


# Work situation and prospects of recently graduated dentists in the Netherlands

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## Funding information

The study was funded by the Royal Dutch Dental Association.

## Abstract

**Introduction:** Dentists who have graduated recently from a Dutch dental school work mainly in the Netherlands, where collaboration and differentiation are relevant factors. Furthermore, the Netherlands face regional undersupplies of dentists. The objective of this study was to describe choices and aims of recently graduated dentists for the near future.

**Materials and Methods:** An invitation for the web questionnaire was sent by e-mail to 945 dentists who had graduated from a Dutch dental school between 2013 and 2017, of whom 230 (24.3%) participated in the survey.

**Results:** Approximately three quarters (77%) of the recently graduated dentists worked as a general dentist in a practice of some else, primarily in urban areas. The choice for a practice was affected by location, earnings, and the opportunity to gain experience. Furthermore, the career choices were affected most by the desired length of the working week and financial security. The narrow majority (53%) of the recently graduated dentists believed that in 5 years they will be practice owner; 49% expected to be a differentiated dentist. Furthermore, 41% believed they will work in a smaller municipality.

**Discussion:** Although recently graduated dentists seem receptive to work in smaller municipalities, the peripheral regions are conceivably less appealing. Practice ownership conceivably is an option for the near future for a narrow majority of the recently graduated dentists.

**Conclusion:** Recently graduated dentists have different preferences regarding their work situation in 5 years.

## KEYWORDS

career choices, differentiation, practice ownership, recently graduated dentists, specialisation, workforce planning

## 1 | INTRODUCTION

The Netherlands has three dental schools, which are located at the Academic Centre for Dentistry Amsterdam (ACTA), the University

Medical Center Groningen (UMCG) and Radboudumc in Nijmegen. Although the curricula differ, the graduation requirements of all three schools are similar; all train students to become general dentists in accordance with the requirements of Dutch regulations. All

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dental schools offer a 6 years master's degree curriculum in which scientific, medical and dental training are provided. The number of training positions is limited, in the academic year 2018–2019 the maximum enrolment number for the three dental schools together was 259.

The majority of dentists that graduate from the three Dutch dental schools chooses to practice in the Netherlands. In recent years, the oral health care landscape in this country has seen four considerable changes.<sup>1</sup> First, more different caregivers, such as dental hygienists and prevention assistants, have become involved in the delivery of oral health care.<sup>2</sup> Within the oral health care team, dentists are perceived as the manager.<sup>3</sup> As the highest trained professional, dentists are competent to assess the care patients need and to decide who can deliver this care most adequately. Second, the treatment options have increased significantly. This has made it more difficult for general dentists to provide themselves all possible care of the professional domain.<sup>4</sup> Accordingly, a number of dental differentiations emerged. Differentiations are recognised by a scientific association and concern specific clinical subareas, such as implantology, periodontology and endodontology, or the treatment of specific patient groups, for example paedodontology and gerodontolog.<sup>5</sup> Registered differentiated dentists have received a high-level extra training in the relevant subarea, that is, however, not officially recognised as a specialisation. The only two dental specialisations in the Netherlands are oral and maxillofacial surgery and orthodontics. Currently, between 6% and 7% of the dentists in the Netherlands are differentiated; some work solely as a differentiated dentist and some partly as a general dentist and partly as a differentiated dentist.

