Unlimited exposure. The patient mix of GP trainees and their trainers: gaps, disparities, and active steering

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Who determines the patient mix of GP trainees?
The role of the receptionist

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and Margreet Wieringa-de Waard

Abstract

**Background** During their specialty training, Dutch GP trainees work at a GP under the supervision of a GP trainer. Research suggests that the patient mix of GP trainees differs from that of their trainers. Receptionists assign patients to either the trainee or the trainer, thereby influencing the patient mix of the trainees. The decision to which doctor to assign is complex and depends on the latitude the receptionists have. Their considerations when assigning patients are unknown.

**Objective** To study receptionists’ assigning behaviour.

**Methods** This was a questionnaire survey. To design the questionnaire, topics about assigning behaviour were identified in a focus group. The resulting questionnaire was sent to 478 GP training practices in the Netherlands.

**Results** Response rate was 68%. Of the receptionists, 95% asked for the reason for the consultation at least ‘sometimes’. Most (86.3%) of the receptionists considered the patient mix of trainees and trainers to be similar. Almost all receptionists (97%) reported ‘often’ or ‘always’ assigning ‘every possible problem’ to the trainee and a similar picture arose regarding specific subpopulations. However, the receptionists reported that they assigned complex and new patients to the trainers more often than to trainees.

**Conclusion** With some exceptions, receptionists try to assign trainees a varied patient mix
Introduction

The health problems GP trainees encounter are presumed to be sufficient to gain the competencies they are expected to master by the end of their training, but little is known about the actual health problems (‘patient mix’) GP trainees are confronted with. Earlier research regarding differences between the patient mix of GP trainers and trainees suggests that the patient mix for trainees consists primarily of minor ailments and does not include sufficient chronic diseases or severe conditions.\textsuperscript{1–4} The extent to which this finding negatively influences trainees’ development is unknown. Research has shown a relationship between patient mix and learning if exposure to patients is combined with supervision or if students show a deep learning style.\textsuperscript{5–13}

Disparity in patient mix is not a problem exclusive to GP training. It was also found in undergraduate medical curricula, clerkships and other specialty training programmes in several European countries and North America.\textsuperscript{1,7,14–19} Since GP trainers facilitate training, they are expected to provide trainees with an adequate patient mix, i.e. without educational gaps and sufficiently covering the working field.\textsuperscript{20} However, it is doubtful whether the trainee is indeed provided with such a patient mix and unknown to what extent it can be influenced.

We started this study because we wanted to know whether the differences in patient mix distribution between the doctors holding surgery found in earlier studies could be explained by the assigning behaviour of GP receptionists. In the study, we discriminate three factors that influence the patient mix of trainees practice setting, surgery planning and receptionists’ assigning behaviour.

PRACTICE SETTING
Practices vary in many ways, from single-handed to group practices and health centres, the gender of the doctors, geographic location, the proximity to an emergency unit and the gender and age distribution of a population.

SURGERY PLANNING
Surgery planning refers to the procedures and agreements concerning the planning of surgery hours. In the Dutch situation, patients are registered with a permanent GP and trainees only encounter patients registered with their trainer. Patients usually make appointments by telephone or at the desk and receptionists may ask after
the reason for the consultation and any preference for consulting either the trainer or the trainee. These kinds of questions give receptionists the ability to ‘decide’ to which doctor the patient is assigned. Obviously, receptionists also consider the urgency of the problem in combination with the doctors’ schedules, existing arrangements regarding assigning, the availability of walk-in hours and unbooked surgery for emergencies. The presence of Nurse Practitioners may also influence the patient mix because they generally hold surgery for long-term medical conditions, thereby diminishing the caseload for GP trainees.

ASSIGNING BEHAVIOUR
Little is known about the receptionists’ considerations when assigning patients to trainers or trainees. Receptionists may consider the amount of experience a trainee has in relation to the complexity of a problem, a trainee’s specific wishes related to current learning ends, a trainee’s gender and they may have personal ideas about what a trainee should see. The decision to assign a patient to the trainee or the trainer can, at least in some cases, be complex. Since receptionists seem to be in a position to determine at least part of the patient mix, it is important to know whether their assigning behaviour promotes or inhibits an adequate patient mix for trainees.

