terms of creating bespoke datasets that combine certain information fields for further analysis.

Each variable in the database has a number of possible options. For example, the variable Age has the following options: 16-21; 22-30; 31-40; 41-50; 51-60; 61-65; and Over 65.

Each option should be entered into the database in exactly the same format, and therefore it would be possible to use statistical software to analyse such machine-readable data. The methodologies described here can be carried out in Excel with the use of pivot tables. More sophisticated statistical techniques could be employed. We describe these briefly at 9.5.3 but do not go into detail (this would necessitate the practical analysis of the data which is beyond the remit of this study). Other software packages than MS Excel could also be used — the choice of software would be up to the researcher and we therefore do not go into detail on how analysis might be conducted in other software solutions.

In summary, the structure of the database implies that extracting and analysing data would be relatively straightforward, and feasible. In subsequent sections we describe possible methodologies for doing this.

### 9.3 Research questions potentially answered by the FtP data

The information held in the FtP database would enable the researcher to answer a number of research questions.

We note here that all live cases involve ‘alleged impairment’ — the FtP team consider impairment as the outcome of a fully proven case. Therefore, if the researcher is only interested in trends relating to proven impairment, only closed cases (under the “Stage” variable) should be analysed. That said, it may nevertheless be valuable to analyse cases which are not yet closed but which have progressed sufficiently far through the various stages to imply a high probability of impairment. This would be advantageous in that it would increase the sample size which the researcher can analyse. Any results reported from this analysis would need to be appropriately caveated.

#### 9.3.1 Trends in FtP cases over time

The data could be used to explore general trends over time to reveal whether FtP cases were increasing, decreasing or remaining stable over time. Trends in certain types of cases over time could also be examined (e.g. represented by the “Consideration” variables), as could trends in the number of cases of certain outcomes (represented by the “Decision”).

Further, trends in the number of cases by different registrant group could be examined, represented by the relevant individual variables (for example, “Registrant type”, “Specialist type”, “Qualification”).

It may be possible to link significant changes in the number of cases with external events, which may assist in identifying areas that warrant further research, or in testing various hypotheses. As a hypothetical example, if a spike in the number of FtP cases among recently qualified registrants coincided with a change in training or qualification requirements, one may wish to investigate further the link between training and FtP cases. Drawing any conclusions like this would need to take into account possible lags in time between an external change and a likely impact on FtP cases.

#### 9.3.2 General patterns in cases

Analysis of the FtP data could reveal interesting patterns, in particular what the most common cases are. Given the information recorded in the database, a researcher could identify:

- The most common types of impairment. Using the options within the “Consideration” variable, one could see what the most common types of impairment are. This could identify areas for policy

intervention, such as the introduction of new CPD requirements to address identified shortfalls in knowledge or skills. The most common types of impairment could be traced over time to identify possible changes in skills levels, for example.

- The most common types of impairment could also be assessed for different groups of registrants to see if a particular group was more prone to one type of impairment compared to another type. This could answer questions such as ‘what is the most common type of impairment among dental nurses’ or ‘among newly qualified registrants’ etc.
- The most common outcomes. Using the options within the “Decisions” variable one could see what the most common outcomes of FtP cases are, for example how many result in erasure, or suspension, or adjournment etc. This could be viewed over time to identify whether the proportion of serious, proven cases has changed over time.

### 9.3.3 Risks factors making impairment more likely

The number of FtP cases could be linked to various characteristics of registrants to examine where there are certain characteristics that are linked to a higher number of FtP cases. This may identify characteristics which are likely to be risk factors. For example, one would assess whether the number of cases varies significantly by:

- the profession of the registrant;
- the time since qualification;
- the institution of qualification;
- compliance with CPD requirements;
- the region, based on the postcode given, etc.

This could in turn shed light on a number of hypotheses around risk factors, specifically:

- Whether there is a different level of risk between the **professions** regulated by the GDC.
- Whether failure to comply with **CPD requirements** is linked with impairment.
- Whether **recently qualified** practitioners are more or less likely to depart from the Standards and enter into FtP proceedings compared with those qualified for a long period.
- By categorising the universities into UK and non-UK, one could test the hypothesis of whether practitioners **qualified overseas** are more or less likely to breach the Standards compared to those qualified in the UK.

As mentioned above, as not all FtP cases are associated with actual impairment, it may be necessary either to consider only those cases which are closed, or to define a level of certainty that could be interpreted as ‘impairment’ for the benefits of increasing sample sizes (perhaps represented by “Decision” type). This would enable the researcher to analyse not merely whether a certain characteristic was more or less likely to lead to an FtP case, but whether it was more or less likely to lead to actual impairment.

This analysis could also be combined with the more simple ‘pattern’ analysis of the most common types of impairment to provide a greater understanding of *why* certain registrant characteristics are more likely to lead to impairment.

As a hypothetical example, if an initial analysis found that non-UK qualified registrants are more likely to enter into FtP proceedings than UK-qualified registrants. The reason why might be due to differences in clinical skills, or differences in ability to communicate with patients, or there might be no clear reason at all. If the researcher then analysed the most common types of impairment associated with non-UK registrants, he would see whether there was an underlying reason for the impairment (e.g. whether ‘communication skills’ or ‘clinical skills’ was particularly predominant).

### 9.3.4 Risk factors associated with the most severe cases

The data could also enable an analysis of what registrant characteristics (or potential risk factors) are associated with the most serious types of impairment. A definition of ‘severity’ would need to be created from the relevant variables. The options under “Decision” could be relevant to indicate severity, for example a decision of ‘erased’ could be perceived as more serious than ‘suspended’.

### 9.3.5 Risk factors associated with specific types of impairment

The data could identify whether certain registrant characteristics (or potential risk factors) are associated with particular types of impairment (represented by the “Considerations” variable). This could provide insights into whether certain characteristics are associated with certain types of impairment which may also inform policy, for example enabling remedial measures in specific areas to be targeted at specific registrant groups.

### 9.3.6 Types of impairment associated with the severity of cases

The data could also identify whether certain types of impairment (represented by “Considerations”) were more or less likely to lead to certain outcomes (represented by “Decisions”). This would identify links between type of impairment and severity of outcome. If relevant, this could inform policy, for example, by targeting the causes of certain types of impairment that are shown to be most likely to lead to severe outcomes.

## 9.4 Recommendations for the database

The research questions that can be answered depend on the information held in the database. In particular, those characteristics associated with the registrants who are the subject of each case could inform research questions about what factors are more likely to lead to impairment.

The FtP database currently does not collect information about the registrants’ work setting or structure, such as:

- If the registrant is in single-handed practice.
- Whether the practice is private/NHS/combination.
- The working arrangement of the registrant, such as part-time, locum, or domiciliary.
- The role of the registrant (e.g. education and training; management etc.).

If these details were gathered for all registrants and entered into the FtP database, this would enable further research questions, such as:

- Are certain practice settings more or less likely to lead to impairment?
- Are certain roles more or less likely to lead to impairment?
- Are commercial considerations associated with increased risk?

As explained in the methodology section, this information would need to be collected for the whole registrant base, not just those in FtP proceedings, to enable robust analysis. Any additional data collection should be planned such that it occurs over a single period; this would facilitate longer-term analysis of data, compared to a situation where new data fields are added over time. The costs and benefits associated with the collection of additional data would need to be investigated.

In addition to the database, there are individual determinations (results) of the FtP hearings. These are publicly available notes detailing the reasons for the determination. We investigated a sample of these to establish whether there was any further information recorded in cases but not included in the database. The case notes contain detailed descriptions of the misdemeanour or the nature of impairment, but these

would already summarised in the database under the nature of the case. These case notes do not contain any additional information about the registrant which could facilitate the identification of further risk factors. We therefore do not consider it relevant to collect further data from these case notes to add to the database.

## 9.5 Possible methodologies for analysing the data

We set out in this section the possible methodologies for organising and analysing the data. This is based on the main research questions as set out above. We summarise these as follows:

- Trends in FtP cases over time.
- General patterns in FtP cases.
- Links between characteristics of registrants and number of FtP cases.
- Links between characteristics of registrants and severity of impairment.
- Links between characteristics of registrants and types of impairment.
- Links between types of case and severity.

As discussed in Section 9.2.3, our suggested methodologies can be carried out in Excel through the use of pivot tables and the creating of simple sums and percentages.

### 9.5.1 Manipulating the data

The first step of the analysis would be to combine all the data fields within the FtP database into a single file. This would be necessary to allow linkages between different variables — which are currently held in separate tables — to be examined. As described above, this compilation should be straightforward.

It may be desirable to create sub-sets of the data depending on the purpose of the analysis. A sub-set would include only those variables relevant to the analysis. For example, a researcher may wish to exclude variables which are either irrelevant, or where there are known problems (e.g. many missing variables etc.). Various sub-sets of the data would still contain the whole FtP sample, i.e. all cases registered in the database.

It may also be necessary to limit the sample in some way, and create a sub-sample by filtering on certain options within variables. One relevant way might be by the stage of the case. As described above, as a case progresses through various stages, information can be added or subtracted depending of the results of the investigation at each stage. To be assured that the information associated with a case is ‘final’, the researcher may only want to examine those cases which are closed. He could then sort the data by the variable “Case Stage” and select only those cases which are marked as “closed”.

If the data is put into Excel format, then pivot tables can be used to filter the data in a number of ways to create different sub-sets and sub-samples.

Some of the variables have a large number of options. For example, for each Committee decision<sup>113</sup> has around 30 potential decision types. It may be desirable for the researcher to consolidate the options into broader categories to enable clearer results, as creating fewer sub-categories would increase the number of cases within each category. For example, all decision options that all involve ‘cancelled’ could be grouped together. Any consolidation would need to be appropriate for the research question under investigation.

### 9.5.2 Generating results

We now describe the ways in which each of the main research questions presented in Section 9.3 could be assessed.

---

<sup>113</sup> A detailed list of Decisions and options is provided at E7 in the Database Fields in the Technical Appendix

### Trends in FtP cases over time

This would entail a simple graphing of the number of FtP cases recorded over time. Different types of cases could be graphed. For example one could see changes over time in:

- All cases
- Cases involving men versus women (using the “Gender” variable options).
- Cases involving certain decision types (using the “Decision” variable options).
- Cases involving certain impairment types (using the “Consideration” variable options).
- Cases involving UK and non-UK qualified registrants (using the “Qualification” variable options).

For each different group, a sub-set of the data would be created with the relevant variable and the case date, using a pivot table. The number of cases within each group, for each year, would then be summed and the number across time would be graphed. Any significant changes in the number of FtP cases could then be researched qualitatively to understand potential underlying reasons for the change.

### Patterns in the data

A range of different patterns could be investigated using the data. This analysis would not draw comparisons *between* registrant characteristics (potential risk factors) and impairment, but would rather reveal patterns *within* registrant groups, as well as other trends. Using pivot tables to filter the data by the relevant variables and then summing the cases associated with each option, a number of patterns could be explored. We list a few relevant ones here:

- The number of FtP cases by types of impairment (“Consideration”).
- The number of FtP cases by types of impairment for different groups of registrants (e.g. profession, age group etc). This would reveal the most common types of impairment within each group.
- The number of FtP cases by final outcome (“Decision”).
- The number of FtP cases by types of decision for different groups of registrants. This would reveal the most common outcomes within each group.

In our view, this analysis would be most valuable in identifying the most common types of impairment, as this could provide valuable insights for policy development.

### Links between characteristics of registrants and likelihood of impairment

The above analysis would identify patterns within registrant groups, but would not reveal whether one registrant group was *more likely* to be associated with a certain type of impairment or outcome than another group. This linkage is necessary to understand whether certain characteristics can be considered as risk factors.

Pivot tables can be used to count the number of FtP cases by registrant characteristic. This would show, for example, the number of cases that involved men versus women; UK versus non-UK qualified; different age groups; different professions; different lengths of time since qualification etc.

These case numbers would then be compared to the *total* number of registrants within the various characteristic groups. For example, the researcher could calculate:

- The percentage of all registrants who had entered into an FtP proceeding in a particular year (number of FtP cases in the year divided by the total number of registrants in that year).
- The percentage of all dentists who had entered into an FtP proceeding in a particular year (number of FtP cases involving dentists divided by the total number of dentists on the GDC’s register in that year).
- The percentage of all technicians who had entered into an FtP proceeding in a particular year (number of FtP cases involving dental nurses divided by the total number of technicians on the GDC’s register in that year).
- And so on for other characteristics.

By comparing the percentage of dentists who had entered into FtP proceedings with the percentage of all registrants who had entered FtP proceedings, the researcher could conclude whether dentists were more or less likely to enter into FtP proceedings than all registrants. Similarly, by comparing the percentage of dentists who had entered into FtP proceedings with the percentage of technicians, the researcher could conclude whether dentists were more or less likely to enter into FtP proceedings than technicians. The differences in percentages can be tested using statistical tests (available in most research software) to determine whether they are statistically significant.

With this analysis it is important to weight the results according to the relevant population within each registrant characteristic (profession, gender etc.), as shown above, to avoid biasing the results. For example, given the relative shares of the registrant base across profession, the number of dentists subject to FtP complaints could far outweigh the number of technicians, and without weighting the sample erroneous conclusions about relative risk of dentists versus technicians would be drawn.

Information on some characteristics may not be recorded for the whole registrant base, which would prevent such weighting. Where this is the case the results would need to be interpreted with caution. However, it seems likely that the majority of registrant characteristics included in the FtP database fields would be held for the whole registrant base.

#### Links between characteristics of registrants and severity of impairment

Cases included in the FtP database are not all evidence of impairment, as investigations can find the allegations of impairment to be unfounded.

For a more refined version of the above analysis, a sub-sample of the data could be created which only considered cases which had reached a certain stage to (e.g. investigating committee) or decision (e.g. erasure) to assess the relative likelihood of certain registrant groups in being involved in particularly serious FtP cases.

These sub-samples could be created using pivot tables, and the same procedure followed as above i.e. comparing the percentage of dentists who had entered into a FtP case resulting in erasure with the percentage of all registrants who had entered into a FtP case resulting in erasure, for example.

A decision would need to be made as to which “Decision” or “Stage” option most accurately represented a ‘severe’ case. The pivot tables would also enable the analysis of the likelihood of different registrant characteristics reaching *any* possible Decision options, so a particular option would not need to be pre-selected.

#### Links between characteristics of registrants and types of impairment

Another variation of the above would be to analyse whether certain groups of registrant are more likely to be involved in certain types of FtP case. Here the researcher could use the “Considerations” field to represent different types of impairment, instead of the “Decision” fields in the previous analysis. Using pivot tables he could test whether certain registrant groups are more or less likely to be involved in certain types of impairment.

If desired, a further filter could be added to enable the researcher to examine, for example, only those cases which are considered ‘severe’.

#### Links between types of cases and severity

It may also be relevant to investigate whether certain types of impairment are likely to be more or less severe. Here the researcher would again need to decide on a definition of ‘severe’, possibly by considering different decision types.

Instead of registrant characteristics, the foundational variable here would types of impairment (represented by types of Consideration). A similar methodology to the other linkage assessments would be used, as follows:



- Calculate the percentage of all types of impairment that result in a severe outcome (number of FtP cases that result in a severe outcome divided by the total number of all FtP cases).
- Calculate the percentage of cases within each type of Consideration that result in a severe outcome (the number of cases for each Consideration that result in a severe outcome divided by the total number of cases within each respective Consideration group).
- Compare the percentages of cases that result in a severe outcome for each type of Consideration with the percentage of all cases that result in a severe outcome.
- Test whether the differences between these percentages are statistically significant.

We note that this type of analysis would enable the researcher to tell whether or not a potential risk factor is statistically correlated with impairment. However, caution must be taken when inferring any causation between the risk factor and impairment.

### 9.5.3 Further analysis

Another method of analysis could be undertaken using statistical regression analysis. This form of analysis enables the researcher to test the causal effect of one variable on another.

In this form of analysis, a 'dependent variable' and a set of 'explanatory variables' are identified. The analysis then tests whether the explanatory variables have a causal effect on the dependent variable. The magnitude of the effect can be estimated, and whether this effect is statistically significant.