The third change concerns the work and practice situation of dentists. The major share of oral health care in the Netherlands is delivered in private practices. In 1999, 77% of the dentists worked in a private solo practice; in 2018 44% did.<sup>1,6</sup> Consequently, the number of practices in which dentists collaborate increased. This collaboration can imply shared ownership, but not necessarily. A dentist can also work in the practice of a colleague as an employee or as a self-employed worker. For example, in 2018, 23% of the dentist worked in a practice that was owned by one dentists, but also employed one or more dentists and 33% worked in a practice that was co-owned by two or more dentists.<sup>1</sup> Van Dam et al. observed that between 2008 and 2014 the proportion of young dentists with the ambition of owning a practice significantly decreased.<sup>7</sup> This applied mainly to female dentists. For some years, more women than men have been graduating in dentistry in the Netherlands. The opportunities to avoid practice ownership have been increasing, as dental chains emerged in the Netherlands in recent years.<sup>1</sup> The rise of dental chains occurs in many countries, including Spain and the United Kingdom, and some chains operate internationally.<sup>8–10</sup> The fourth development in the dental landscape in the Netherlands is the presumed appearance of a undersupply of dentists. This undersupply does not apply to all of the Netherlands, and is mainly experienced in peripheral areas.<sup>11,12</sup> In 2019, the Netherlands had 17 282 163 inhabitants, of whom 27% lived in a city with more than 100 000 inhabitants and 13% municipality with less than 25 000 inhabitants.<sup>13</sup>

The inhabitants per dentist ratio varies between different regions; in peripheral provinces, there are more inhabitants per dentist than in the most densely populated provinces.<sup>11,14</sup>

In this changing setting, new dentists have to make choices about how to start their career. Studies in other countries show that undergraduate dental students desire to focus on basic skills that occur frequently in daily practice and are covered extensively in training.<sup>15,16</sup> De Rijk and Kreulen argue that young dentists have many competences, but limited clinical experience.<sup>17</sup> In the first years after graduation, dentists need to broaden their experience. Accordingly, undergraduates indicate that gaining experience is an important factor in their choices for the first years of their careers.<sup>18–20</sup>

Although much is known about the oral health care dental landscape in the Netherlands, knowledge on the preferences and choices of new dentists is limited. Information on these subjects can help dental schools prepare students for daily practice, with regard to dental knowledge and skills as well as related matters such as collaboration and practice management. Furthermore, professional associations can use this information to assist and commit new dentists, and to establish a long-term policy.

To our knowledge, all studies about the preferences of starting dentists exclusively involved undergraduates. Although these last-year students undoubtedly are aware of some preferences, they lack the work experience that may affect these preferences. To compensate for this bias, the objective of this study was to describe what recently graduated dentists aim for in the near future. First, the current work situation of these dentists was examined, including the factors that affected their choices. Second, the prospects of recently graduated dentists for their work situation in 5 years were investigated. The last area of investigation concerned the cohesion of these prospects with general and professional characteristics.

## 2 | MATERIALS AND METHODS

### 2.1 | Materials

For this study, a web questionnaire of 30 mainly closed questions was developed: 16 questions examined the current work situation and 14 the prospects for the future. The questionnaire was audited in advance by three recently graduated dentists, who assessed it for relevance, completeness and accuracy. Personal and professional characteristics were available and were matched to the survey data before anonymisation.

### 2.2 | Data collection

In June 2018, an invitation e-mail was sent to 945 dentists who had graduated from one of the three Dutch dental school between 2013 and 2017. The e-mail included a link to the web questionnaire. The aim was to invite all 1077 dentists that had graduated in this period, but 132 dentists could not be contacted due to incomplete address

information. One week after the first invitation, a reminder was sent per e-mail; a second reminder was sent 2 weeks after the first. Data collection ended in July 2018.

## 2.3 | Data processing

The priorities of new dentists have for their the current work situation were measured using five-point Likert scale items, that varied from very unimportant (1) to very important (5). When theoretically and statistically justifiable, items were scaled. Items were considered internal consistent if Cronbach's alpha was 0.7 or higher. To create the scale, the sum score of the items was calculated and rounded to a new five-point scale that was compliant with the existing items. Four items were combined into a scale that expressed the preference for the opportunity to gain professional experience in a collaborative setting: (1) the importance of care-related cooperation – as a team – with colleagues, dental hygienists and prevention assistants, (2) the opportunities to develop oneself and gain experience in the profession, (3) the desire to gain experience in different dental subareas, (4) the opportunities to collaborate with colleagues who have the same ideas about dental care (Cronbach's alpha = 0.701). As an indicator for the validity of the scale, the correlation between the scale and the actual number of caregivers in the current practice measured. After all, practices with many caregivers are expected to offer more possibilities to gain experience in a collaborative setting. The correlation is statistically significant (Pearson's correlation coefficient = 0.194,  $p = 0.008$ ).

