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## It's not just about the money: recruitment and retention of clinical staff in general dental practice – part 2: dental care professionals

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### Abstract

As described in the first paper of this two-part series, increasing difficulties in recruitment and retention of dentists and dental care professionals in general dental practice in the United Kingdom is affecting delivery of National Health Service dental services. There is a significant risk to the future dental workforce supply which will affect access to dental care and worsen oral health inequalities. Understanding what factors contribute to job satisfaction and prevent job dissatisfaction of dental professionals would be useful in managing recruitment and retention issues. The aim of this literature review was to identify factors which contribute to job satisfaction of dental care professionals in general dental practice. Database searching was conducted systematically through PubMed/MEDLINE, Scopus, Ovid, and the National Grey Literature Collection. Eleven relevant articles were identified, which were qualitatively analysed using Herzberg's Motivation-Hygiene theory as an analysis tool. Unfair remuneration is a major contributor to dissatisfaction of DCPs, but job satisfaction could be promoted through increased recognition, variety of work, and opportunities to progress. Dental contract reform in the UK should aim to minimise factors contributing to dissatisfaction and increase factors which increase satisfaction, including the development of an acceptable remuneration model for NHS dentistry that facilitates skill mix.

## Keywords

Recruitment, retention, satisfaction, dental care professionals

## Learning Objectives



- To understand the concepts and principles of Herzberg's Motivation-Hygiene Theory and its application in the context of job satisfaction of dental care professionals
- Identify existing factors that contribute to dental care professional job satisfaction according to the Motivation-Hygiene Theory
- Synthesise the existing literature to provide a summary of factors for stakeholders to consider in contract reform

## Introduction

The widespread reports of issues in recruitment and retention of dental care professionals (DCPs) in general dental practice in the United Kingdom (UK) is particularly affecting delivery of National Health Service dentistry.<sup>1,2,3</sup> Similar issues to those discussed around recruitment and retention of dentists have also been reported for DCPs, a term which covers a group of professionals who are qualified to provide certain aspects of dental care<sup>4,5</sup>. This group of professionals includes dental hygienists and therapists, dental nurses, dental technicians, and clinical dental technicians. There has been an increase in the number of GDC registrants in all groups of DCPs except dental technicians since 2019.<sup>6,7,8</sup> A limitation of registrant reporting data is that these data do not show the number of registrants who are actively working in these roles. There are also individuals who are registered under multiple titles.

Recruitment and retention of individuals within a workforce are associated with job satisfaction.<sup>9,10,11,12,13</sup> The Herzberg motivation-hygiene model (Table 1) explains that job satisfaction and dissatisfaction exist on separate continuums which are affected by different factors.<sup>13,14</sup> Two independent processes occur, one where people feel good or satisfied about their work (termed motivators), and another where people feel bad or dissatisfied (hygiene factors).

**Table 1 – Herzberg motivation-hygiene theory factors<sup>13</sup>**

 Motivators (increase job satisfaction)	Hygiene factors (prevent job dissatisfaction) 
<ul style="list-style-type: none"><li>• Achievement</li><li>• Recognition</li><li>• Responsibility</li><li>• Work itself</li></ul>	<ul style="list-style-type: none"><li>• Working conditions</li><li>• Co-worker relationships</li><li>• Policies and rules</li><li>• Supervisor quality/supervision</li></ul>

- Advancement
- Personal growth

- Salary

Herzberg's motivation-hygiene model theory is a useful tool in predicting job satisfaction and has previously been applied in other healthcare sectors to understand recruitment and retention of healthcare workers.<sup>10,12,15</sup>

The aim of this literature review is to identify specific factors which currently contribute to job satisfaction and job dissatisfaction of certain dental care professional groups in general dental practice. This literature review considers dental hygienists and therapists, dental nurses, dental technicians and clinical dental technicians.