For example, the dependent variable could be the type of outcome of an FtP case (represented by the "Decisions" options) and the explanatory variables could be the various characteristics of registrant, such as profession, age, place of qualification etc. The regression would estimate the influence each characteristic has on the type of outcome to identify whether there is a significant relationship between certain characteristics and certain outcomes.

This relationship (if significant) would be stronger than correlation, as it would show that the characteristics drive, or 'explain' the dependent variable, rather than simply being related to it. By including a range of characteristics and explanatory variables, the effect of each individual variable would be isolated, to enable a more precise conclusion about the drivers of risk.

In this way, the researcher could test a number of hypotheses, such as does having a non-UK qualification lead to a greater likelihood of being subject to an FtP case, or a certain type of impairment?

Regression analysis is complex and there are a significant number of issues to be considered in relation to how the data are constructed, how the models are designed and how they are executed.<sup>114</sup> We therefore do not go into detail about the mechanics of regression analysis. However, based on the structure and content of the FtP database such analysis should be certainly be feasible (although the types of results that would be expected cannot be determined without an actual analysis of the data).

### 9.5.4 Conclusions on methodologies

The methodologies described above can be used to answer a number of research questions, and all would be feasible to use with the FtP database. We have highlighted those we consider to be most relevant in Section 9.3, but others could be included. The researcher would select the variables most related to the question to be answered, and use any one of the above methodologies to generate similar outcomes.

The main methodologies we discuss can be carried out in Excel using pivot tables to facilitate the selection of relevant variables. Other software packages can be used if the researcher is more familiar with these.

---

<sup>114</sup> For example, the nature of variables included in the models and the precise research questions would determine whether it was most appropriate to use a straightforward OLS regression model, or a binary logistic model.

# 10 Appendix

## 10.1 Analysis of potential risk factors

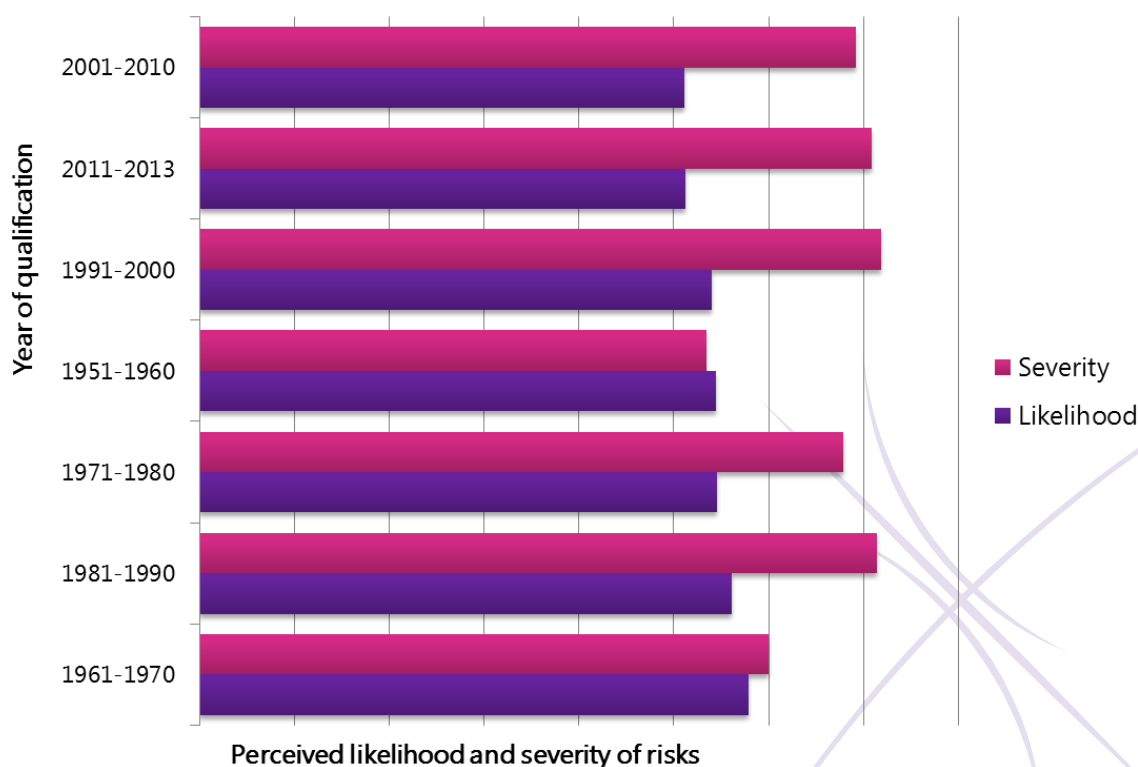
The body of this report presents the evidence on the main competence, conduct and contextual risk factors that may affect the risk that a registrant departs from the GDC's Standards. In order to reach these conclusions we examined the evidence for a wide range of potential risk factors. For a number of these potential risk factors the evidence was not sufficient to enable us to conclude that factors were significant. In this Appendix we present this evidence to support our conclusions.

### 10.1.1 Length of time in practice

The evidence on the relationship between length of time in practice and the likelihood that registrants depart from the Standards is limited.

In the Risk in Dentistry Survey participants were asked to identify when they had qualified. Generally speaking, those registrants who had been qualified for longer periods — particularly those qualifying in 1980 or earlier — perceived the severity of potential departures from Standards and risk factors as lower than other registrant groups (although there is no *significant* difference in the perception of likelihood). This pattern is seen in Figure 10.1. This could suggest that those who have been qualified the longest have a less sensitive perception of risk (or that those who have been qualified for a shorter length of time have a more sensitive perception). This however, does not clearly inform conclusions as to whether length of time in practice is associated with increased risk.

**Figure 10.1: Differences in perception of the likelihood and severity of risks, across time since qualification**



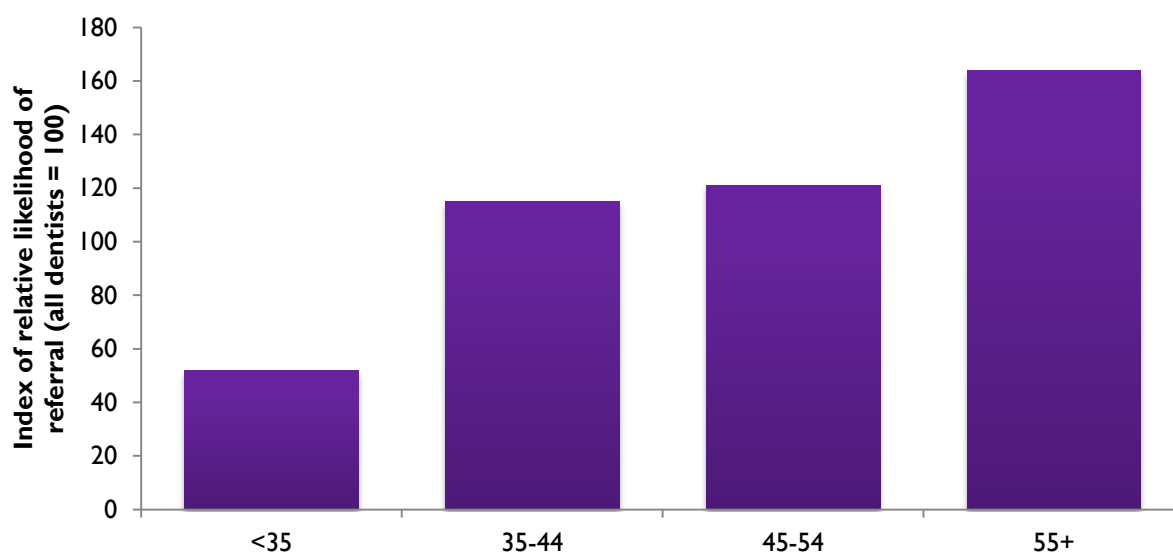
Source: 2013 Risk in Dentistry Survey



The UK dental literature provides some evidence that an individual's length of time in practice could be linked to a greater likelihood of departure from the Standards.

The NHS National Clinical Assessment Service (NCAS)<sup>115</sup> has produced data on the number of general practitioner dentists referred to the NCAS for poor performance in 2009/10 by age (which, whilst not always correlated with length of time in practice, can be considered a reasonable proxy). This is predominantly referrals from the employer or contracting body (with some self-referrals and referrals from whistle-blowers), but they do not take referrals directly from the public. The report calculates an index of relative likelihood of referral across age groups (the value for all respondents is 100).<sup>116</sup> They report that “the likelihood of referral in the oldest age group (55+) is about three times the likelihood in the youngest group (<35s).” Figure 10.2 illustrates this.

**Figure 10.2: Relative likelihood of referral across age groups, 2009/10**



Source: National Clinical Assessment Service, 2011

Bullock *et al.* (2003, III)<sup>117</sup>, in a survey of general dental practitioners across three English deaneries, found that those groups less likely to carry out 50 hours of CPD per year (consistent with the GDC's Lifelong Learning requirements of 250 hours of CPD every five years at the time of the report) include those who have been in dental practice for longer. They find that the likelihood of CPD participation decreases uniformly with the number of years in practice. Failure to engage in CPD could in turn suggest a higher level of risk (provided CPD engagement is linked with lower risk).

Furthermore, Mathers *et al.* (2012, IV)<sup>118</sup>, who study the impact of CPD on doctors' performance through a series of interviews, find that younger doctors are more familiar with the ideas of reflection and self-assessment than older counterparts.

Dodge *et al.* (2012, V)<sup>119</sup> analyse the relationship between increasing length of time in practice and improved patient health and safety outcomes by reviewing the findings of earlier literature. They find that

<sup>115</sup> The NCAS is a division of the NHS Litigation Authority which helps to improve patient safety by resolving concerns about professional practice of dentists and other healthcare workers. The NCAS operates in England, Northern Ireland, Scotland and Wales.

<sup>116</sup> NHS National Clinical Assessment Service, Concerns about professional practice and associations with age, gender, place of qualification and ethnicity - 2009/10 data, February 2011

<sup>117</sup> Bullock, A., Firmstone, V., Fielding, A., Frame, J., Thomas, D., and Belfield, C., (2003). 'Participation of UK dentists in continuing professional development.' *British Dental Journal*, vol. 194, pp. 47-51.

<sup>118</sup> Mathers, N., Mitchell, C. and Hunn, A. (2012). 'A study to assess the impact of continuing professional development (CPD) on doctors' performance and patient/service outcomes for the GMC.' University of Sheffield/Capital Health.

in 52 per cent of the literature surveyed length of time in practice was not positively correlated with improved patient health and safety outcomes. The authors suggest that this could be due to older dental physicians being less likely to adhere to standards and/or possess less factual knowledge. However, a lack of a positive correlation between length of time in practice and improved patient outcomes does not necessarily imply that length of time in practice is linked with *negative* patient outcomes. Whilst the findings of this research suggest that length of time in practice is related to increased risk they are not conclusive.

Scraggs *et al.* (2012, V)<sup>120</sup> investigates the factors that encourage or discourage doctors from acting in accordance with good practice. They find that, the greater the extent to which new good practice guidelines mandate changes in existing behaviours or habits, the harder it becomes to implement. This could imply that those who have been practicing for longer, who are more likely to become rooted in their own habits, will be less responsive to any changes in standards or guidelines for best practice. However, the study does not draw a direct link between length of time in practice and increased risk.

Phipps *et al.* (2010, IV)<sup>121</sup> study the characteristics of high- and low-risk practitioners in the pharmacy sector and find some evidence pertaining to a 'U-shaped' relationship between length of time in practice and risk. Their multi-method approach included 32 in-depth interviews with pharmacy stakeholders. Interview participants identified two high risk categories; newly qualified persons who lack experience relative to others; and long-time registrants whose interest in professional development may wane. The latter may be evidenced by less willingness to engage in CPD and to read professional journals<sup>122</sup>, especially among those approaching the end of their careers. They note that this 'U-shaped' relationship may help rationalise the apparently inconsistent findings of previous studies on this relationship.

The in-depth interviews provide some support to the literature. Several interview respondents raised concerns about the fitness to practise of individuals who had been in practice for a long time. The reasons given included health issues and stress among older professionals, isolation, and ethical fading whereby professionals become convinced over time that their way of doing things is the correct way.

The evidence discussed above does not enable us to draw clear conclusions on the extent to which length of time in practice may increase the likelihood that an individual may depart from the Standards. Whilst the NHS National Clinical Assessment Services report provides clear evidence that older dental professionals are more likely to be referred than younger, it does not provide any insight into the underlying reasons for this. Other literature does not provide strong evidence of this risk factor, referring mainly to indirect factors associated with length of time in practice such as reduced CPD engagement and slower adoption of good practice guidelines.

### 10.1.2 Overseas dental qualifications

The link between overseas dental qualifications and the risk of impaired performance was mentioned in the in-depth interviews. However, on examination we found the evidence for this to be limited and insufficient to conclude that dental qualifications may increase the likelihood that an individual departs from the Standards. We discuss the evidence below.

The Risk in Dentistry Survey respondents who qualified outside the UK have a lower perception of risk, both in terms of likelihood and severity. This is shown in the chart below which illustrates the perceived

---

<sup>119</sup> Dodge, W., Winder, R., Young, S., Cole II, R., Findley, J., Martin, M., Cole, J., Glover, J., Kalkwarf, K. (2012) 'Continued Competency Assessment: Its History and Role in the Health Professions'. *Journal of the American College of Dentists*, vol. 79(3), pp.5-12.

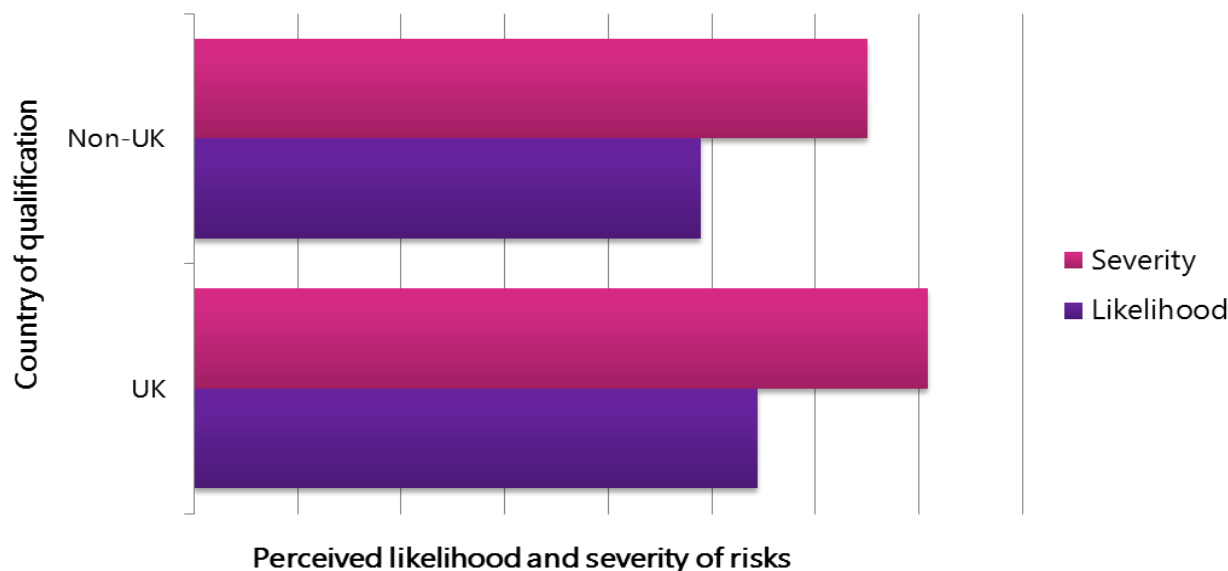
<sup>120</sup> Scraggs, E., Brereton, L., Newbould, J., Drabble, S., Tiefensee, C., Schweppenstedde, D., Miani, C. and Ling, T. (2012). 'Factors that encourage or discourage doctors from acting in accordance with good practice.' Final report prepared for the General Medical Council, April 10<sup>th</sup> 2012.