Another scale, also composed of four items, expressed the dentist's reluctance to assume the responsibilities of a private practice: (1) the desire not to have the worries related to practice ownership (yet), (2) the desire not to have financial liabilities (yet), (3) the desire to have as few administrative tasks as possible, (4) the desire to have as few management tasks as possible (Cronbach's alpha = 0.850). The negative correlation between this scale and current practice ownership, is an indicator for the validity of the scale (Pearson's correlation coefficient =  $-0.172$ ,  $p = 0.028$ ). Furthermore, a scale indicating entrepreneurship was composed (Cronbach's alpha = 0.759). The items involved were (1) the possibility of organising practice according to one's own ideas, (2) the desire to be independent, (3) the opportunities to manage a practice with fellow dentist(s) and (4) the independence in managing a practice. The positive correlation between this scale and expected practice ownership within 5 years, is an indicator for the validity of the scale (Pearson's correlation coefficient = 0.314,  $p = 0.000$ ).

Respondents were asked how difficult they experienced eight aspects of starting out as a dentist. These aspects were (1) finding desired work, (2) collecting adequate information about contracts, (3) negotiating with employers, (4) independently treating patients, (5) making clinical decisions, (6) handling work pace and time pressure, (7) interacting with patients and (8) interacting with co-workers. These aspects were measured using five-point Likert scale items that varied from (1) very easy to (5) very difficult. The eight items were merged into a scale that measured the difficulty recently graduated dentists have in the first phase of their career (Cronbach's alpha = 0.783).

The degree of urbanisation of the area in which a dentist was working was measured by the number of inhabitants of the municipality. Initially, the scale had five categories: (1) 5000 inhabitants or less, (2) 5001 to 25 000 inhabitants, (3) 25 001–100 000 inhabitants, (4) 100 001–250 000 inhabitants, (5) 250 001 inhabitants or more. As municipalities with less than 5000 inhabitants are very rare in the Netherlands, the first two categories were combined.

## 2.4 | Statistical analysis

The data were analysed using Statistical Package for Social Sciences (SPSS) for Windows, version 24. The correlations were tested using the Chi-square test and ANOVA. In the analyses of correlations,  $p$ -values lower than 0.05 were considered statistically significant. The statistical internal consistency of scales was calculated using reliability analysis.

## 2.5 | Ethics statement

Participation in the survey was voluntary. This was mentioned in the invitation e-mail. Dentists consented to the survey by answering the questionnaire. The invitations and reminders were sent by an independent data collecting institute, which was also responsible for the confidential processing of the data. The data were anonymised before they were made available to the researchers.

# 3 | RESULTS

## 3.1 | Response and representativeness

The response rate was 24.3%, as 230 dentists participated. Table 1 gives an overview of general and professional characteristics of the dentists involved in the study. The group of participants was broadly representative of the population of dentists who had graduated from a Dutch dental school between 2013 and 2017. However, dentists who were registered in the Quality Register for Dentists (QRD) seemed to be slightly over-represented (60%, versus 50% in the population, Cramer's  $V = 0.086$ ,  $p = 0.009$ ). Incidentally, one respondent was excluded from the analysis due to an insufficient number of questions answered. Furthermore, responses from six participants were not applicable because they did not work as a dentist at the time of the survey. Therefore, the collected data referred to a total of 223 active recently graduated dentists.