## Methods

This literature review was conducted in a narrative literature review format and is described in full in part 1 of this two-part series<sup>16,17</sup>. Multiple sources of literature were searched to better understand the issue through a broad range of experiences, values, and perceptions. Electronic searches of databases (PubMed, Scopus, Ovid & National Grey Literature Collection) and website searches were conducted to identify relevant literature.

Inclusion criteria included any published or grey literature discussing job satisfaction, dissatisfaction, retention, or recruitment of dental care professionals in general dental practice/primary dental care after 1<sup>st</sup> April 2006. Systematic searches were carried out in June 2022 and updated in May 2023. The full search strategy can be found in part 1. Each article was assessed for risk of bias using an appraisal instrument appropriate for the type of article. A summary judgement of high, moderate, or low risk of bias was given for each included article.

## Results

Database searching carried out in June 2022 and repeated in May 2023 identified 548 records. The PRISMA flowchart is presented in full in part 1 of this series.<sup>16</sup>

Eleven reports were identified as relevant to DCPs and are discussed in this article (Table 2).

Included reports had high methodological heterogeneity therefore it was not appropriate to attempt any quantitative synthesis or meta-analysis. The papers are presented through a narrative synthesis and discussed for each DCP group. Summary of factors relating to job satisfaction and dissatisfaction of dental care professionals is presented in Table 3.

Table 2 – Descriptive summary of included studies relating to DCPs

Author(s) (Year)	Study Design and participants	Motivator factors discussed (achievement, recognition, responsibility, work itself, advancement, personal growth)	Hygiene factors discussed (working conditions, coworker relationships, policies and rules, supervisor quality, salary)	Other comments/factors
Williams et al (2009) <sup>18</sup>	Cross-sectional study, questionnaire of 470 dental therapists in the UK on financial aspects of their working practice	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – from other members of the dental team on their additional training,</li> <li>• <b>Responsibility</b> – level of responsibility in line with remuneration</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Policies and rules</b> – NHS contract means that dentists don't see any financial gain in referring NHS patients to a therapist</li> <li>• <b>Salary</b> – different ways of remuneration and no standardisation among practices, poor remuneration for therapy work and additional responsibility</li> </ul>	
Turner, Ross and Ibbetson (2011) <sup>19</sup>	Cross-sectional study, survey of 183 UK dual qualified dental hygienist-therapists working in primary dental care	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – recognition for good work from dentists</li> <li>• <b>Responsibility</b> – amount of responsibility given</li> <li>• <b>Work itself</b> – opportunity to use abilities, variety of work strongest predictor of overall job satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – employment status</li> <li>• <b>Coworker relationships</b> – higher satisfaction with colleagues and feeling valued by colleagues significantly associated with overall job satisfaction</li> <li>• <b>Salary</b> – satisfaction with remuneration predicts job satisfaction</li> </ul>	<p>Majority of dual qualified hygienist-therapists describe work as mostly hygiene work</p> <p>Not being self-employed associated with overall job satisfaction</p>
Turner, Ross and Ibbetson (2012) <sup>20</sup>	Cross-sectional study, self-reported questionnaire of 267 UK dental nurses (DN) registered with the GDC	<ul style="list-style-type: none"> <li>• <b>Advancement</b> – lack of opportunities to progress associated with higher intention of leaving career</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – those who were less satisfied with their physical working conditions had higher intention of changing careers</li> <li>• <b>Policies and rules</b> – Strong negative feelings towards compulsory GDC registration and cost of this</li> </ul>	<p>Age – younger DNs more likely to indicate intention to change career</p>