<sup>121</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010, II) 'Risk Assessment in Pharmacy Practice'

<sup>122</sup> Evidence of this is found in: NHS National Patient Safety Agency (2011, V), 'Factors influencing dental practitioner performance: a literature review'.

likelihood and severity across risk factors by non-UK-qualified dental professionals compared to UK-qualified professionals. This may suggest that non-UK qualified dental professionals have a less sensitive perception of risk than those who qualified in the UK.

**Figure 10.3: Differences in perception of the likelihood and severity of risks, across country of qualification**



Source: 2013 Risk in Dentistry Survey

Some evidence on the potential risk of overseas qualifications is found in the literature. The report for the GDC on Transition to Independent Practice analysed all cases entering FtP for dentists (excluding other dental care professionals) and found that a higher proportion of non-UK qualified registrants enter FtP procedures than those who are UK qualified.<sup>123</sup> Data on 2009 FtP cases shows that, two years on from registration, 4.98 per cent of EEA qualified practitioners and 4.55 per cent of overseas qualified practitioners had entered FtP procedures, compared with only 1.56 per cent of those who qualified domestically. There is also a higher proportion of onward referral of these procedures for overseas qualified professionals, with corresponding figures for referral to the Investigating Committee of 3.25 per cent, 1.52 per cent and 0.72 per cent respectively. Analysis of FtP data is an important source of evidence, as risk factors (in this case non-UK qualifications) can be linked with cases of *actual* impairment, rather than just a risk of impairment as is the case with many other literature sources.

Boak et al.'s (2013, IV) literature review on transition to independent practice found few research publications addressing this issue, and did not find direct evidence that non-UK qualifications lead to an increased risk of impairment. However, there is a general suggestion in the review that, given variability in training and university curricula, overseas qualified registrants could benefit from a mentoring system and targeted CPD in their adjustment phase.

The GDC's annual registrant surveys undertake an annual review of dental professionals' perceptions of various aspects of dentistry and dental regulation. The *Annual Survey of Registrants 2013 (2014, II)*<sup>124</sup> findings are based on the responses of a weighted representative sample of 3,611 GDC registrants. 51% of respondents thought that overseas qualified dental professionals receive training on "how the UK dental system works", and 33% thought that overseas qualified dental professionals receive training on "how dental patients expect to be treated in the UK".

<sup>123</sup> General Dental Council (2013) 'Item 7 Transition to Independent Practice Group Meeting', Council Meeting 26 September 2013

<sup>124</sup> Venture Research (2014). 'Annual Survey of Registrants 2013.' Research Report for the General Dental Council, March 2013.

In the GDC *Annual Survey of Registrants 2012* interview section (2012, (IV))<sup>125</sup> a small number of interview respondents perceived a significant difference in skill levels, and associated risk to patient safety, between UK qualified and overseas qualified dentists. Although these dental professionals met the qualification requirements, the feeling among the interview respondents was that their performance fell short of the expected UK standards. This evidence is anecdotal.

George Street Research (2009, IV)<sup>126</sup> also analyse registrant perceptions, although they only use a small sample of 289 dentists participating in a revalidation pilot study. A general perception from the interviews is that “dentists who studied, trained and/or practiced formally in countries outside of the UK... have had different standards and a different level of training that does not necessarily translate directly to the UK”. Overseas qualified dentists were therefore considered as one of two key groups of practitioners for whom it is more likely that they do not currently meet the “... minimum standards in terms of operational competency”.

Gerrard (2011, IV)<sup>127</sup> analyses GDC Professional Conduct Committee cases between 2000 and 2010. He finds that cases against European Economic Area (EEA) and other overseas qualified dentists were disproportionately common. This finding could reflect that this group of dental professionals is inherently at higher risk of departing from the Standards, or it could be that this group is more likely to be complained about for other reasons (e.g. discrimination). However, Gerrard did survey overseas qualified NHS dentists and found that the majority of respondents felt that dental professionals from a different religious or ethnic group were no more likely to be discriminated against than any other members of that group. This suggests that the higher number of complaints against overseas qualified dentists could, at least to some extent, reflect higher actual risk among this group. However, Gerrard concedes that the paucity of survey evidence collected means that this conclusion must be seen as tentative.

Patel *et al.* (2011, IV)<sup>128</sup> undertake a review of relevant literature and conduct interviews with representatives of national dental associations and other relevant stakeholders, and find notable differences in dentistry practice across Member States of the EEA. In particular they find a lack of awareness outside the UK of clinical audit, clinical governance and foundation training, as well as differences in the use of the wider dental team.

The NHS National Patient Safety Agency (2011, V)<sup>129</sup>, like Patel *et al.*, also finds evidence of significant variation in EEA dental curricula, such that there is a marked variation in skills, knowledge and attitudes of qualified dental professionals across the continent that may hinder their ability to comply with UK standards. Cowpe *et al.* (2010, V)<sup>130</sup> also emphasise these cross-country differences and call for greater coordination of dental curricula across the EEA. This literature suggests that there are marked differences in the type of training received across the EEA, but does not offer evidence on what such differences could mean for risk. The literature also does not refer to overseas qualified dental professionals *practising* in the UK, which is the key consideration.

---

<sup>125</sup> Enventure Research (2012). ‘Annual Survey of Registrants 2012.’ Research Report for the General Dental Council, March 2013.

<sup>126</sup> George Street Research (2009) ‘GDC Revalidation Stage I Feasibility Study: Final Report.’ Report for the General Dental Council.

<sup>127</sup> Gerrard (2011) ‘The Challenges Facing Migrant Dentists in the English National Healthcare System.’ Business School College of Social Sciences, University of Glasgow.

<sup>128</sup> Patel, R., Eaton, K. A., Garcia, A., Rincon, V., & Brooks, J., (2011) ‘An investigation into the numbers of dentists from 19 European Economic Area (EEA) member states currently registered to work in the United Kingdom and key differences between the practise of dentistry in the UK and their member states of origin.’ *British Dental Journal*, vol. 211(3), pp.133-137.

<sup>129</sup> NHS National Patient Safety Agency (2011), ‘Factors influencing dental practitioner performance: a literature review’.

<sup>130</sup> Cowpe, J., Plasschaert, A., Harzer, W., Vinkka-Puhakka, H., Walmsley, A. D., (2010). ‘Profile and competences for the graduating European dentist - update 2009.’ *European Journal of Dental Education*, vol. 14(4), pp. 193-202.

There is also literature which addresses the risk of overseas qualification in other healthcare sectors. Qualifications related to the specifics of the particular healthcare profession are not relevant to dentistry, but there are other elements of training that are relevant across healthcare professions, which we discuss below (including familiarity with the social, ethical and legal setting in which professionals practice). Overall however the literature on other healthcare professions does not provide convincing evidence of risk in dentistry.

- Elkin et al. (2012, III)<sup>131</sup> analysed complaints received over 7.5 and 5.5 years to determine whether international medical graduates (IMGs) have more complaints made against them to medical boards and experience more adverse disciplinary findings than Australian-trained doctors. The authors tested for associations between IMG status and the incidence of complaints using multivariable logistic regression. They found that overall, IMGs are more likely than Australian-trained doctors to attract complaints to medical boards and adverse disciplinary findings. They note that the level of risk differs markedly by country of training, and recommend that further research would be valuable to understand these differences.
- Phipps et al. (2010, IV)<sup>132</sup> use a number of research methods, including interviews, from which they identify two key issues which could potentially affect overseas qualified persons in the pharmacy sector: a lack of familiarity with UK pharmacy practice and a lack of familiarity with UK language and culture. The extent of such concerns depends on where the practitioner trained and the length of time the practitioner has worked in the UK. Furthermore, if a pharmacist took initial training overseas, but completed pre-registration in the UK, then they are perceived as less risky than those who complete all aspects of training overseas.
- Slowther et al. (2009, IV)<sup>133</sup> draw on the questionnaire responses of 136 UK doctors (including 106 overseas qualified), as well as interviews with doctors who qualified overseas and with those involved in the training and support of such doctors. One of the key findings is the difference between the ethical, legal and cultural framework in place in the UK and in place in their country of qualification, including expectations of the doctor-patient relationship around informed consent, confidentiality and individual autonomy. Overseas qualified persons were also found to have concerns over:
  - communication, including language nuances and non-verbal engagement;
  - responding to the poor practice of their colleagues; and
  - concerns about adapting to social and behavioural customs.

There is some anecdotal evidence of variable training standards across countries from the interviews. Concerns regarding cultural issues, insufficient induction and patient interactions relating to overseas qualified persons were raised, but by only a one interview respondent per each point.

The evidence presented above does not enable us to draw clear conclusions on the likelihood that dental professionals with non-UK qualifications may be more likely to depart from the GDC's standards. The main exception in the evidence is the result of the FtP data analysis undertaken for the Transition to Practice report which shows a link between non-UK dental qualifications and a greater rate of FtP cases.

### 10.1.3 Transition from training to practice

We investigated whether the transition from training to independent practice could be an important risk factor in increasing the likelihood of impaired practice. We found that the evidence for this is very limited.

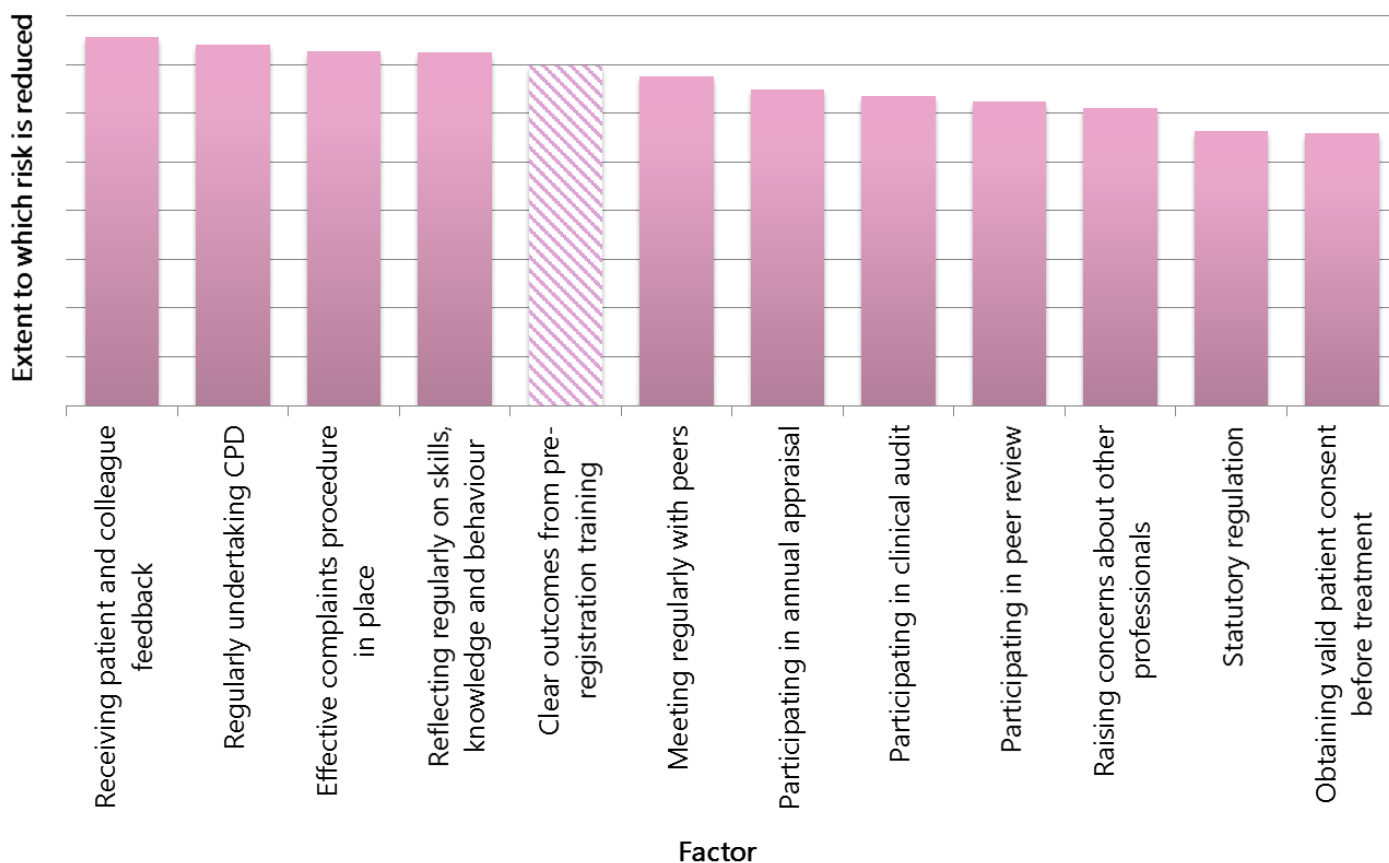
<sup>131</sup> Elkin, K., Spittal, M. J., and Studdart, D. M. (2012) 'Risks of complaints and adverse disciplinary findings against international medical graduates in Victoria and Western Australia' *MJA* 197 (8)

<sup>132</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) 'Risk Assessment in Pharmacy Practice'

<sup>133</sup> Slowther, A., Hundt, G. L., Taylor, R., and Purkis, J., (2009). 'Non UK qualified doctors and Good Medical Practice: the experience of working within a different professional framework.' Report for the General Medical Council by the University of Warwick, February 2009.

The Risk in Dentistry Survey asked dental professionals about the extent to which clear outcomes from pre-registration training might help to improve practice and performance and help individuals meet the Standards. Respondents perceived this to be among the most effective means of helping individuals meet the Standards. This is shaded in Figure 10.4 below.

**Figure 10.4: Factors which may help individuals meet the Standards**



Note: the chart shows the responses of all dental professionals participating in the survey  
Source: 2013 Risk in Dentistry Survey

The GDC has undertaken a key piece of research into [Transition to Independent Practice](#) based on Fitness to Practise (FtP) data.<sup>134</sup> The research finds that 2.71 per cent of all registrants entered into FtP procedures during 2011, with 1.14 per cent of all registrants being referred to the Investigating Committee and 0.34 per cent being referred on to a further FtP Committee. The corresponding figures for early registrants (in their first two years of practice) are 0.81 per cent, 0.37 per cent and 0.21 per cent respectively. This shows that the proportion of early registrants entering and progressing through FtP processes is actually lower than the proportion of all respondents. This evidence therefore does not support the hypothesis that transition to independent practice is likely to increase the risk that individuals depart from the Standards. This is supported by the literature review of Transition to Independent Practice (Boak *et al*) as referred to below.

There is little other robust evidence that suggests that the transition to independent practice is an important risk factor. We discuss briefly what the evidence on this topic does show.

<sup>134</sup> General Dental Council (2013) 'Item 7 Transition to Independent Practice Group Meeting', Council Meeting 26 September 2013



The [Annual Survey of Registrants 2013 \(2014, II\)](#)<sup>135</sup> adopts a mixed qualitative and quantitative research approach. The registrant survey asked those who registered within the past five years how confident they were that they were prepared for independent practice as a safe beginner. 74% were at least quite confident, with only 1% not at all confident. The fact that the majority of those transitioning to independent practice feel confident about their preparation does not support the hypothesis that transition to independent practice is likely to increase the risk of a departure of the Standards.

The [Annual Survey of Registrants \(2012, II\)](#)<sup>136</sup> found that 79 % of respondents felt that a period of supervised clinical practice between graduation and GDC registration should be compulsory. Most respondents related this to a concern that the current dental education was too academically — rather than practically — orientated and, therefore, new graduates lacked the necessary ‘real skills’ (and confidence). Several participants could even draw on anecdotal evidence of instances when they had to intervene in a procedure and place a more experienced dental professional in control. However, these findings do not provide clear or robust evidence that suggest transition to independent practice is a significant risk factor.