## 3.2 | Current work situation

Table 1 shows the current work situation of the recently graduated dentists. On average, they worked 38.2 hours per week, of which 30.8 were chairside hours. The great majority worked in a practice

**TABLE 1** General and professional characteristics of recently graduated dentists

|  | Mean | SD  | Proportion |
|--|------|-----|------------|
| Female   |      |     | 65%        |
| Age (as of January 1st 2018)                             | 28.6 | 4.2 |            |
| Region of residence                                      |      |     |            |
| North  |      |     | 12%        |
| East   |      |     | 24%        |
| South  |      |     | 10%        |
| West   |      |     | 54%        |
| Year of graduation                                       |      |     |            |
| 2013   |      |     | 13%        |
| 2014   |      |     | 19%        |
| 2015   |      |     | 23%        |
| 2016   |      |     | 24%        |
| 2017   |      |     | 21%        |
| Dental school  |      |     |            |
| ACTA, Amsterdam  |      |     | 52%        |
| UMC Groningen  |      |     | 20%        |
| Radboud UMC, Nijmegen                                    |      |     | 28%        |
| Registered in Quality Register Dentists                  |      |     | 60%        |
| Current work situation                                   |      |     |            |
| General practitioner, no practice owner                  |      |     | 77%        |
| Differentiated, no practice owner                        |      |     | 17%        |
| General practitioner, practice owner                     |      |     | 5%         |
| Differentiated, practice owner                           |      |     | 1%         |
| Number of hours per week working currently               |      |     |            |
| Treating patients  | 30.8 | 7.0 |            |
| Total  | 38.2 | 8.3 |            |
| Number of dentists in current practice                   | 5.4  | 2.8 |            |
| Dental hygienist(s) in current practice                  |      |     | 86%        |
| Dental or prevention assistant(s) in current practice    |      |     | 94%        |
| Other dental caregivers in current practice <sup>a</sup> |      |     | 42%        |
| Number of dental units in current practice               | 5.4  | 3.3 |            |
| Owner current practice is dentist                        |      |     | 79%        |
| Current practice is affiliated to dental chain           |      |     | 18%        |
| Size municipality of residence                           |      |     |            |
| 25 000 inhabitants or less                               |      |     | 17%        |
| 25 001–100 000 inhabitants                               |      |     | 18%        |

(Continues)

**TABLE 1** (Continued)

|                             | Mean | SD | Proportion |
|-----------------------------|------|----|------------|
| 100 001–250 000 inhabitants |      |    | 32%        |
| 250 001 inhabitants or more |      |    | 33%        |
| <i>n</i> = 203–228          |      |    |            |

<sup>a</sup>Orthodontists, oral and maxillofacial surgeons, dental prosthetists, and dental technicians.

that is owned by someone else. Furthermore, approximately four fifths worked as a general dentist and one fifth as a differentiated dentists.

The practices in which the recently graduated dentists worked house on average 5.4 treatment units and the mean number of dentists also was 5.4. A substantial majority of the practices employed at least one dental assistant or prevention assistant and/or one or more dental hygienists. Approximately one fifth of the practices was affiliated with a dental chain and four fifths were owned by at least one dentist. The recently graduated dentists were primarily working in practices that were located in urban areas.

### 3.3 | Choice of current work situation

Table 2 indicates that at least three quarters of the recently graduated dentists expressed the following preferences in their choice for a work practice: the opportunity to gain experience in the profession in a collaboration setting, the ability to determine one's own work schedule, the presence of an experienced dentist who can answer one's questions and can offer help, the location in direct or desired living environment, the offered remuneration. Table 3 shows the preferences of recently graduated dentists regarding time management and responsibilities in work. For the majority the length of the working week and financial security were priorities. Moreover, a tenth of the recently graduated dentists indicated that the first phase of their career as a dentists was difficult. Conversely, approximately two fifths thought it was fairly or very easy (Table 4).