Author(s) (Year)	Study Design and participants	Motivator factors discussed (achievement, recognition, responsibility, work itself, advancement, personal growth)	Hygiene factors discussed (working conditions, coworker relationships, policies and rules, supervisor quality, salary)	Other comments/factors
<b>Ross, Turner and Ibbetson (2012)</b> <sup>21</sup>	Cross-sectional study, self-reported questionnaire of 193 UK dental technicians	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – recognition from others for good work</li> <li>• <b>Responsibility</b> – amount of responsibility given</li> <li>• <b>Work itself</b> – variety of work, able to use abilities</li> <li>• <b>Advancement</b> – opportunities to progress</li> <li>• <b>Personal growth</b> – encouragement to develop expertise and support for training in work</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – employed in a commercial lab predictor of intention to leave</li> <li>• <b>Policies and rules</b> – compulsory GDC registration and cost of registration</li> <li>• <b>Salary</b> – dissatisfaction with remuneration significantly associated with intention to leave the profession</li> </ul>	Job satisfaction relating to intrinsic factors (e.g responsibility, variety of work) higher than extrinsic factors (colleagues, working conditions)
<b>Leyssen et al (2013)</b> <sup>22</sup>	Mixed methods study – Qualitative face to face interviews with 7 clinical dental technicians - Quantitative responses from 39 CDTs in the UK	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – lack of recognition within NHS dentistry, from dentists and from the public, but a feeling of pride to be registered with the GDC</li> <li>• <b>Personal growth</b> – training to manage patients with additional needs, limited CPD available</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – working alongside a dental nurse is something to aspire to</li> <li>• <b>Coworker relationships</b> – collaboration with dentists, some dentists think the work CDT do is illegal</li> <li>• <b>Policies and rules</b> – unable to contract with primary care teams to provide NHS dental care, scope of practice (GDC) for independent direct access for prosthetics</li> <li>• <b>Salary</b> – low fees for NHS work considered “loss leader”, willing to do a bit of NHS to pull in private work, private work greater remuneration</li> </ul>	Direct competition from illegally practicing CDTs and DTs  CDTs want to provide NHS care but there are barriers – mainly financial

Author(s) (Year)	Study Design and participants	Motivator factors discussed (achievement, recognition, responsibility, work itself, advancement, personal growth)	Hygiene factors discussed (working conditions, coworker relationships, policies and rules, supervisor quality, salary)	Other comments/factors
<b>Gnich et al (2014)</b> <sup>23</sup>	Cross-sectional study, self-reported questionnaire of 174 dental nurses in Scotland	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – recognition from employing dentist affects extent to which DN can implement their extended role</li> <li>• <b>Work itself</b> – more fulfilment from extended duties</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – lack of resources act as a barrier to delivering extended duties</li> <li>• <b>Coworker relationships</b> – lack of support from colleagues to facilitate delivery of extended duties seen as a barrier (attitude of employing dentist)</li> <li>• <b>Salary</b> – increased responsibility was not reflected in increased pay</li> </ul>	
<b>Forbes et al (2014)</b> <sup>24</sup>	Cross-sectional study, 231 pre-registered dental nurses in Scotland	<ul style="list-style-type: none"> <li>• <b>Responsibility</b> – sense of ownership of setting up the dental surgery</li> <li>• <b>Advancement</b> – nurses who perceive the benefits of career development are more engaged and have lower intentions of leaving</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Coworker relationships</b> – a demanding dentist who affects the feeling of ownership of a surgery may increase nurses intention to leave</li> </ul>	Work engagement and personal accomplishment act as mediators between work resources and intention to leave
<b>Awojobi et al (2018)</b> <sup>25</sup>	Cohort/longitudinal study of dental nurses taking part in a pilot training scheme in London. Dental nurses completed a questionnaire at the start and after training	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – professional status and identity and recognition of good work</li> <li>• <b>Responsibility</b> – responsibility given and ability to choose own work methods</li> <li>• <b>Work itself</b> – variety of the job</li> <li>• <b>Personal growth</b> – opportunities for professional development influences career decision on whether to work in hospital or primary care</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – dissatisfaction with physical working conditions</li> <li>• <b>Coworker relationships</b> – colleagues and fellow workers contribute to overall job satisfaction</li> <li>• <b>Salary</b> – lowest score for job satisfaction was regarding remuneration, financial stability influences decision to work in primary care</li> </ul>	<p>Work-life balance influences decision whether to work in primary care</p> <p>The number of trainees who wanted to work in primary care increased over time in this dual training pilot</p>