From a patient’s perspective, the [‘Patient and Public Survey’ \(2012, II\)](#)<sup>137</sup> found that public perceptions about being treated by a newly qualified dentist are mixed. When asked to respond to the statement “I would be happy for a newly qualified dentist to provide me with dental care unsupervised”, 46% agreed (13% strongly so) and 33% disagreed (15% strongly so). Although, the general consensus of the in-depth interviews was that people are happy to be treated by an unsupervised new graduate, due to public trust in the training and regulation in place.

[Boak et al. \(2013, IV\)](#)<sup>138</sup> note the lack of evidence that tries to capture the *actual*, rather than *perceived*, risk of transition from training to practice. They find that most of the literature in this area tends to be based on qualitative methodologies, and also largely speaks to transition to independent practice for dentists, rather than other dental professionals. They conclude from the literature that ‘a newly qualified practitioner aware of their limitations, and who is adequately supported, represents a lower level of risk than someone with a similar profile of knowledge and skills but who lacks self-awareness and support’. Several studies also suggest that concerns over low confidence or low skill among new registrants are particularly marked in endodontics, oral surgery and orthodontics.

There are also some studies which have analysed the perceptions of registrants on this issue in other healthcare contexts.

- [Illing et al. \(2008, II\)](#)<sup>139</sup> find that new medical graduates perceive a significant jump from operating in a closely monitored setting as an undergraduate to operating in a real medical practice with real cases as a graduate.
- [Avery et al. \(2012, II\)](#)<sup>140</sup> identify prescription errors as a particular concern among newly qualified general practitioners (GPs), although the quantitative analysis found no link between prescribing errors and the grade of GP.

<sup>135</sup> Enventure Research (2014). ‘Annual Survey of Registrants 2013.’ Research Report for the General Dental Council, March 2013.

<sup>136</sup> Enventure Research (2012). ‘Annual Survey of Registrants 2012.’ Research Report for the General Dental Council, March 2013.

<sup>137</sup> Ipsos MORI (2012). ‘Patient and Public Survey 2012.’ Research Report for the General Dental Council.

<sup>138</sup> Boak, G., Mitchell, L., and Moore, D. (2013) ‘Transition to independent practice: A literature review to identify risks to patient safety during the transition period from first qualifying as a dentist or dental care professional to fully unsupervised practice.’ A report for the General Dental Council prepared by Prime Research & Development Ltd.

<sup>139</sup> Illing, J., Morrow, G., Kergon, C., Burford, B., Spencer, J., Peile, E., Davies, C., Baldauf, B., Allen, M., Johnson, N., Morrison, J., Donaldson, M., Whitelaw, M. and Field, M. (2008). ‘How prepared are medical graduates to begin practice? A comparison of three diverse UK Medical Schools.’ Final Report for the GMC Education Committee. London: GMC 2008.

- Dornan *et al.* (2009, II)<sup>141</sup> find that the main sources of prescribing errors by foundation Year I medical trainees are inadequate support from other professionals; miscommunication from third parties; and busy and stressful working conditions. They recommend that more should be done to develop students' skills explicitly in the context of clinical practice.
- Freeth *et al.* (2012, III)<sup>142</sup> conclude that training places in osteopathy too great an emphasis on clinical knowledge and skills, at the expense of other important skills which would help an osteopath to perform more effectively. There is a general perception that communication with other colleagues and in coping with challenging situations, such as patient pain, are lacking, with new registrants' business skills even weaker.

The emerging consensus in the literature, both on dentistry and other healthcare contexts, is that newly qualified persons may be perceived as higher risk because of perceived lack of wider, 'softer' practice skills. However, no literature was identified that either suggests those transitioning to independent practice lack the necessary clinical skills, or which measures the link between transition to independent practice and *actual* impairment.

There is limited coverage of this issue in the interviews, but the views of respondents who did raise this issue were largely in line with the findings of the literature. The general view is that although new graduates are prepared academically for the role, they may lack the necessary skills or character traits to help them fulfil the wider requirements that come in a real practice setting, e.g. the necessary communication skills and business/financial awareness.

The evidence presented above does not enable us to conclude that the period of transition to independent practice introduces specific risk factors. Furthermore, there is evidence from an analysis of GDC FtP data which shows that newly qualified registrants are *less* likely to enter into FtP proceedings.

#### 10.1.4 Barriers to continuing professional development (CPD)

It is mandatory for all dentists and dental care professionals to engage in continuing professional development (CPD). The GDC notes that 'CPD for dental professionals is defined as: lectures, seminars, courses, individual study and other activities, that can be included in your CPD record if it can be reasonably expected to advance your professional development as a dentist or dental care professional and is relevant to your practice or intended practice'.<sup>143</sup>

In the Risk in Dentistry Survey respondents were asked about the extent to which the following factors might help an individual in meeting the Standards: regular CPD; dentists reflecting on their skills, knowledge and behaviours; and dental professionals meeting with their peers in settings like study groups.

Taking part in CPD was viewed by all dental professionals as the second most effective way of helping an individual meet the Standards, followed by reflecting regularly on abilities and meeting regularly. Figure 10.5 illustrates the relative importance of these factors (which are shaded).

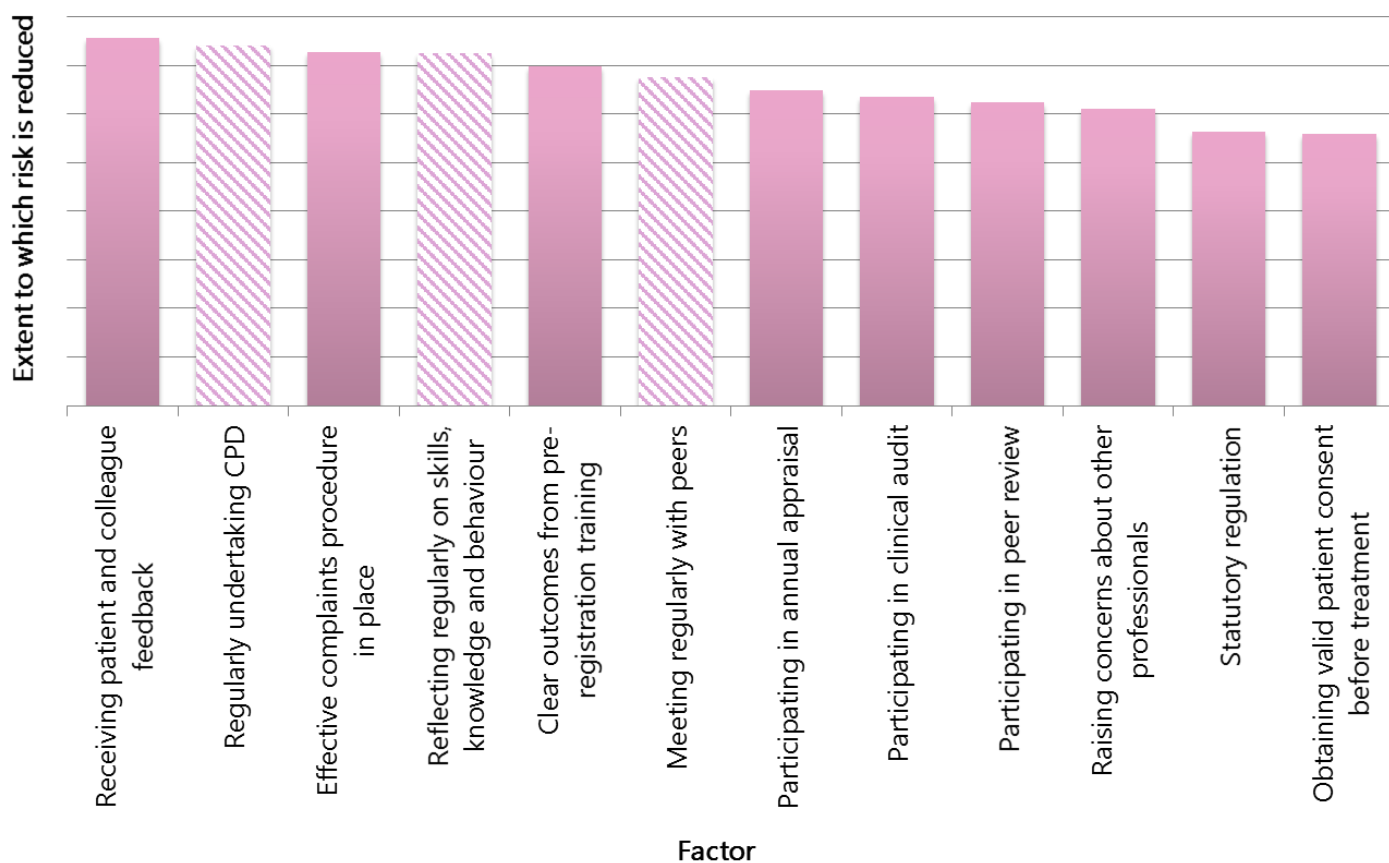
<sup>140</sup> Avery, T., Barber, N., Ghaleb, M., Franklin, B. D., Armstrong, S., Crowe, S., Dhillon, S., Freyer, A., Howard, R., Pezzolesi, C., Serumaga, B., Swanwick, G., and Talabi, O., (2012). 'Investigating the prevalence and causes of prescribing errors in general practice: The PRACTiCe Study.' A report for the GMC, May 2012.

<sup>141</sup> Dornan, T., Ashcroft, D., Heathfield, H., Lewis, P., Miles, J., Taylor, D., Tully, M., Wass, V., (2009). 'An in depth investigation into causes of prescribing errors by foundation trainees in relation to their medical education.' EQUIP study.

<sup>142</sup> Freeth, D., McIntosh, P., and Carnes, D., (2012) 'New Graduates' Preparedness to Practice', Preparedness to Practice Study, final report, March 2012.

<sup>143</sup> CPD guidance booklet available at: <http://www.gdc-uk.org/Dentalprofessionals/CPD/Pages/default.aspx>



**Figure 10.5: Factors which may help individuals meet the Standards**

Note: the chart shows the responses of all dental professionals participating in the survey.  
Source: 2013 Risk in Dentistry Survey

The perceived importance of these CPD-related factors in helping professionals to meet the GDC Standards suggests that barriers to CPD will reduce professionals' ability to meet the Standards.

Most of the higher quality literature in this area focuses on the uptake of CPD, the choice of CPD and barriers to CPD, rather than explicitly considering whether a lack of CPD increased risk.

[Electoral Reform Services \(ERS, 2012, II\)](#)<sup>144</sup> find that, in spite of 85 per cent understanding their CPD requirements, just 45 per cent of respondents undertook CPD on a monthly basis and only 48 per cent found it very easy to motivate themselves to undertake CPD. These findings are based on an online survey with a random representative sample of GDC registrants, with 5,997 registrants responding. Other key findings of this survey include:

- Dental nurses and dental technicians particularly lack motivation, and also have difficulty in finding the time and finances to undertake CPD.
- Many respondents felt that leaving the choice of CPD to the individual registrant could lead to the wrong choice of CPD, with 59 per cent of registrants cited their own personal interests and preferences as a reason to engage in CPD.
- The three main barriers to CPD identified were; time (76 per cent); cost (66 per cent); and geographic distance (43 per cent).
- It was also a commonly held view that, in spite of an excess supply of CPD, the quality of some of the available CPD was poor.

<sup>144</sup> Electoral Reform Services (2012). 'Registrants and provider perspectives on mandatory CPD in dentistry in the UK.' Prepared for the GDC, January 2012.

This suggests that there are barriers to dental professionals in undertaking CPD.

Bullock *et al.* (2003, III)<sup>145</sup> surveyed 2,082 GDPs across three deaneries in England, with comparisons to national data showing no notable sample bias. They estimate the mean annual participation in CPD at 31 hours, with 98 per cent regularly reading journals (one or more per month) and 97 per cent attending courses (at least 2.5 hours annually). However, this contrasts to only 32 per cent carrying out self-assessment and 18 per cent taking part in peer review. The lack of self- or peer-assessment may suggest that although individuals are engaging in CPD, they may not necessarily be undertaking the most relevant CPD for them in terms of professional development (given the importance of these factors highlighted in the Risk in Dentistry Survey discussed above).

Aside from poor uptake, barriers and commitment to CPD, there are also conflicting views on the fundamental value of CPD. This is important in linking a lack of CPD to increased risk of poor performance.

- Research undertaken for the GDC by the Faculty of Dental Practice found little compelling evidence of a direct link between CPD and improved practitioner performance in dentistry.<sup>146</sup>
- The NHS National Patient Safety Agency (2011, V)<sup>147</sup> emphasise the importance of CPD in keeping up-to-date and further improving professional skills in dentistry, as well as potentially helping to mitigate other risk factors, such as the loss of job satisfaction or burnout.
- Dodge *et al.* (2012, V)<sup>148</sup> undertake a review of literature in dentistry and other healthcare professions and find evidence of concern that CPD alone does not ensure ongoing competency.
- Cole *et al.* (2012, V)<sup>149</sup> argue that continuing education courses are neither a good reflection of competency nor a good means of improving public protection. Instead they stress the need for continued competency assessment to better meet the end goal of public protection.

As well as a lack of agreement in the literature on the importance of CPD, there are also a lack of quantitative studies on the value of CPD to patient safety. Indeed, Eaton *et al.* (2011, V)<sup>150</sup> surveyed literature on CPD in dentistry and found no high quality studies in dentistry that looked at the effectiveness of CPD in terms of its impact on the quality of patient care or safety. They say that “this is principally due to the research challenges of assessing outcomes of CPD in terms of effectiveness and impact”.

Phipps *et al.* (2010, II)<sup>151</sup> study risks in pharmacy and note that some interview respondents saw a lack of CPD engagement as an indicator of risk because it is a good reflection of pharmacist’s knowledge base, their commitment to keeping this knowledge base up-to-date, and their adaptability to change.

Barriers to CPD as a risk factor received moderate coverage in the interviews. Three respondents raised concerns about the potential risk posed by registrants who are not up-to-date in understanding new materials and new techniques. It was also suggested that individuals who undertake CPD infrequently, or

<sup>145</sup> Bullock, A., Firmstone, V., Fielding, A., Frame, J., Thomas, D., and Belfield, C., (2003). ‘Participation of UK dentists in continuing professional development.’ *British Dental Journal*, vol. 194, pp. 47-51.

<sup>146</sup> The UK Faculty of General Dental Practice (2011) ‘The impact of continuing professional development in dentistry’, a report for the GDC

<sup>147</sup> NHS National Patient Safety Agency (2011), ‘Factors influencing dental practitioner performance: a literature review’.

<sup>148</sup> Dodge, W., Winder, R., Young, S., Cole II, R., Findley, J., Martin, M., Cole, J., Glover, J., Kalkwarf, K. (2012) ‘Continued Competency Assessment: Its History and Role in the Health Professions’. *Journal of the American College of Dentists*, vol. 79(3), pp.5-12.

<sup>149</sup> Cole II, R., Findley, J., Martin, M., Cole, J., Dodge, W., Winder, R., Young, S., Glover, J., Kalkwarf, K. (2012) ‘Continued Competency Assessment: Does It Have a Necessary Role in Dentistry?’ *Journal of the American College of Dentists*, vol. 79(3), pp.13-19.

<sup>150</sup> Eaton, K., Brookes, J., Patel, R., Batchelor, P., Merali, F., and Narain, A. (2011). ‘The Impact of Continuing Professional Development in Dentistry: a Literature Review.’ Prepared for the General Dental Council by The Faculty of General Dental Practice (UK).

<sup>151</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) ‘Risk Assessment in Pharmacy Practice’

in a non-regular manner, such as concentrating it to the end of a five-year period, are likely to pose higher risk.

The evidence presented above highlights the perceived importance and value of CPD in improving dental professionals' performance and helping individuals meet the GDC's Standards. However, there is no direct evidence that enables us to conclude that a lack of CPD may increase the risk that an individual may depart from the Standards. Given the perceived importance of CPD, further research into this risk factor would be valuable.

### 10.1.5 Dishonesty and abuse of trust

Issues relating to dishonesty, abuse of trust and misleading patients were raised by several respondents, and therefore we investigated the evidence to assess this could be considered an important risk factor. This issue was not raised in the evidence from the Risk in Dentistry Survey, nor was there convincing evidence from the literature, which focused more on the importance of trust rather than negative outcomes associated with a lack thereof, or evidence of a lack in honesty among dental professionals.