### 3.4 | Future work situation

The vast majority of the recently graduated dentists believed that in 5 years the main focus of their work will still be patient treatment (Table 5). Based on two major characteristics of dentists, practice ownership and differentiation. The recently graduated dentists can be divided into four groups of almost equal size. With regard to the urbanisation, almost half of the new dentists expected to be located in a smaller municipality in 5 years. It should be mentioned that the municipalities with a maximum of 25 000 inhabitants were still not desired destinations. In contrast, approximately two fifths of the recently graduated dentist expected to be located in a municipalities with between 25 001 and 100 000 inhabitants.

**TABLE 2** Importance of preferences for the choices recently graduate dentists made for their current practice employment

|  | (Very) important | Neither important, nor unimportant | (Very) unimportant |
|--|------------------|------------------------------------|--------------------|
| The opportunity to gain experience in the profession in a collaboration setting <sup>a</sup> | 92%              | 7%                                 | 1%                 |
| The ability to schedule one's own work schedule  | 91%              | 6%                                 | 3%                 |
| The presence of an experienced dentist who can answer one's questions and can offer help     | 82%              | 13%                                | 5%                 |
| The location in direct or desired living environment   | 78%              | 9%                                 | 13%                |
| The offered remuneration   | 76%              | 20%                                | 4%                 |
| The implementation of innovations  | 59%              | 32%                                | 9%                 |
| Targeted offer from a colleague/classmate  | 32%              | 43%                                | 25%                |
| <i>n</i> = 158–192   |                  |                                    |                    |

<sup>a</sup>Composed of the preferences regarding the following four factors: (1) the importance of care-related cooperation – as a team – with colleagues, dental hygienists and prevention assistants, (2) the opportunities to develop oneself and gain experience in the profession, (3) the desire to gain experience in different dental subareas, (4) the opportunities to collaborate with colleagues who have the same ideas about dental care (Cronbach's alpha = 0.701).

**TABLE 3** Importance of preferences for the choices recently graduate dentists made for their work situation with regard to time management and responsibilities

|   | (Very) important | Neither important nor unimportant | (Very) unimportant |
|---|------------------|-----------------------------------|--------------------|
| The ability to determine the desired length of the working week           | 87%              | 10%                               | 3%                 |
| The importance of financial security                                      | 68%              | 22%                               | 10%                |
| The plans for further education/differentiation                           | 53%              | 32%                               | 15%                |
| The care for children (in the future)                                     | 49%              | 24%                               | 27%                |
| The reluctance to the responsibilities of practice ownership <sup>a</sup> | 48%              | 41%                               | 11%                |
| Entrepreneurship <sup>b</sup>   | 27%              | 50%                               | 23%                |
| <i>n</i> = 138–177  |                  |                                   |                    |

<sup>a</sup>Composed of the preferences regarding the following four factors: (1) the desire not to have the worries related to practice ownership (yet), (2) the desire not to have financial liabilities (yet), (3) the desire to have as few administrative tasks as possible, (4) the desire to have as few management tasks as possible (Cronbach's alpha = 0.850).

<sup>b</sup>Composed of the preferences regarding the following four factors: (1) the possibility of organising practice according to one's own ideas, (2) the desire to be independent, (3) the opportunities to manage a practice with fellow dentist(s), (4) the independence in managing a practice (Cronbach's alpha = 0.759).

Table 6 shows the correlation between the future work situation and some general and professional characteristics. Dentists who wanted to work as a differentiated dentist in a practice that is owned by someone else appeared to be on average the youngest and – constantly – the most recently graduated. As can be expected, there were non-practice owners who planned to open or buy a practice within 5 years; no practice owners expected to end or sell their practice. Some differentiated dentists expected to return to general dentistry. Furthermore, what stands out, is that dentists who wanted to differentiate worked in larger practices.