Author(s) (Year)	Study Design and participants	Motivator factors discussed (achievement, recognition, responsibility, work itself, advancement, personal growth)	Hygiene factors discussed (working conditions, coworker relationships, policies and rules, supervisor quality, salary)	Other comments/factors
<b>Curtis, Gurveer and Gallagher (2019)<sup>26</sup></b>	Qualitative study, semi-structured interviews of a purposive sample of 18 clinical dental technicians in the UK on their perspective of a professional group	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – role understood by other members of the dental team and patients</li> <li>• <b>Work itself</b> – joy from the work itself and helping people, opportunity to provide an expert service</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – able to spend time with patients because of working in the private sector</li> <li>• <b>Coworker relationships</b> – collaboration between dental professionals</li> <li>• <b>Policies and rules</b> – feeling devalued by regulatory bodies (CQC, GDC, NHS), would like direct access for NHS patients</li> </ul>	
<b>Sellars (2021)<sup>27</sup></b>	Opinion article on the drop in dental nurse numbers on the GDC register (UK) and possible recruitment crisis	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – earnings discrepancy between dental professionals undermines role and responsibility of the DN, DNs feel undervalued</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Working conditions</b> – more challenging conditions during COVID-19, difficulty in recruiting to rural areas</li> <li>• <b>Policies and rules</b> – no representation of nurses on the GDC council</li> <li>• <b>Salary</b> – decline in earnings, could earn a similar or better wage at local supermarket</li> </ul>	
<b>Silver (2021)<sup>28</sup></b>	Opinion article on the recruitment crisis of dental nurses in the UK	<ul style="list-style-type: none"> <li>• <b>Recognition</b> – additional skills do not lead to increased recognition, DNs feel undervalued</li> <li>• <b>Personal growth</b> – paid and protected time off to complete CPD</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Policies and rules</b> – GDC registration fee</li> <li>• <b>Salary</b> – many DN jobs pay less than retail jobs with no perks, 16% had a second job to meet their basic living costs (48%) or provide a better standard of living (35%)</li> </ul>	



Table 3 - Summary of factors relating to job satisfaction and dissatisfaction of dental care professionals

	<b>Motivators (increase job satisfaction)</b>	<b>Hygiene factors (prevent job dissatisfaction)</b>
<b>DH/DT</b>	<ul style="list-style-type: none"> <li>• Recognition from other members of the dental team, especially dentists</li> <li>• Variety of work</li> </ul>	<ul style="list-style-type: none"> <li>• Feeling valued by other members of the dental team</li> <li>• Employment status</li> </ul>
<b>Dental Nurse</b>	<ul style="list-style-type: none"> <li>• Extended/additional duties or role</li> <li>• Opportunities to progress</li> <li>• Recognition from dentist</li> <li>• Variety of work</li> <li>• Development and utilisation of skills</li> <li>• Protected time to complete CPD</li> </ul>	<ul style="list-style-type: none"> <li>• Satisfaction with physical working conditions</li> <li>• Positive relationship with dental team colleagues</li> <li>• Fair remuneration</li> <li>• Employment benefits</li> <li>• Representation on GDC council</li> </ul>
<b>Dental technician/Clinical dental technician</b>	<ul style="list-style-type: none"> <li>• Recognition from other members of the dental team</li> <li>• Variety of work</li> <li>• Helping people</li> <li>• Opportunities to progress</li> <li>• Development of skills</li> </ul>	<ul style="list-style-type: none"> <li>• Increased collaboration with dentists</li> <li>• Fair remuneration</li> <li>• Lower GDC registration fee</li> <li>• Dental nurse support</li> <li>• Increased scope of practice for direct access for prostheses (CDTs)</li> <li>• Adequate time to spend with patients (CDTs)</li> <li>• Non-commercial environment</li> </ul>

## Risk of bias

Judgements of risk of bias (low, moderate or high) in each of the reviewed articles are presented in (Appendix 1). Factors which only appeared in articles determined to be high risk of bias were excluded from the summary table (Table 3).