Issues raised in the interviews include:

- Patients are not always made aware of the full cost of treatment upfront.
- Some dental professionals engage in gaming, whereby they lead patients into choosing private supply rather than NHS supply.
- Breaches of confidentiality.

References were also made to the link between this and other risk factors. One participant spoke of the pressure on dentists' honesty and a tendency to over-promise when selling as a result of wider commercial pressures. Another respondent said that probity issues are often linked to poor clinical performance, possibly suggesting that dental professionals look to cover their tracks when things go wrong clinically. Communication failures and trust were also seen to be closely interrelated. Finally, one interviewee said that trust is of heightened importance in dentistry because it is difficult for the patient to know whether the dental professional has done a good job.

The NHS Business Services Authority has studied fraud with respect to NHS funds in a recent systematic review. The Dental Contractor Loss Analysis Exercise – based on a random sample of 5,000 FPI7 dental activity reports for completed treatments – found that around 3% of cases that the Authority was able to resolve involved suspected contractor fraud. The report estimated that the loss resulting from suspected contractor fraud in England was £73.2m, based upon an assessment of resolved treatment queries, with a potential for a further £5.3m of loss in unresolved queries.<sup>152</sup> The BSA reported the following breakdown of reasons for the fraud cases: “*patient did not receive the level of treatment on the FPI7 (50%), split course of treatment (27%), patient did not visit dentist (12%), patient does not exist (10%) and patient paid for treatment but marked as exempt on the FPI7 (1%).*”

Fraud and dishonesty was an issue in a number of cases considered by the GDC's Professional Conduct Committee or the Professional Performance Committee in 2013, 2012 and 2010, as a part of Fitness to Practise processes (information on the issues considered by the Committees was not provided in the 2011 Annual Report).<sup>153</sup> Fraud and dishonesty accounted for 7%, 11% and 10% of all issues over 2013, 2012 and 2010 respectively.

The evidence on dishonesty and lack of trust in dentistry is limited. The NHS BSA fraud statistics do highlight incidence of fraud in dentistry, but this is more evident of *actual* impairment and breaches of the Standards, rather than a factor which could *affect the risk* of a breach in Standards. We therefore conclude that this is not a significant risk factor.

---

<sup>152</sup> NHS Business Services Authority (2012) Dental Contractor Loss Analysis Exercise

<sup>153</sup> GDC, Annual Report and Accounts 2013, 2012, 2010.

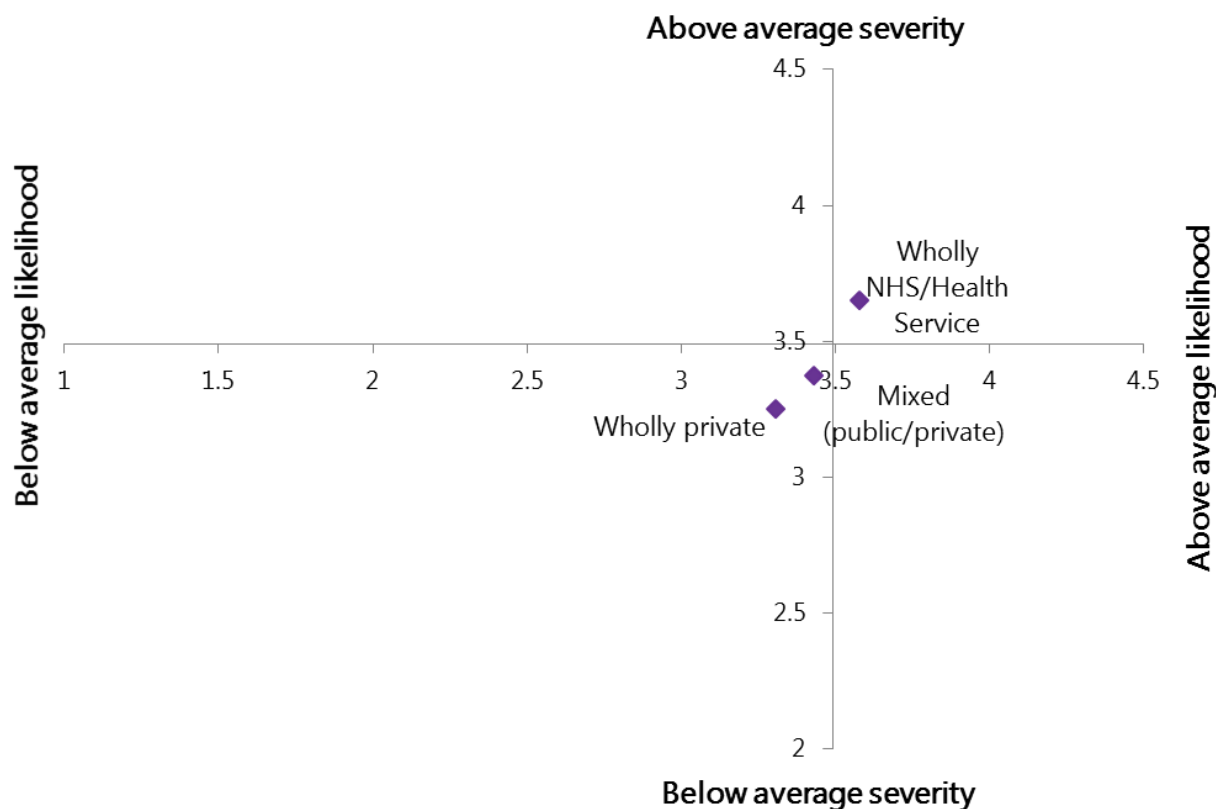
### 10.1.6 Poor practice governance

Practice governance is the way in which the practice is run and the systems, structures and processes that underpin this. This includes the IT infrastructure, training and communication protocols, systems for employee recruitment, appraisal and support, and processes for reporting and auditing clinical errors.

The Risk in Dentistry Survey shows that dental professionals perceive poor practice administration to be a factor with an above-average likelihood of leading to Standards not being met. This is illustrated in Figure 7.1 above.

All respondents working in the NHS perceived a greater likelihood and severity of poor practice administration than those in mixed public and private practice; and those in entirely private practice saw poor practice administration risks as the least likely and the least severe (see Figure 10.6 below). This finding may imply that poor practice administration is a more likely risk factor in wholly NHS practices, although the difference are not significant.

**Figure 10.6: Differences in perceived risks from poor practice administration, by practice setting**



Note: The scale on the axes represents the extent to which the risk factor is considered to be above or below average. The axes cross at the average perceived risk of poor practice administration across all respondents.

Source: 2013 Risk in Dentistry Survey

Thusu *et al.* (2012, III)<sup>154</sup> analyse the National Patient Safety Agency's database on patient safety incidents in dentistry for 2009 and find that only 4 per cent of the incidents relate to management errors, suggesting this is not a significant risk factor.

McCormick and Langford (2006, IV)<sup>155</sup>, in a survey of dentists' attitudes towards clinical governance, find that dentists had a positive view of clinical governance in principle, but were less certain about whether

<sup>154</sup> Thusu, S., Panesar, S., Bedi, R., (2012) 'Patient safety in dentistry - state of play as revealed by a national database of errors'. *British Dental Journal*, vol. 213(3).

<sup>155</sup> McCormick, R. J., and Langford, J. W. (2006). 'Attitudes and opinions of NHS general dental practitioners towards clinical governance.' *British Dental Journal*, vol. 200(4), pp. 214-217.

increased clinical governance would improve the standard of patient care. They were also deterred by the additional cost, both in money and time, of introducing additional clinical governance.

Cameron *et al.* (2007, IV)<sup>156</sup> collect both quantitative and qualitative data to assess the role of the two clinical governance advisers in providing support to 16 general dental practices in Glasgow. This showed that pre-intervention levels of in practice quality assurance tended to be poor, with some basic areas of quality assurance described as seriously deficient. However, they did find that those practices receiving support from clinical governance advisers made notable systems improvements, and they argued that this justifies the use of self-assessment checklists to help promote reflective development more widely.

This issue is covered in the literature on risks in other healthcare professions:

- Phipps *et al.* (2012, II)<sup>157</sup> identify one of the key themes in pharmacy risk, based on qualitative evidence collected from interviews, to be organisational characteristics. This includes the risk management structures that the practice has in place, including both specific risk management systems, e.g. patient safety incident reporting and auditing, and wider HR systems, e.g. systems for staff recruitment, appraisal and development. Risk management systems are seen to vary widely across pharmacies, as are practice's safety culture. They stress the importance of safety culture because of the reciprocal relationship it has with staff attitudes and management activities.
- The Council for Healthcare Regulatory Excellence (CHRE, 2012, V)<sup>158</sup> identify key risk factors associated with continuing fitness to practise which include the level of support provided, e.g. through appraisals and learning opportunities; the level of autonomy, i.e. the extent of monitoring and independence; and the effectiveness of clinical governance mechanisms, i.e. the efficacy of risk management processes and the extent to which systems are in place to help registrants learn from mistakes. All of these areas are, to some extent, underpinned by practice governance.

There is very low coverage of issues relating to governance in the interviews.

More broadly, an interviewee said that training in leadership skills is poor for dentists. Its absence from the curriculum means that dentists who are in charge of running practices often do not know how to best work with other dental professionals and how to make sure they get the skill-mix of their practice correct.

The evidence for poor practice administration and governance is not strong. The Risk in Dentistry Survey shows that dental professionals perceive this to be an above-average risk in terms of likelihood, but it is not considered the most likely, nor is it considered particularly severe. Evidence from the literature and interviews also does not show this to be a significant risk factor in dentistry.

### 10.1.7 Practice settings

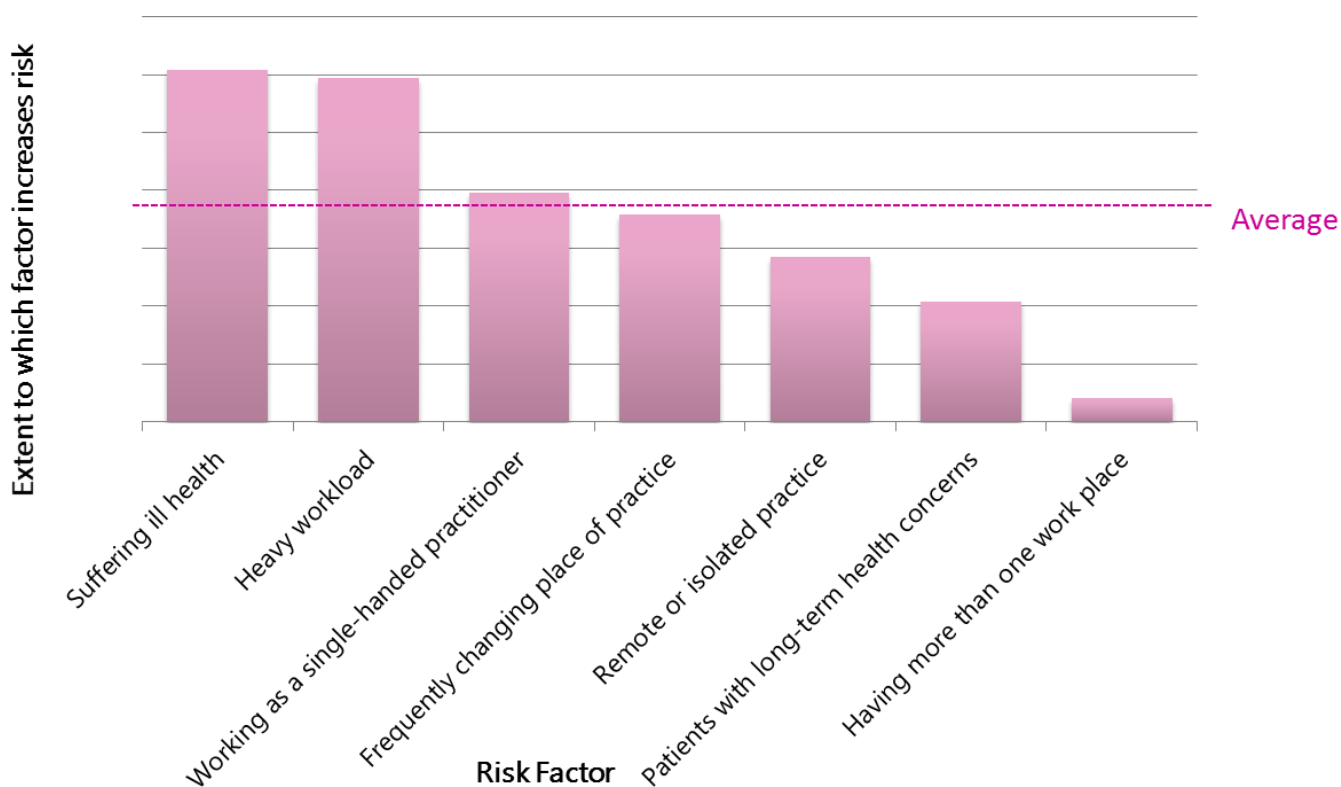
We investigated whether the nature of certain practice settings may increase the risk of departure from the Standards. Our definition of practice settings includes the type of practice (e.g. standalone practice, group practice, body corporate), the size of practice (e.g. single-handed practice or not) and the mode of delivery (e.g. NHS/health service; private etc).

The Risk in Dentistry Survey shows that dental professionals perceive working as a single-handed practitioner to increase the risk of the Standards not being met, as highlighted in the chart below.

<sup>156</sup> Cameron, W. A., Taylor, G. K., Broadfoot, R., and O'Donnell, G. (2007). 'The role of the Clinical Governance Adviser in supporting quality improvement in general dental practice: the Glasgow Quality Practice Initiative.' *British Dental Journal*, vol. 202(4), pp. 193-201.

<sup>157</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) 'Risk Assessment in Pharmacy Practice'

<sup>158</sup> Council for Healthcare Regulatory Excellence (2012). 'An approach to assuring continuing fitness to practise based on right-touch regulation principles.' London: CHRE.

**Figure 10.7: Factors perceived to increase the risk that Standards are not met**

Note: the chart shows the responses of all dental professionals participating in the survey. These factors are derived from a different survey question to that for the likelihood and severity of risks in Figure 7.1. More details are set out in the Appendix.

Source: 2013 Risk in Dentistry Survey, Question 28

The Risk in Dentistry Survey data also show that professionals working in different practice settings have different perceptions of the types of factors which may influence risk. These have been presented in Chapter 8.

The literature provides some evidence of how the nature of the practice setting may affect the likelihood of risk occurring

Ipsos MORI (2012, II)<sup>159</sup> carried out the 2012 Annual Patient and Public Survey for the GDC, weighting the data to ensure a nationally representative sample. They find that 69 per cent of private patients said they were fully informed about what to expect on their last visit to the dentist, compared with only 58 per cent of those who received purely NHS treatment. This suggests that risks associate with communication may be greater in NHS work settings. They also find that 45 per cent of private patients had more treatment recommended compared with only 34 per cent of NHS patients, although they acknowledge that this could largely reflect the fact that people only tend to opt for private care when they require a particular course of treatment, compared to NHS patients who will have a lot of routine check-ups.

Morgan (2001, IV)<sup>160</sup> looks into the quality of clinical records for 47 general dental practitioners (GDPs) across England and Wales, who represent a sample of practitioners visited by an assessor between June 1998 and June 1999. A total of 464 clinical records were analysed and it was found that the frequency of recording of all assessed criteria was significantly higher for patients whose care was privately funded than for patients whose care was NHS funded. Anecdotal evidence from the dentists whose clinical records were audited suggests that time pressures created by the need to deliver as quickly as possible under NHS regulation means that there is a shortage of time for accurate record-keeping. This suggests that an NHS

<sup>159</sup> Ipsos MORI (2012). 'Patient and Public Survey 2012.' Research Report for the General Dental Council.

<sup>160</sup> Morgan, R. G. (2001). 'Quality evaluation of clinical records of a group of general dental practitioners entering a quality assurance programme.' *British Dental Journal*, vol. 191(8), pp. 436-441.



setting might increase the likelihood of risks associated with inadequate record-keeping, although the evidence may be too outdated for this finding to be applicable today.