## 4 | DISCUSSION

The aim of this study was to describe the work prospects for the near future of recently graduated dentists. They expected that in 5 years the main focus of their work will still be patient treatment. With regard to practice ownership and differentiation, they were divided into four groups of virtually equal size. The preference for owning a practice seems to increase in the first years after graduation. Furthermore, relatively small municipalities seemed to be a more popular choice for the near future, but very small municipalities

**TABLE 4** Difficulties recently graduated dentists experienced starting out in the profession

|  | (Very difficult) | Neither difficult nor easy | (Very easy) |
|--|------------------|----------------------------|-------------|
| Handling work pace and time pressure                                 | 37%              | 29%                        | 34%         |
| Making clinical decisions  | 32%              | 43%                        | 25%         |
| Negotiating with employers   | 30%              | 33%                        | 37%         |
| Independently treating patients                                      | 20%              | 36%                        | 44%         |
| Collecting adequate information about contracts                      | 19%              | 30%                        | 51%         |
| Finding desired work   | 13%              | 17%                        | 70%         |
| Interacting with patients  | 10%              | 18%                        | 72%         |
| Interacting with co-workers  | 7%               | 15%                        | 78%         |
| Scale measuring the difficulty in general (Cronbach's alpha = 0.783) |                  |                            |             |
| Very easy  |                  |                            | 1%          |
| Fairly easy  |                  |                            | 41%         |
| Neither easy, nor difficult  |                  |                            | 48%         |
| Fairly difficult   |                  |                            | 10%         |
| very difficult   |                  |                            |             |
| <i>n</i> = 166–174   |                  |                            |             |

are not. Accordingly, recently graduated dentists do not tend to opt for working in the peripheral regions where the undersupply of dentist is the most acute. An undersupply of dentists is remarkable. In several European countries, an oversupply of dentists occurs; in other countries, the enrolment numbers of dental schools are limited in order to prevent an oversupply.<sup>21</sup> Strikingly, in the Netherlands an undersupply of dentists is combined with a limited enrolment number that is insufficient to overcome the perceived shortage. In order to avoid the return of an oversupply, the Dutch government anticipated on the emerging undersupply by promoting task shifting and collaboration. This strategy resulted in more collaboration, but undersupply remained a concern.<sup>1</sup> Therefore, in some regions the supply of dentists depends on inflow from abroad. This dependency has undesirable aspects. For example language barriers and unfamiliarity with the Dutch oral health care system can affect the quality of care.<sup>22,23</sup> Moreover, the size of the inflow from abroad depends at least partly on factors in the countries the foreign dentists originate from. The Dutch government cannot affect these factors.

Earlier studies within and outside the Netherlands have indicated the desire to differentiate.<sup>18,24–27</sup> In contrast to this widespread desire, the number of differentiated dentists is limited.<sup>1</sup> The vast majority of dentists in the Netherlands are general dental practitioners. Therefore, the goal of differentiation seems not viable for most dentists to achieve. For this reason, it is encouraging to observe that in the first years of working dentist shift their preferences

**TABLE 5** Characteristics of the expected employment of recently graduated dentists in 5 years

|   |     |
|---|-----|
| Work situation  |     |
| General practitioner, no practice owner                         | 24% |
| Differentiated, no practice owner                               | 23% |
| General practitioner, practice owner                            | 27% |
| Differentiated, practice owner                                  | 26% |
| Number of hours per week working                                |     |
| More than currently   | 16% |
| Same as currently   | 54% |
| Less than currently   | 30% |
| Focus of work activities  |     |
| Patient treatment   | 87% |
| Practice management   | 8%  |
| Management of oral health care delivery                         | 3%  |
| Combination of activities                                       | 1%  |
| Research and/or teaching  | 1%  |
| Size municipality of residence                                  |     |
| 25 000 inhabitants or less                                      | 14% |
| 25 001–100 000 inhabitants                                      | 41% |
| 100 001–250 000 inhabitants                                     | 24% |
| 250 001 inhabitants or more                                     | 16% |
| Size municipality of residence in relation to current residence |     |
| Smaller   | 47% |
| Equal size  | 32% |
| Bigger  | 21% |
| <i>n</i> = 215–230  |     |

away from differentiation towards general practice. It is not clear whether this is actually a shift in preference or a response to reality. On the other hand, it is conceivable that some of the recently graduated dentists will eventually combine working as a differentiated and general dental practitioner. Additionally, in dental schools, students come into contact with highly specialised professionals who have great knowledge on one or more subareas of dentistry. This offers optimal conditions to learn about these subareas. However, it might facilitate the idea that subareas, or differentiations, are the core of dentistry and thus move students away from general dentistry. Therefore, a more clear positioning of general dentistry in training is recommended.