## Discussion

### Dental hygienists and dental therapists

Most dental care provided in general practice in the UK could be safely carried out by dental therapists and hygienists, but contractual and regulatory restrictions are a barrier to this in the NHS.<sup>29,30,31</sup> Currently, NHS dental contract reform is being considered in all countries of the UK and increasing the use of hygienists and therapists (skill mix) is on the agenda.<sup>32,33,34</sup> Increasing skill mix has previously been reported as having the potential to increase access to dental care, which may reduce inequalities.<sup>29,35</sup>

This review found that being self-employed in this role was associated with job dissatisfaction<sup>19</sup>, however there is no recent exploration of attitudes towards employment among this group of dental care professionals. An article by Goldman and D’Cruz describes the different ways in which a hygienist or therapist can be engaged to deliver dental care within general practice, which states that many contracts for “self-employed” hygienists may not withstand legal scrutiny.<sup>36</sup>

A finding from the present review was that job satisfaction of hygienists and therapists is highly associated with variety of work, but that those trained in therapy work mostly carry out hygiene work.<sup>19</sup> It has been reported previously that there are expectations from dental practices who engage a hygiene therapist that they will spend most of their time completing hygiene work.<sup>37,38</sup>

Recognition from other members of the dental team and feeling valued were associated with increased job satisfaction.<sup>18,19</sup> Previous studies have reported on therapists feeling valued members of the team within general dental practice<sup>37</sup>, yet a lack of understanding from dentists on their scope can affect this, so this may vary between practices where the dentist does understand the role and scope of therapists<sup>39</sup>.

Only two papers included in this review concerned this group of DCPs and the most recent of these was from 2013, therefore caution should be taken when considering the findings as there is anecdotal evidence of changing attitudes to those found in this review.

## Dental nurses

Job satisfaction of dental nurses is increased when there are opportunities for extended or additional duties, but that there is a lack of opportunities or recognition of nurses with additional training within general dental practice.<sup>20,23,24,40</sup>

Previous studies have reported the potential of dental nurses to play a bigger role in provision of dental care, and the barriers to their increased utilisation, including professional attitudes towards delegation of work, indemnity, and remuneration.<sup>41,42,43</sup> Dental practices operate as businesses and the current NHS contractual arrangements do not incentivise skill mix.<sup>43</sup> A report in 2020 found that despite regulatory changes which allow nurses to perform additional tasks, only around 20% of dental nurses have completed training which allows them to do so.<sup>44</sup> This could be due to the fact that pay of dental nurses with additional duties or skills in general practice rarely reflects increased responsibility.<sup>28</sup> It has been suggested that the average salary of a dental nurse is equivalent or less than a supermarket retail position, with no benefits or perks.<sup>27,28</sup> Dental nurses who provide NHS dental care in general practice are not eligible to receive NHS employment benefits or contribute to the NHS pension scheme. The present review also found that some nurses have a second job to maintain a basic standard of living.<sup>28</sup> The subject of dental nurse pay has been described as taboo, and poor remuneration and conditions of employment have been previously stated as reasons why dental nurses leave the dental workforce.<sup>45,46,47</sup>

Recognition, particularly from dentists, increases job satisfaction of dental nurses.<sup>24,25</sup> Positive relationships with other dental team members prevents job dissatisfaction.<sup>25</sup> These findings agree with previous research on the impact of positive professional relationships between dental nurses and their colleagues on job satisfaction.<sup>48</sup> This review found that the majority of dental nurses do not feel that compulsory registration with the GDC has positively affected their career.<sup>20</sup>

This review found that younger dental nurses had higher intentions of leaving the profession<sup>20</sup>, which has previously been shown to be predictive of actually leaving the job.<sup>49</sup> This could indicate that younger dental nurses are less satisfied with their career prospects due to the factors identified in this review, such as a lack of opportunities for progression and poor remuneration.