There is also literature from other areas of healthcare which speak to other aspects of practice setting. In particular, in terms of the significance of the number of registered practitioners, Phipps *et al.* (2010, II)<sup>161</sup> analyse interview evidence in pharmacy and find that additional staff are perceived to reduce risk in several ways; by helping to manage the practices workload; by providing a safeguard against individual risky practice; and by offering guidance and advice to peers. This study cites Ashcroft *et al.* (2005) who stress the skill mix of pharmacy staff as a key scaling factor for other risks.

In a study of general practitioners (GPs), Van den Hombergh *et al.* (2004, III)<sup>162</sup> compare single-handed (1 GP) and group practice (>2 GPs) using a validated practice visit method, which consisted of questionnaires for patients and practice staff and a direct observer in the practice. Group practices scored better on almost all infrastructure indicators than single-handed GPs, although patients did give single-handed practices higher marks for service, accessibility and facilities. The study also found that "... in single-handed practices GPs reported that they worked more and experienced higher levels of job stress". Group practices outperformed on quality assurance procedures, but single-handed practices were seen to devote more time to continuous medical education and providing patient information.

Hippisley-Cox (2001, III)<sup>163</sup> conducts a cross-sectional survey of single-handed practices and partnerships in the Trent region of the UK. She uses multivariate regression to control for other practice characteristics, including demographic factors, vocational training status and presence of a female GP, and finds that once controlling for these characteristics there is no evidence that single-handed GPs are underperforming clinically.

In terms of practice size, one interviewee made the point that it may be easier for large practices to make investments, which in turn could have positive implications for equipment quality and quality of practice governance systems. One respondent said that isolation is not a risk to single-handed practices alone and can occur in multiple person practices.

In terms of staff turnover, two participants referred to the destabilising effects of high staff turnover, although one of these respondents admitted that this could stop dentists getting into bad habits.

The limited evidence from the survey and literature suggests that the nature of the practice setting may not directly affect the likelihood of risk occurring, although single handed practice was a factor perceived by dental professionals in the Risk in Dentistry Survey.

### 10.1.8 Working arrangements

We investigated whether working arrangements are likely to increase the risk of impairment in dentistry. Based on the evidence we have reviewed for this study, we consider working arrangements to include whether the professional works full- or part-time, on a temporary or fixed basis, at a fixed premise or domiciliary context or as a locum practitioner.

The evidence from the literature and the Risk in Dentistry Survey does not indicate that working arrangements increase the likelihood of risk. The survey does show that dental professionals perceive that frequently changing the place of practice may increase the risk that standards are not met. However, we have not found any supporting evidence from the literature or the interviews.

---

<sup>161</sup> Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) 'Risk Assessment in Pharmacy Practice'

<sup>162</sup> Van den Hombergh, P., Engels, Y., van den Hoogen, H., van Doremalen, J., van den Bosch, W., and Grol, R. 'Saying 'goodbye' to single-handed practices; what do patients and staff lose or gain?' *Fam Pract*, vol. 22, pp. 20-27.

<sup>163</sup> Hippisley-Cox, J. (2001) 'Do single handed practices offer poorer care? Cross sectional survey of processes and outcomes'. *British Medical Journal*, vol. 323, pp. 320-323.

The **Risk in Dentistry Survey** shows that dental professionals consider that frequently changing the place of practice may increase the risk that Standards are not met. This is illustrated in Figure 10.7 above.

There is limited evidence from the dental literature on the impact of working arrangements.

**Gulati et al. (2012, III)**<sup>164</sup> analyse claims data in oral and maxillofacial surgery obtained from the NHS Litigation Authority for the period April 1995 to August 2010. The most expensive litigation claim, worth more than £300,000, was the misdiagnosis of a tongue lesion by a locum doctor which later turned out to be malignant. Although this is some evidence of malpractice by a locum practitioner, conclusions cannot be drawn from a single case,

There are articles from the wider healthcare literature which look at the potential risks associated with locum practice:

- **GfK (2011, III)**<sup>165</sup> carry out research looking into the rise in Fitness to Practise enquiries coming from Persons Acting in a Public Capacity (PAPCs). PAPCs are people acting on behalf of a public organisation, the majority of which are from public healthcare bodies. They adopt a three-stage research approach consisting of; a review of the GMC's in-house Siebel CRM database; 40 qualitative in-depth interviews; and a quantitative online survey of 94 medical directors who had referred doctors to Fitness to Practice procedures between 2006 and 2010. 29% of survey respondents attributed the increasing number of Fitness to Practise referrals to the increase in the use of locums, with 4% identifying this as the main reason for the increase in referrals. This view was also reflected by the interviews with a number of participants expecting locums to be over-represented in GMC Fitness to Practice cases. They believe the key reason for this is that locum performance could not be restricted or managed by the trust as these professionals are free to work elsewhere. These opinions are not based on further evidence, however.
- **Europe Economics (2010, III)**<sup>166</sup> adopt a multi-method approach to assessing risks in optical practice. This includes a literature review and consultations with stakeholders. They find contradictory views on the risk posed by locum optometrists. Most of the perceived concerns with locums relate to their temporary nature which could mean that they are less accountable and offer less scope for redress; they may be less conscientious; and their needs for improvement are less likely to be addressed. There is some anecdotal evidence which suggests that insurance claims against practitioners involve a disproportionately large number of locums. Nevertheless, locums are also perceived to benefit from the experience of working in a range of practice environments. Europe Economics conclude that locums should be required to maintain a portfolio of references from all previous employers which tracks any previous poor performance and thereby creates a greater sense of accountability.

There is also one piece of literature that discusses potential risks of domiciliary care:

- **Europe Economics (2010, III)**<sup>167</sup> look at the additional risks that could manifest in domiciliary care, with evidence largely from stakeholder views. As with the discussion on locums, anecdotal evidence of certain Primary Care Trust complaints in England shows that a larger proportion of complaints relate to domiciliary optometrists than to those who work in a fixed setting. In part it is believed that these risks will reflect the higher inherent risk of the types of patients that domiciliary care professionals deal with, usually the elderly. However, there are other concerns with regard to domiciliary care:
  - the risks of portable equipment, which tends to be of lower quality than practice equipment;
  - the lack of an external accreditation, with training only available on-the-job;

<sup>164</sup> Gulati, A., Herd, M. K., Nimako, M., Anand, R., and Brennan, P. A., (2012). 'Litigation in National Health Service oral and maxillofacial surgery; review of the last 15 years.' *British Journal of Oral Maxillofacial Surgery*, vol. 50(5), pp.385-388.

<sup>165</sup> GfK NOP Social Research (2011). 'Research into Fitness to Practise referrals.' Report for General Medical Council.

<sup>166</sup> Europe Economics (2010). 'Risks in the Optical Profession.' Report prepared for the General Optical Council.

<sup>167</sup> Europe Economics (2010). 'Risks in the Optical Profession.' Report prepared for the General Optical Council.



- the risk posed by having to make decisions based on less than perfect information; and
- the risks posed by trying to minimise costs by fitting in as many home visits in a day as possible.

Neither of these issues were raised in the stakeholder interviews. The evidence is therefore not strong enough to enable us to conclude that working arrangements are an important risk in dentistry.

# 11 Technical Appendix

## 11.1 Analysis of the survey data

As set out in the main report, the 2013 'Risk in Dentistry' sample covered three main areas relevant to our study:

- Characteristics of the respondents and the environment in which they practise.
- Perceptions of the likelihood and severity of different risk factors which could lead to a departure from the GDC's Standards.
- Perceptions of the impact of certain factors on a dental professional's practice and performance.

The survey gathered qualitative responses to the questions about registrants' perceptions of risk factors. We converted the qualitative responses into numerical scores to enable quantitative analysis as follows.

Surveyed registrants were asked to rank the **likelihood of various risk factors occurring**.<sup>168</sup> We have converted the rankings into numerical scores as follows:

- Never = 1
- Rarely (e.g. 1-2 times in career) = 2
- Occasionally (e.g. 1-2 times in 5 years) = 3
- Regularly (e.g. 1-2 times a year) = 4
- Frequently (e.g. at least once a month) = 5

Registrants were also asked about the **severity – or negative impact – of the various risk factors**. Again we transformed the potential answers into numerical scores, as follows:

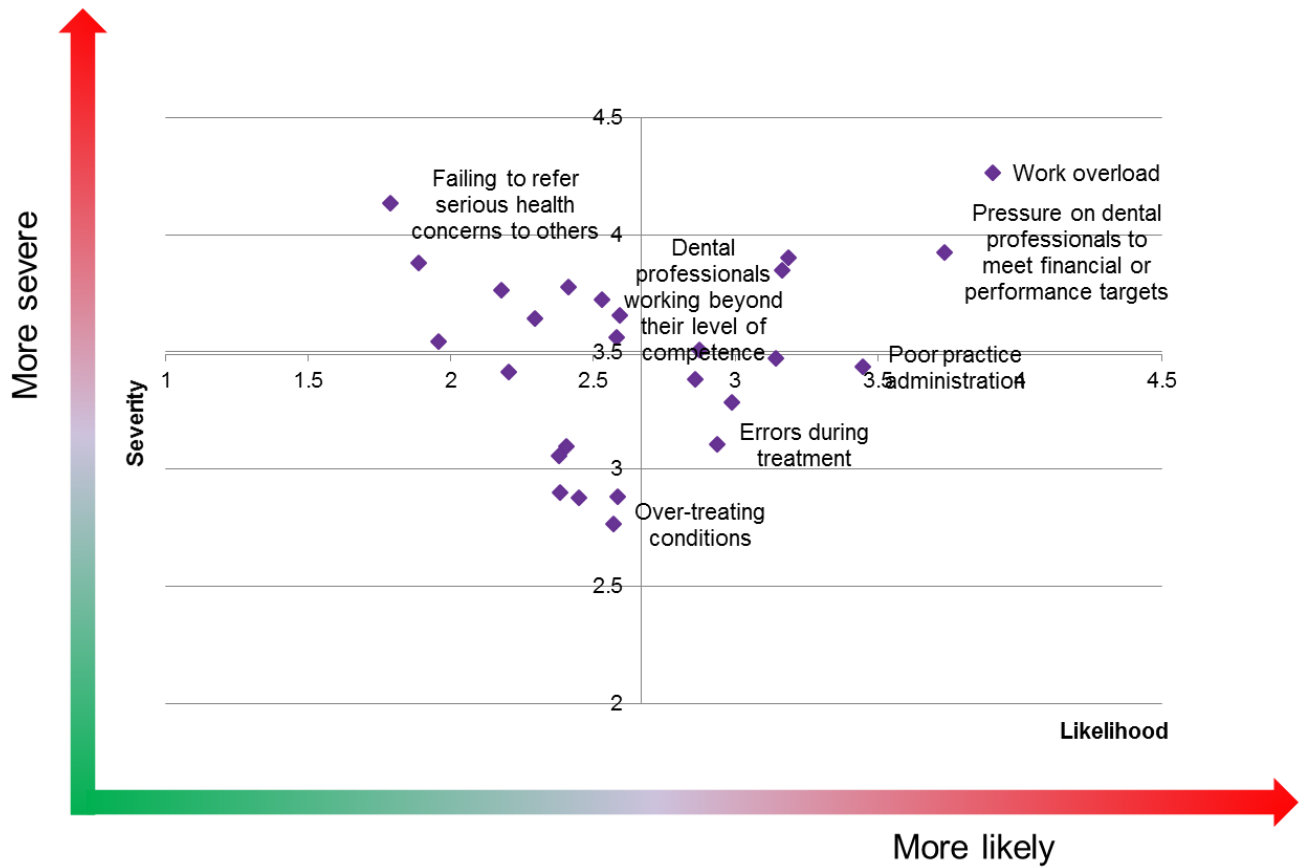
- None = 1
- Very low = 2
- Low = 3
- Medium = 4
- High = 5
- Very high = 6

Using these scores we are able to measure the relative perceived likelihood and severity of the range of potential risk factors covered in the survey. An example of this analysis is shown in the quadrant chart below.

---

<sup>168</sup> Question 26: "We list below a number of factors that, if they arise, could mean dental professionals may not practice at the standard they should. Please tell us (a) how often you think these risk factors arise in dentistry and (b) the negative impact of each one."

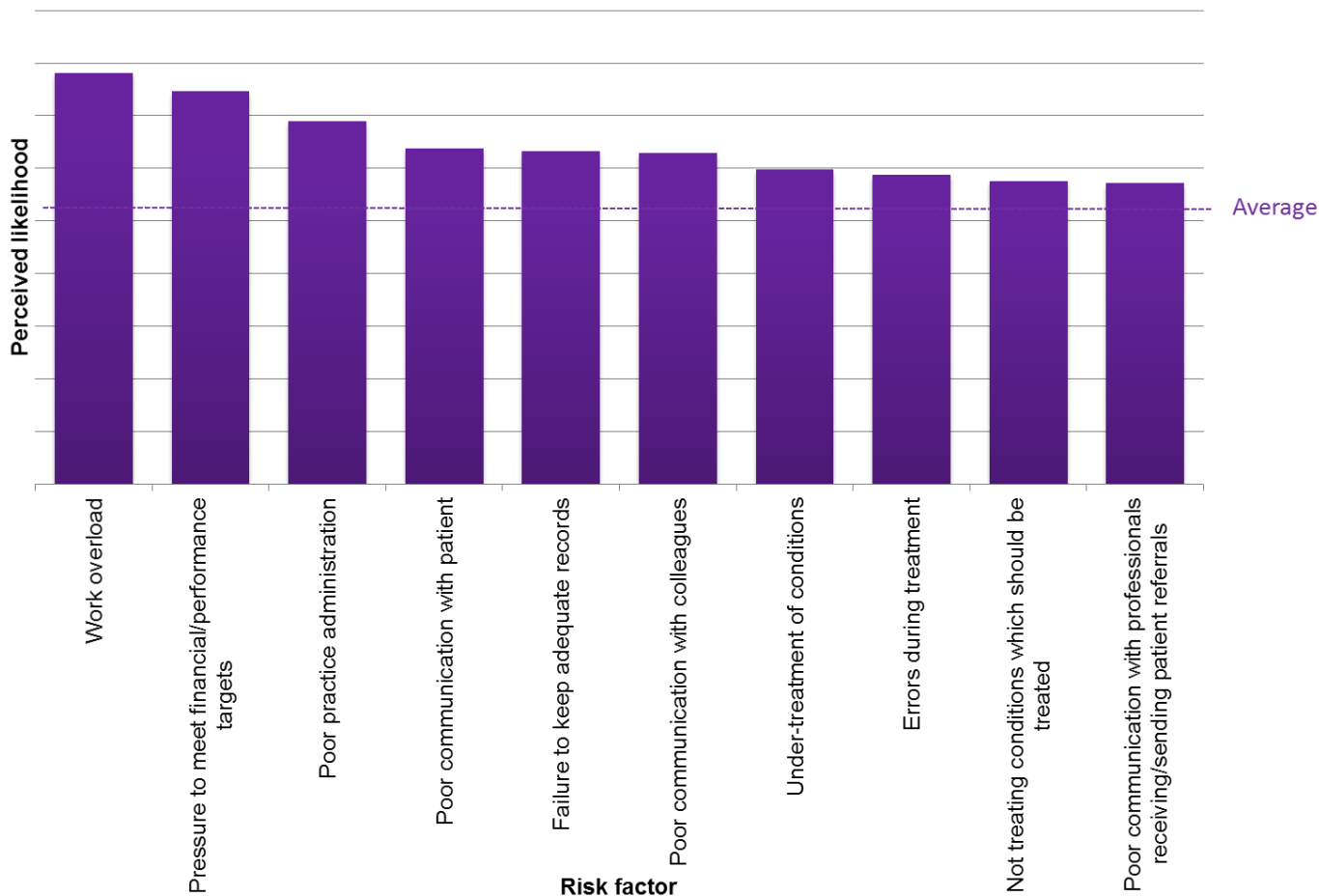
Figure 11.1: Example quadrant graph illustrating the combined likelihood and severity of risk factors



Notes: Coloured arrows are included here for illustrative purposes and do not accompany the charts throughout the report. We also note that not all data points have been labelled in this chart.  
 Source: GDC Risk in Dentistry Survey

We also present the data relating to the above survey question in the form of bar charts to show the likelihood separately. An example chart is presented below. We note that the dark purple colour of the bar chart represents data from Question 26 of the survey.