The reluctance of new dentists to start or taking over a private practices was also observed before.<sup>7</sup> As the number of practices that employ dentists has increased significantly in the Netherlands, it has become easier for dentists to avoid practice ownership.<sup>1,6</sup> However, the rejection of practice ownership also is a cause of concern to stakeholders, because, in their opinion, entrepreneurs facilitate innovation.<sup>28</sup> They may find it hopeful that approximately half of the recently graduated dentists considers practice ownership. Naturally, the question remains whether their intentions are an accurate predictor for future behaviour. To assess this question,

**TABLE 6** Characterisation of the expected employment of recently graduated dentists in 5 years, in relation to general and professional characteristics

| Practice owner  | No   | No   | Yes  | Yes  | Total |
|---|------|------|------|------|-------|
| Differentiated  | No   | Yes  | No   | Yes  |       |
| Female  | 76%  | 78%  | 57%  | 58%  | 66%   |
| Age (as of January 1st 2018)*                         | 28.8 | 27.2 | 30.1 | 28.1 | 28.6  |
| Resident in the west of the Netherlands               | 61%  | 43%  | 46%  | 56%  | 52%   |
| Year of graduation**                                  |      |      |      |      |       |
| 2013  | 12%  | 10%  | 24%  | 9%   | 14%   |
| 2014  | 17%  | 13%  | 22%  | 24%  | 19%   |
| 2015  | 33%  | 8%   | 22%  | 27%  | 23%   |
| 2016  | 33%  | 26%  | 15%  | 27%  | 25%   |
| 2017  | 5%   | 43%  | 17%  | 13%  | 19%   |
| Dental school   |      |      |      |      |       |
| ACTA Amsterdam  | 52%  | 42%  | 48%  | 51%  | 49%   |
| UMC Groningen   | 17%  | 25%  | 24%  | 25%  | 22%   |
| Radboud UMC, Nijmegen                                 | 31%  | 33%  | 28%  | 24%  | 29%   |
| Registered in Quality Register for Dentists           | 62%  | 61%  | 65%  | 64%  | 63%   |
| Current work situation**                              |      |      |      |      |       |
| General practitioner, no practice owner               | 98%  | 68%  | 83%  | 59%  | 77%   |
| Differentiated, no practice owner                     | 2%   | 32%  | 2%   | 32%  | 17%   |
| General practitioner, practice owner                  |      |      | 15%  | 2%   | 5%    |
| Differentiated, practice owner                        |      |      |      | 7%   | 1%    |
| Number of hours per week working currently            | 36.3 | 36.2 | 39.3 | 40.4 | 38.2  |
| Number of dentists in current practice*               | 5.5  | 6.4  | 4.6  | 5.8  | 5.4   |
| Dental hygienist(s) in current practice               | 95%  | 89%  | 85%  | 50%  | 86%   |
| Dental or prevention assistant(s) in current practice | 93%  | 92%  | 96%  | 93%  | 94%   |
| Other dental caregivers in current practice           | 32%  | 50%  | 35%  | 53%  | 42%   |
| Number of dental units                                | 5.4  | 5.4  | 5.2  | 6.1  | 5.4   |
| Owner current practice is dentist                     | 80%  | 74%  | 83%  | 82%  | 79%   |
| Current practice is affiliated to dental chain        | 29%  | 18%  | 9%   | 13%  | 18%   |