Additional skills and increased variety of work can increase job satisfaction of dental nurses, but this may be counteracted by dissatisfaction caused by poor remuneration and poor professional relationships with other members of the dental team. Access to NHS employment benefits and clear paths for progression within general practice are currently not present in general dental practice but have the potential to impact on satisfaction of dental nurses, which could attract and retain dental nurses in the workforce.

## Clinical dental technicians and dental technicians

Similarly, to other dental care professional groups, a factor that contributes to job satisfaction for this group of dental professionals is recognition, principally from dentists.<sup>22,26</sup> A study in 2019 reported that clinical dental technicians were not yet fully accepted as part of the dental team, but younger dentists are more accepting of the role.<sup>50</sup> Furthermore, increased collaboration may prevent dissatisfaction.<sup>22,26</sup> A recent insight into the work carried out by this group of dental professionals is that collaboration and respect is lacking, and there is poor communication between dentists and their technicians<sup>51</sup>. The average age of a technician is reported to be 56, which could indicate that this role is less attractive to younger people. A gradual decline has been seen in the number of dental technicians, which could lead to a lack of trained professionals able to carry out this work in the future<sup>4</sup>.

Dissatisfaction from working under NHS contractual arrangements was a theme also seen with this group.<sup>22,26</sup> Clinical dental technicians have additional training that enables them to complete the clinical work associated with the provision of dentures, but there have been mixed opinions regarding providing this work as part of the NHS reported previously.<sup>50</sup> Dissatisfaction with remuneration has been seen with other dental professional groups in this review and has been reported previously in relation to dental technicians providing work as part of the NHS.<sup>50,52</sup>

This review identified that a factor which contributes to increased satisfaction of dental technicians is the variety of work and opportunities to progress.<sup>21</sup> It has been suggested that a funded and supported pathway from dental technician to clinical dental technician could improve satisfaction of this group of dental professionals.<sup>40</sup>

Registration with the GDC is compulsory for dental technicians and clinical dental technicians, and this review found that there is a feeling of pride to be registered<sup>22</sup>, but dissatisfaction in regard to the cost of the annual fee.<sup>21</sup>

Interestingly, this review found that being employed within a non-commercial laboratory was associated with higher job satisfaction.<sup>21</sup> This could be because commercial environments are geared towards profit over quality, and being able to provide good quality work is a factor relating to job satisfaction for this group.<sup>21</sup>

Similarly to other groups, there is scarcity of literature on the views of dental technicians and clinical dental technicians on this topic.

## Conclusion

The publicly funded NHS dental service must have “the right number of people with the right skills in the right place at the right time to provide the right services to the right people”.<sup>53</sup> Common themes for the majority of groups examined in both parts of this literature review was remuneration, however, this is not the only factor that was identified in the literature as related to job satisfaction and dissatisfaction of dental professionals in general practice. Dental policy makers should consider the factors identified in this review and aim to design dental contracts which minimise factors which lead to dissatisfaction and increase factors relating to satisfaction, in order to retain and recruit to the NHS dental workforce.

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## Appendix 1 – Quality Assessment of included records

Author(s) (Year)	Risk of bias
Williams et al (2009)	High
Turner, Ross and Ibbetson (2011)	Low
Turner, Ross and Ibbetson (2012)	Low
Ross, Turner and Ibbetson (2012)	Low
Leyssen et al (2013)	High
Forbes et al (2014)	High
Gnich et al (2014)	Low
Awojobi et al (2018)	High
Curtis, Gurveer and Gallagher (2019)	Moderate
Sellars (2021)	Moderate
Silver (2021)	Low