**Figure 11.2: Example chart of the perceived likelihood of factors**



Source: 2013 Risk in Dentistry Survey, based on responses to Question 26.<sup>169</sup> The Average line represents the average likelihood score across all 26 risk factors included in this survey question.

In different survey questions, participants were also asked about which work setting, management, administration, training and CPD-related factors might affect a dental professional’s practice and performance.<sup>170</sup> These questions provide further data about what factors could affect the risk of departures from the GDC’s Standards or might mitigate the risk. Respondents were given a series of options which we have translated into numerical values as follows:

- Always increases risk that Standards are not met = -2
- Sometimes increases risk that Standards are not met = -1
- Has no direct effect on way Standards are met = 0

<sup>169</sup> Question 26: “We list below a number of factors that, if they arise, could mean dental professionals may not practice at the standard they should. Please tell us (a) how often you think these risk factors arise in dentistry and (b) the negative impact of each one.”

<sup>170</sup> Question 28: “Some factors may affect a dental professional’s practice and performance. For each of the factors listed below, please tell us what you think the impact is.

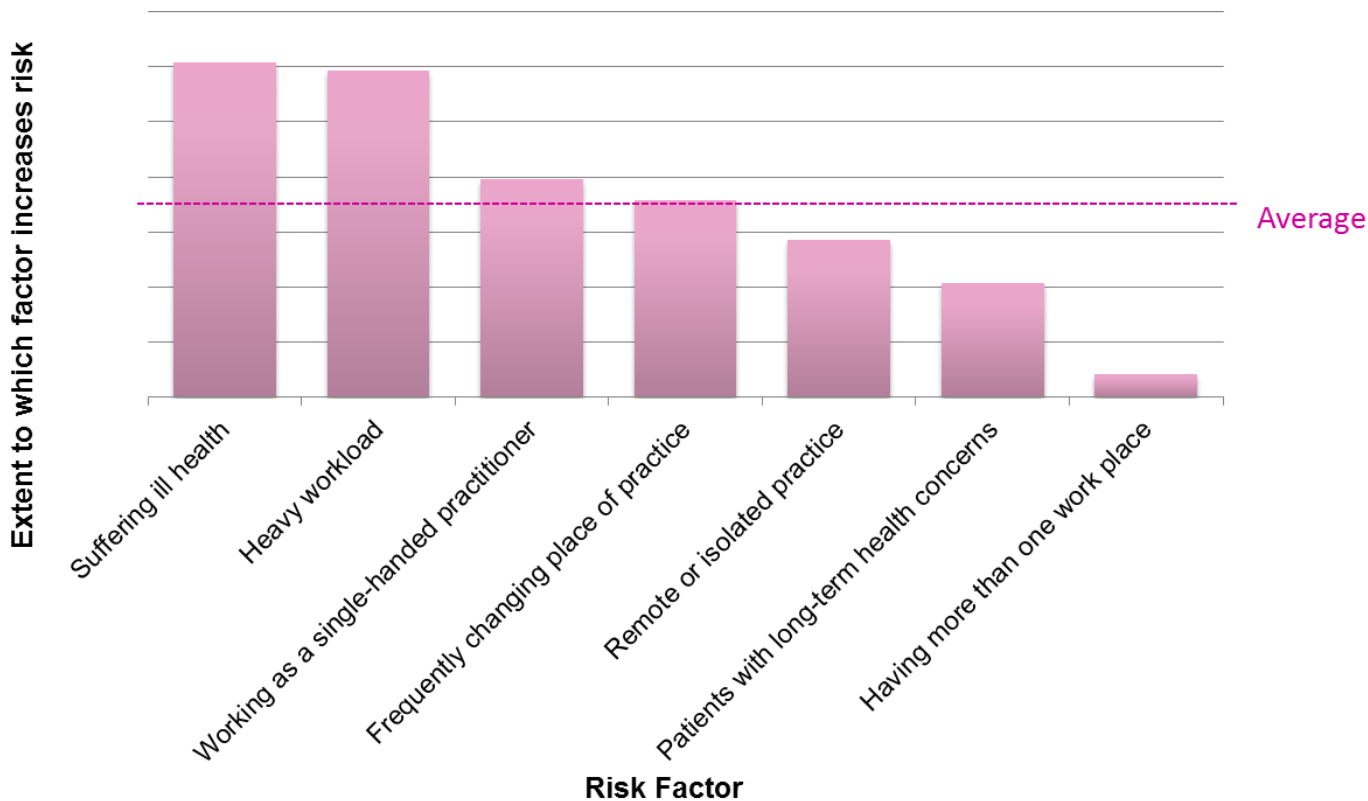
Question 29: “Some management and administration factors may affect a dental professional’s practice and performance. For each of the factors listed below, please tell us what you think the impact is.”

Question 30: “For each of the training and CPD factors listed below, please tell us what you think the impact is.”

- May sometimes help Standards be met = 1
- Will always help Standards be met = 2

An example of how we illustrate these findings is presented below. As the data is taken from different questions (with different scores) we present these results in a different colour chart.

**Figure 11.3: Factors which may increase the risk that Standards are not met**



Note: the chart shows the perceptions of all dental professionals responding to the survey  
 Source: 2013 Risk in Dentistry Survey, based on responses to Question 28<sup>171</sup>

The perceptions of the likelihood and severity of risk factors sometimes differ across different groups of dental professionals responding to the survey. These groups include for example professional group, time since qualification, work-place setting etc. This can provide important insights into the divers of risk perception. When analysing the perceptions of dental professionals in one grouping (e.g. professional group), however, it is important to bear in mind that that particular grouping might be correlated with another (e.g. work-place setting), which may affect the interpretation of potential the drivers of risk.<sup>172</sup>

## 11.2 Fitness to Practise database fields

### A. Registrant related fields

1. Registrant type:
  - Dentist
  - Clinical Dental Technician
  - Dental Hygienist
  - Dental Nurse

<sup>171</sup> Question 28: “Some factors may affect a dental professional’s practice and performance. For each of the factors listed below, please tell us what you think the impact is.

<sup>172</sup> It is not feasible to control for all the possible groupings within the data.

- Dental Technician
  - Dental Therapist
  - Orthodontic Therapist
2. Specialist type:
    - Dental and Maxillofacial Radiology
    - Dental Public Health
    - Endodontics
    - Oral and Maxillofacial Pathology
    - Oral Medicine
    - Oral Microbiology
    - Oral Surgery
    - Orthodontics
    - Paediatric Dentistry
    - Periodontics
    - Prosthodontics
    - Restorative Dentistry
    - Special Care Dentistry
  3. Registration date
  4. Qualification:
    - Type of qualification
    - Country of qualification
    - Date of qualification
    - Qualification institute
  5. Gender:
    - Female
    - Male
  6. Date of birth
  7. Registered Address
  8. Route to registration (application type)
  9. CPD (status of completion of hours in cycle)

## **B. Demographic information associated to the registrant**

1. Age:
  - 16-21
  - 22-30
  - 31-40
  - 41-50
  - 51-60
  - 61-65
  - Over 65
2. Disability:
  - No
  - Yes
3. Race:
  - Asian or Asian British
    - Bangladeshi
    - Indian
    - Pakistani

- Any other Asian background
  - Black or Black British
    - African
    - Caribbean
    - Any other Black background
  - Mixed Ethnic Background
    - White and Asian
    - White and Black African
    - White and Black Caribbean
    - White and Chinese
    - Any other mixed ethnic background
  - Chinese or any other ethnic group
    - Chinese
    - Any other ethnic background
  - White
    - British
    - Irish
    - Any other White background
4. Sex:
- Female
  - Male
5. Gender Identity:
- No
  - Prefer not to say
  - Yes
6. Marital Status:
- Civil Partnership
  - Divorced
  - Married
  - Prefer not to say
  - Separated
  - Single
  - Widowed
7. Religion:
- Buddhist
  - Christian
  - Hindu
  - Jewish
  - Muslim
  - None
  - Other
  - Prefer not to say
  - Sikh
8. Sexual Orientation:
- Bisexual
  - Gay Man
  - Gay Woman / Lesbian
  - Heterosexual

- Prefer not to say

**C. Informant related fields**

- Contact address

**D. Demographic information associated to the informant**

1. Age:

- 16-21
- 22-30
- 31-40
- 41-50
- 51-60
- 61-65
- Over 65

2. Disability:

- No
- Yes

3. Race:

- Asian or Asian British
  - Bangladeshi
  - Indian
  - Pakistani
  - Any other Asian background
- Black or Black British
  - African
  - Caribbean
  - Any other Black background
- Mixed Ethnic Background
  - White and Asian
  - White and Black African
  - White and Black Caribbean
  - White and Chinese
  - Any other mixed ethnic background
- Chinese or any other ethnic group
  - Chinese
  - Any other ethnic background
- White
  - British
  - Irish
  - Any other White background

**E. FTP case related fields**

1. Date received
2. Date closed
3. Informant Type:



- Patient
  - Member of Public
  - Anonymous
  - Registrant
  - Employer
  - Private Provider
  - PCT or NHS
  - Other Public Body
  - Police or other investigatory body
  - Self-referral
  - GDC
  - Other Informant
4. Risk Type:
- Patient / Public Safety
  - Registrant Safety
  - Media
  - Reputation of the GDC / Profession
  - Data Protection – sensitive
  - Timeliness
  - Complexity
  - Vulnerable informant / registrant
  - Criminal Conduct
  - None of the above
5. Case Stage:
- Fact Finding
  - Adjourned
  - Assessment
  - Health Committee
  - Health Committee and IOC
  - Investigating Committee
  - Professional Conduct Committee
  - Professional Performance Committee
  - Triage
  - Closed
  - Referred for Investigating Committee
  - IP Investigation
  - IP Prosecution
  - Restoration Application
6. Case Subject:
- FTP – Enquiry
  - FTP – Investigation
    - Clinical – Cross infection, health and safety
    - Conviction, cautions, regulatory findings
    - Judicial findings (non-criminal, civil)
    - Misconduct not covered by any other category
    - Potentially non-serious clinical issue (need advice)
    - Referral by other (health)
    - Registrant under external investigation re convictions, cautions

- FTP – Prosecution
  - A Conduct
  - B Performance
  - C Health
  - D Conviction/Caution
  - E Determination of another regulator
  - F Other
  - G Resumed Cases
  - Illegal Practice
- 7. Decision Made:
  - Triage:
    - Adjourned
    - Cancelled
    - Closure
    - Refer for Assessment
  - Assessment:
    - Adjourned
    - Cancelled
    - Closure
    - Refer to Investigating Committee
    - Refer to Investigating Committee and Interim Orders Committee
    - Voluntary Removal granted
  - Investigating Committee:
    - Adjourned
    - Cancelled
    - Close with advice
    - Close with advice and third party advice
    - Close with no further action and third party advice
    - Close with published warning
    - Close with published warning and third party advice
    - Close with unpublished warning
    - Close with unpublished warning and third party advice
    - Closure with no further action
    - Refer to Health Committee
    - Refer to Health Committee and Interim Orders Committee
    - Refer to Professional Conduct Committee
    - Refer to Professional Conduct Committee and Interim Orders Committee
    - Refer to Professional Performance Committee
    - Refer to Professional Performance Committee and Interim Orders Committee
  - Health Committee:
    - Adjourned
    - Adjourned Part Heard
    - Cancelled
    - Cancelled – Rule 10
    - Cancelled – VR

- Conditions ( with a review)
- Conditions extended (with a review)
- Conditions revoked
- Conditions revoked and suspension imposed
- Conditions revoked and suspension imposed (with a review)
- Erased
- Erased and immediate suspension
- Facts found proved did not amount to misconduct. Case concluded
- FTP impaired. Reprimand
- FTP not impaired. Case concluded
- No case to answer
- Not restored to the register
- Refer to Investigating Committee
- Refer to Professional Conduct Committee
- Refer to Professional Conduct Committee and Interim Order
- Refer to Professional Performance Committee
- Refer to Professional Performance Committee and Interim Order
- Restoration granted
- Restoration granted with conditions (with a review)
- Suspended indefinitely
- Suspended with immediate suspension
- Suspended with immediate suspension (with a review)
- Suspension
- Suspension (with a review)
- Suspension revoked
- Suspension revoked and conditions imposed (with a review)
- Undertakings
- Professional Conduct Committee:
  - Adjourned
  - Adjourned Part Heard
  - Cancelled
  - Cancelled – Rule 10
  - Cancelled – VR
  - Conditions ( with a review)
  - Conditions extended (with a review)
  - Conditions extended and varied (with a review)
  - Conditions revoked
  - Conditions revoked and suspension imposed
  - Conditions revoked and suspension imposed (with a review)
  - Did not proceed
  - Erased
  - Erased and immediate suspension
  - Facts found proved did not amount to misconduct. Case concluded
  - FTP impaired. Reprimand
  - FTP not impaired. Case concluded
  - No case to answer

- Not restored to the register
- Refer to Health Committee
- Refer to Health Committee with Interim Order
- Refer to Investigating Committee
- Refer to Professional Performance Committee
- Refer to Professional Performance Committee and Interim Order
- Restoration granted
- Restoration granted with conditions (with a review)
- Suspended indefinitely
- Suspended with immediate suspension
- Suspended with immediate suspension (with a review)
- Suspension
- Suspension (with a review)
- Suspension revoked
- Suspension revoked and conditions imposed (with a review)
- Undertakings
- Professional Performance Committee:
  - Adjourned
  - Adjourned Part Heard
  - Cancelled
  - Cancelled – Rule 10
  - Cancelled – VR
  - Conditions ( with a review)
  - Conditions extended (with a review)
  - Conditions extended and varied (with a review)
  - Conditions revoked
  - Conditions revoked and suspension imposed
  - Conditions revoked and suspension imposed (with a review)
  - Erased
  - Erased and immediate suspension
  - Facts found proved did not amount to misconduct. Case concluded
  - FTP impaired. Reprimand
  - FTP not impaired. Case concluded
  - No case to answer
  - Not restored to the register
  - Refer to Health Committee
  - Refer to Health Committee with Interim Order
  - Refer to Investigating Committee
  - Refer to Professional Conduct Committee
  - Refer to Professional Conduct Committee and Interim Order
  - Restoration granted
  - Restoration granted with conditions (with a review)
  - Suspended indefinitely
  - Suspended with immediate suspension
  - Suspended with immediate suspension (with a review)
  - Suspension

- Suspension (with a review)
  - Suspension revoked
  - Suspension revoked and conditions imposed (with a review)
  - Undertakings
8. Consideration type (description of matter that allegations relate to – please see table below for full list of each consideration):