**TABLE 6** (Continued)

| Size current municipality of residence          |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| 25 000 inhabitants or less                      | 19% | 18% | 24% | 11% | 17% |
| 25 001–100 000 inhabitants                      | 22% | 8%  | 17% | 20% | 18% |
| 100 001–250 000 inhabitants                     | 32% | 34% | 35% | 36% | 32% |
| 250 001 inhabitants or more                     | 27% | 40% | 24% | 33% | 33% |
| Experienced difficulty of starting as a dentist |     |     |     |     |     |
| Easy  | 43% | 29% | 55% | 42% | 42% |
| Neither easy, nor difficult                     | 49% | 51% | 38% | 51% | 48% |
| Fairly difficult                                | 8%  | 20% | 7%  | 7%  | 10% |
| <i>n</i> = 162–170                              |     |     |     |     |     |

\**p* < 0.05.

\*\**p* < 0.01.

recently graduated dentists should be monitored for a longer period. This can provide valuable knowledge for workforce planning.<sup>29</sup> A longitudinal study about the work situation of dentists who graduated recently is currently being conducted in Germany.<sup>30,31</sup> In dental schools, students do learn about the Dutch healthcare system and the various work practices. However, the core elements of the curriculum are knowledge and skills regarding oral health and oral health care treatment. These are indeed the most important competencies for a dentist. As many dentists do not intend to be a practice owner, at least not in the first few years after graduation, training in specific competencies for practice owners seems more suitable for postgraduate education.

This study confirms previous findings that gaining experience is vitally important for new dentists when they take their first steps in their careers.<sup>18–20</sup> New dentists seem to find it easy to start out in the profession. The difficulties they encounter regard the responsibility of making clinical choices and the work pace. This is in line with the observation that the obstacles for new dentists do not concern the regular treatments.<sup>15,16</sup> Moreover, the difficulties of being responsible for clinical choices were observed in other inexperienced medical professionals.<sup>32</sup> This might be due to the perceived sentiment of lacking experience with materials and methods that are not used at the dental school.<sup>17</sup>

A limitation of this study is the relatively low number of respondents, in particular because of the fact that not all participants completed the questionnaire. However, the 223 respondents make out 21% of the total population of 1077 dentists who graduated from dental schools in the Netherlands between 2013 and 2017. Rowley (2014) considers 20% a good response rate, even when approaching a sample of the population.<sup>33</sup> Accordingly, the participants were broadly representative of the population with respect to general and professional characteristics, although dentists who were voluntarily listed in the QRD were slightly over-represented in the research group. For three of the four scales, it was possible to determine

(Continues)

convergent of discriminant validity to some extent. The sample size was, however, too small to exclude sample bias. The external validity can best be achieved by multiple studies, preferably in larger populations.

In this study, only dentists who graduated recently from a Dutch dental school were surveyed. Therefore, new dentists who have graduated abroad were not involved. In recent years, the Netherlands have welcomed a significant number of foreign dentists.<sup>1,34</sup> This group is, however, barely comparable with the group of dentists who recently graduated in the Netherlands. Immigrating dentists are, for example, not all graduated recently. Furthermore, foreign dentists face challenges with regard to language, culture and the health system.<sup>34,35</sup>

## 5 | CONCLUSION

Dentists who have graduated recently from a Dutch dental school express different preferences with regard to their work situation in 5 years, in particular regarding working as a practice owner and working as a differentiated and/or general dental practitioner. These new dentists plausibly adapt their preferences within the first years after their graduation.

### CONFLICT OF INTEREST

The authors have no conflicting interests to disclose.

### ETHICAL APPROVAL

The study was approved beforehand by the Research Committee of the Royal Dutch Dental Association (file number: COB 17-19).

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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**How to cite this article:** Boer JC, Bosch LJ, Dam BA, Bruers JJ. Work situation and prospects of recently graduated dentists in the Netherlands. *Eur J Dent Educ*. 2021;25:837-845. <https://doi.org/10.1111/eje.12663>