# 12 Bibliography

- Alexander, R. E. (2001) 'Stress-related suicide by dentists and other health care workers. Fact or folklore?' *Journal of the American Dental Association*, vol. 132, pp. 786-794.
- Attwood, D. (2004) 'The Dental Council and complaints against dentists'. *Journal of the Irish Dental Association*, vol. 50(3), pp. 108-109.
- Avery, T., Barber, N., Ghaleb, M., Dean Franklin, B., Armstrong, S., Crowe, S., Dhillon, S., Freyer, A., Howard, R., Pezzolesi, C., Serumaga, B., Swanwick, G., and Talabi, O. (2012) 'Investigating the prevalence and causes of prescribing errors in general practice: The PRACtICE Study'. Report for the General Medical Council.
- Boak, G., Mitchell, L., and Moore, D. (2013) 'Transition to independent practice: A literature review to identify risks to patient safety during the transition period from first qualifying as a dentist or dental care professional to fully unsupervised practice'. Report for the General Dental Council prepared by Prime Research & Development Ltd.
- Brosky, M. E., Keefer, O. A., Hodges, J. S., Pesun, I. J., and Cook, G. (2003) 'Patient perceptions of professionalism in dentistry'. *Journal of Dental Education*, vol. 67(8), pp. 900-915.
- Bullock, A., Firmstone, V., Fielding, A., Frame, J., Thomas, D., and Belfield, C. (2003) 'Participation of UK dentists in continuing professional development'. *British Dental Journal*, vol. 194, pp. 47-51.
- Cameron, W. A., Taylor, G. K., Broadfoot, R., and O'Donnell, G. (2007) 'The role of the Clinical Governance Adviser in supporting quality improvement in general dental practice: the Glasgow Quality Practice Initiative'. *British Dental Journal*, vol. 202(4), pp. 193-201.
- Care Quality Commission 'A fresh start for the regulation and inspection of primary care dental services: Working together to change how we regulate primary care dental services', August 2014 [http://www.cqc.org.uk/sites/default/files/CQC\\_A%20fresh%20start%20Dental%20signposting%20statement%20August%202014.pdf](http://www.cqc.org.uk/sites/default/files/CQC_A%20fresh%20start%20Dental%20signposting%20statement%20August%202014.pdf)
- Care Quality Commission 'Care Update' Issue 2, March 2013 [http://www.cqc.org.uk/sites/default/files/documents/cqc\\_care\\_update\\_issue\\_2.pdf](http://www.cqc.org.uk/sites/default/files/documents/cqc_care_update_issue_2.pdf)
- Chamberlain, T. C., Catano, V. M., and Cunningham, D. P. (2005) 'Personality as a predictor of professional behavior in dental school: comparisons with dental practitioners'. *Journal of Dental Education*, vol. 69(11), pp. 1222-1237.
- Clay, S. W., and Conatser, R. R. (2003) 'Characteristics of physicians disciplined by the State Medical Board of Ohio'. *Journal of American Osteopath Association*, vol. 103(2), pp. 81-88.
- Cole II, R., Findley, J., Martin, M., Cole, J., Dodge, W., Winder, R., Young, S., Glover, J., and Kalkwarf, K. (2012) 'Continued Competency Assessment: Does It Have a Necessary Role in Dentistry?' *Journal of the American College of Dentists*, vol. 79(3), pp.13-19.
- ComRes (2011) 'The Annual Patient and Public Survey'. Report for the General Dental Council.
- Conti, A., Delbon, P., Laffranchi, L., and Paganelli, C. (2013) 'Consent in dentistry: ethical and deontological issues'. *Journal of Medical Ethics*, vol. 39(1), pp.59 – 61.
- Council for Healthcare Regulatory Excellence (2012) 'An approach to assuring continuing fitness to practise based on right-touch regulation principles'. London: CHRE.
- Cowpe, J., Plasschaert, A., Harzer, W., Vinkka-Puhakka, H., Walmsley, A. D., (2010) 'Profile and competences for the graduating European dentist - update 2009'. *European Journal of Dental Education*, vol. 14(4), pp. 193-202.
- Dodge, W., Winder, R., Young, S., Cole II, R., Findley, J., Martin, M., Cole, J., Glover, J., and Kalkwarf, K. (2012) 'Continued Competency Assessment: Its History and Role in the Health Professions'. *Journal of the American College of Dentists*, vol. 79(3), pp. 5-12.
- Dornan, T., Ashcroft, D., Heathfield, H., Lewis, P., Miles, J., Taylor, D., Tully, M., and Wass, V. (2009) 'An in depth investigation into causes of prescribing errors by foundation trainees in relation to their medical education'. EQUIP study. Report for the General Medical Council

- Eaton, K., Brookes, J., Patel, R., Batchelor, P., Merali, F., and Narain, A. (2011) 'The Impact of Continuing Professional Development in Dentistry: a Literature Review'. Report for the General Dental Council prepared by The Faculty of General Dental Practice (UK).
- Electoral Reform Services (2012) 'Registrants and provider perspectives on mandatory CPD in dentistry in the UK'. Report for the General Dental Council, January 2012.
- Elkin, K. J., Spittal, M. J., Elkin, D. J., and Studdert, D. M. (2011) 'Doctors disciplined for professional misconduct in Australia and New Zealand'. *Medical Journal of Australia*, vol. 194(9), pp. 452-456.
- Elkin, K., Spittal, M. J., and Studdart, D. M. (2012) 'Risks of complaints and adverse disciplinary findings against international medical graduates in Victoria and Western Australia'. *Medical Journal of Australia*, vol. 197(8), pp. 448-452.
- Enventure Research (2012) 'Annual Survey of Registrants 2012'. Report for the General Dental Council.
- Europe Economics (2010) 'Risks in the Optical Profession'. Report for the General Optical Council.
- Freeth, D., McIntosh, P., and Carnes, D. (2012) 'New Graduates' Preparedness to Practice'. Preparedness to Practice Study, Final Report, March 2012.
- General Dental Council (2013) 'Standards for the Dental Team'.
- General Dental Council (2013) 'Item 7 Transition to Independent Practice Group Meeting', Council Meeting 26 September 2013
- General Dental Council 'CPD guidance booklet' available at: <http://www.gdc-uk.org/Dentalprofessionals/CPD/Pages/default.aspx>
- General Dental Council Annual Report and Accounts
- General Dental Council, Council Performance Reports
- George Street Research (2009) 'GDC Revalidation Stage I Feasibility Study: Final Report'. Report for the General Dental Council.
- Gerrard, G. P. (2011) 'The Challenges Facing Migrant Dentists in the English National Healthcare System.' Business School College of Social Sciences, University of Glasgow.
- GfK NOP Social Research (2011) 'Research into Fitness to Practise referrals'. Report for the General Medical Council.
- Givol, N., Rosen, E., Taicher, S., and Tsisis, I. (2010) 'Risk management in endodontics'. *Journal of Endodontics*, vol. 36(6), pp. 982-984.
- Gorter, R. C., Jacobs, B. L., and Allard, R. H. (2012) 'Low burnout risk and high engagement levels among oral and maxillofacial surgeons'. *European Journal of Oral Sciences*, vol. 120(1), pp. 69-74.
- Gulati, A., Herd, M. K., Nimako, M., Anand, R., and Brennan, P. A. (2012) 'Litigation in National Health Service oral and maxillofacial surgery; review of the last 15 years'. *British Journal of Oral Maxillofacial Surgery*, vol. 50(5), pp.385-388.
- Hapcook, C. P. (2006) 'Dental malpractice claims: percentages and procedures'. *Journal of the American Dental Association*, vol. 137(10), pp. 1444-5.
- Harris, R. V., Dancer, J. M., and Montasem, A. (2011) 'The impact of changes in incentives and governance on the motivation of dental practitioners'. *International Journal of Health Planning and Management*, vol. 26(1), pp. 70-88.
- Hippisley-Cox, J. (2001) 'Do single handed practices offer poorer care? Cross sectional survey of processes and outcomes'. *British Medical Journal*, vol. 323, pp. 320-323.
- Illing, J., Morrow, G., Kergon, C., Burford, B., Spencer, J., Peile, E., Davies, C., Baldauf, B., Allen, M., Johnson, N., Morrison, J., Donaldson, M., Whitelaw, M. and Field, M. (2008) 'How prepared are medical graduates to begin practice? A comparison of three diverse UK Medical Schools'. Report for the General Medical Council Education Committee. London: GMC 2008.
- Ipsos MORI (2012) 'Patient and Public Survey 2012'. Report for the General Dental Council.
- Johnson, W. T. (2011) 'Busyness, the dental workforce and endodontics'. *Journal of Endodontics*, vol. 37(9), pp.85-86.
- Kay, E. J. and Lowe, J. C. (2008) 'A survey of stress levels, self-perceived health and health-related behaviors of UK dental practitioners in 2005.' *British Dental Journal*, vol. 204, E19.

- Kay, E. J. and Scarrott, D. M. A. (1997) 'Survey of dental professional's health and wellbeing.' *British Dental Journal*, vol. 183, pp. 340-345.
- Kelly, S. and Bunting, J. (1998) 'Trends in Suicide in England and Wales, 1982-1996'. *Population Trends*, vol. 92, pp. 29-41.
- Khaliq, A. A., Dimassi, H., Huang, C. Y., Narine, L., and Smego Jr, R. A. (2005) 'Disciplinary action against physicians: Who is likely to get disciplined?' *American Journal of Medicine*, vol. 118(7), pp. 773-777.
- KPMG (2010) 'Report B – A report on the review of the work undertaken by other regulators to outline, costs, benefits, financial and regulatory risks.' Report for the General Osteopathic Council.
- Leach, J., Cross, V., Fawkes, C., Mandy, A., Hankins, M., Fiske, A., Bottomley, L., and Moore, A. (2011) 'Investigating osteopathic patients' expectations of osteopathic care: the OPEn project'. Report for the General Osteopathic Council.
- Leach, J., Fiske, A., Mullinger, B., Ives, R., and Mandy, A. (2011) 'Complaints and claims against osteopaths: a baseline study of the frequency of complaints 2004–2008 and a qualitative exploration of patients' complaints'. Report for CONDOR: the Consortium for Delivering Osteopathic Research.
- Lopez-Nicolas, M., Falcón, M., Perez-Carceles, M. D., Osuna, E., and Luna, A., (2011) 'The role of a professional dental organization in the resolution of malpractice claims the professional dentist college in the region of Murcia (Spain)'. *Medicine and Law*, vol. 30(1), pp.55-63.
- Masella, R. S. (2007) 'Renewing professionalism in dental education: overcoming the market environment'. *Journal of Dental Education*, vol. 71(2), pp. 205-216.
- Mathers, N., Mitchell, C. and Hunn, A. (2012) 'A study to assess the impact of continuing professional development (CPD) on doctors' performance and patient/service outcomes for the GMC'. University of Sheffield/Capital Health.
- McCormick, R. J., and Langford, J. W. (2006) 'Attitudes and opinions of NHS general dental practitioners towards clinical governance'. *British Dental Journal*, vol. 200(4), pp. 214-217.
- MDDUS *Annual Report and Accounts 2012*
- MDU *Annual Report & Accounts 2012*
- Mills, I., and Batchelor, P. (2011) 'Quality indicators: the rationale behind their use in NHS dentistry'. *British Dental Journal*, vol. 211(1), pp. 11-15.
- Morgan, R. G. (2001) 'Quality evaluation of clinical records of a group of general dental practitioners entering a quality assurance programme'. *British Dental Journal*, vol. 191(8), pp. 436-441.
- Morrow, G., Burford, B., Carter, M., and Illing, J. (2012) 'The Impact of the Working Time Regulations on Medical Education and Training: Literature Review'. Report for the General Medical Council.
- Moss, S. B., and Gaughf, N. W. (2006) 'Dentist impairment: risk factors, signs, prevention, and treatment'. *Texas Dental Journal*, vol. 123(4), pp. 350-355.
- MPS *Annual Report 2013*
- Myers, H. L., and Myers, L. B. (2004) 'It's difficult being a dentist: stress and health in the general dental practitioner'. *British Dental Journal*, vol. 197(2), pp. 89-93.
- NHS Business Services Authority (2012) *Dental Contractor Loss Analysis Exercise*
- NHS National Clinical Assessment Service, *Concerns about professional practice and associations with age, gender, place of qualification and ethnicity - 2009/10 data, February 2011*
- NHS National Clinical Assessment Service, *NCAS Casework – the first eight years, September 2009*
- NHS National Patient Safety Agency (2009) 'Professionalism – dilemmas and lapses'. National Clinical Assessment Service.
- NHS National Patient Safety Agency (2011), 'Factors influencing dental practitioner performance: a literature review'.
- Papadakis, M. A., Teherani, A., Banach, M. A., Knetter, T. R., Rattner, S. L., Stern, D. T., Veloski, J., and Hodgson, C. S. (2006) 'Disciplinary action by medical boards and prior behavior in medical school'. *Journal of Medical Licensure and Discipline*, vol. 92(1), pp. 11-20.
- Patel, R., Eaton, K. A., Garcia, A., Rincon, V., and Brooks, J. (2011) 'An investigation into the numbers of dentists from 19 European Economic Area (EEA) member states currently registered to work in the United Kingdom and key



- differences between the practise of dentistry in the UK and their member states of origin'. *British Dental Journal*, vol. 211(3), pp.133-137.
- Perea-Pérez, B., Santiago-Sáez, A., Labajo-González, M.E., and Albarrán-Juan, M.E. (2011) 'Professional liability in oral surgery: legal and medical study of 63 court sentences'. *Medicina Oral, Patología Oral Y Cirugía Bucal*, vol. 16(4), pp. 526-531.
- Phipps, D. L., Noyce, P. R., Walshe, K., Parker, D., Ashcroft, D. M. (2010) 'Risk Assessment in Pharmacy Practice'. University of Manchester, December 2010.
- Postma, T. C., van Wyk, P. J., Heymans, J. H., White, J. G., and Prinsloo, P. M. (2011) 'An analysis of complaints against oral health professionals charged with misconduct at the HPCSA: 2004-2009'. *South African Dental Journal*, vol. 66(9), pp. 420-425.
- René, N. and Owall, B. (1991) 'Dental malpractice in Sweden'. *Journal of Law and Ethics in Dentistry*, vol. 4, pp. 16-31.
- Rosenstein A., and O'Daniel, M. (2008) 'Managing disruptive physician behaviour: Impact on staff relationships and patient care'. *Neurology*, vol. 70, pp. 1564-1570.
- Rule, J. T. (2010) 'How dentistry should approach its problems: a vote for professionalism'. *Journal of the American College of Dentists*, vol. 77(4), pp. 59-67.
- Scraggs, E., Brereton, L., Newbould, J., Drabble, S., Tiefensee, C., Schweppenstedde, D., Miani, C. and Ling, T. (2012) 'Factors that encourage or discourage doctors from acting in accordance with good practice'. Report for the General Medical Council.
- Slowther, A., Hundt, G. L., Taylor, R., and Purkis, J. (2009) 'Non UK qualified doctors and Good Medical Practice: the experience of working within a different professional framework'. Report for the General Medical Council prepared by the University of Warwick, February 2009.
- Spicer, R. (2008) 'Bytes and bites - using computerized clinical records to improve patient safety in general dental practice'. *Dental Update*, vol. 35(9), pp. 614-621.
- Steele, J. (2009) 'NHS dental services in England: an independent review'.
- The UK Faculty of General Dental Practice (2011) 'The impact of continuing professional development in dentistry'. Report for the General Dental Council.
- Thusu, S., Panesar, S., and Bedi, R. (2012) 'Patient safety in dentistry - state of play as revealed by a national database of errors'. *British Dental Journal*, vol. 213(3).
- Turner, S., Tripathee, S., and MacGillivray, S. (2012) 'Benefits and risks of direct access to treatment by dental care professionals: A rapid evidence review'. Report for the General Dental Council.
- Van den Hombergh, P., Engels, Y., van den Hoogen, H., van Doremalen, J., van den Bosch, W., and Grol, R. 'Saying 'goodbye' to single-handed practices; what do patients and staff lose or gain?' *Fam Pract*, vol. 22, pp. 20-27.
- Voinea-Griffin, A., Rindal, D. B., Fellows, J. L., Barasch, A., Gilbert, G. H., and Safford, M. M. (2010) 'Pay-for-performance in dentistry: what we know'. *Journal of Healthcare Quality*, vol. 32(1), pp. 51-58.
- Watts, S. (2009) 'Solo GPs face more GMC hearings'. Available at <http://news.bbc.co.uk/1/hi/programmes/newsnight/8163826.stm>, 22<sup>nd</sup> July 2009.
- Webber, J. (2010) 'Risk management in clinical practice. Part 4. Endodontics.' *British Dental Journal*, vol. 209(4), pp. 161-170.
- Wellie, J. V. (2004) 'Is dentistry a profession? Part 2. The hallmarks of professionalism.' *Journal of the Canadian Dental Association*, vol. 70(9), pp. 599-602.