This study was conducted to gain a better understanding of the considerations of receptionists with respect to their patient assigning behaviour. The research question was which assigning behaviour do receptionists report?

Methods

SETTING
This study was conducted in 2007 in practices affiliated to the GP specialty training of the Academic Medical Center (AMC), University of Amsterdam. This training institute facilitates a 3-year training programme in which first- and third-year trainees are stationed in GP training practices. They work under close supervision of a trainer. GP training practices are located primarily in urban and suburban areas and a small number in rural areas. In their second year, trainees do clinical rotations.

QUESTIONNAIRE DEVELOPMENT
The paucity of knowledge about assigning behaviour prompted us to conduct a fo-
A focus group study of receptionists to elicit possible considerations when assigning. The results served as input for a questionnaire.

**QUESTIONNAIRE**
A self-report questionnaire was developed based on the results of the focus group (see Appendix 1) and included questions about practice setting, surgery planning and assigning behaviour. Assigning behaviour was assessed in general (11 questions) and for specific subpopulations (15 questions) using five-point Likert scales (see Text box 1, for examples). The choice of subpopulations was based on the results of the focus group, too.

**Text box 1. Example questions from the questionnaire**

**Organization of the surgery hours**
- How often do you ask patients their reason for the consultation?
- How often do you explicitly ask patients their preference for a specific doctor?

**Assigning patients, general issues**
- I intentionally assign a varied patient mix to the surgery hours of the trainee.
- I assign patients to the surgery hours of the trainee who have consulted the trainee before.
- I assign patients with relatively easy problems to the surgery hours of the trainee.
- The decision whether to assign to the trainer or the trainee depends on the reason for the consultation.

1 = never / 2 = seldom / 3 = sometimes / 4 = often / 5 = (nearly) always.

**Assigning patient subpopulations**
- I assign these patients:
  - Emergency cases
  - Patients with severe psychological problems
  - Children
  - New patients
  - Patients with minor ailments
  - Patients with severe psychological problems
  - Difficult cases

1 = always to the trainer / 2 = preferably to the trainer / 3 = no preference / 4 = preferably to the trainee / 5 = always to the trainee
As a pilot, three receptionists filled in the questionnaire and explained their comments, after which the questionnaire was edited and finalized. The entire questionnaire can be obtained from the first author.

PARTICIPANTS AND PROCEDURE
The Netherlands has ~1500 GP training practices. Each training institute hand-picked every third affiliated training practice from an alphabetically ordered list and sent them the questionnaire (n = 478). We enclosed a non-responder form asking for reasons for non-response. Since the researchers were blind to the addresses of the practices, all practices received a reminder after 3 weeks, regardless of having returned the questionnaire or not. Ethical approval was not required by Dutch law, although the questionnaires returned were handled with strict confidentiality.

DATA ANALYSIS
Double data entry was employed and descriptive analyses were performed. To uncover patterns in receptionists’ assigning behaviour with respect to different sub-populations, we performed a principal component analysis (PCA) using Varimax rotation with Kaiser normalization. We interpreted the resulting components with an eigenvalue >1.0. Statistical analyses were performed using SPSS 14.0.

Results

FOCUS GROUP
The focus group consisted of 10 receptionists who were recruited from the participants of a training course at our institute. Their professional experience varied from 5 to 27 years. Delegates from singlehanded, duo and group practices, as well as health centres were present. The most important results of the focus group are summarized in the Appendix 1.
RESULTS FROM THE QUESTIONNAIRES

Response. Of the 478 questionnaires sent out, 326 were returned (68%). Of the 152 non-responders, only 15 returned non-responder forms.

Participants and trainees. At the time of filling in the questionnaire, respondents had worked as receptionists for an average 10.3 (SD = 7.4) years. The proportion of first- and third-year trainees they worked with was 47.5% and 52.5%, respectively. The trainees worked an average of 7.2 (SD = 3.9) months at the respondents’ practices. Two-thirds (66.9%) of the GP trainees were female, equally divided over the first and third training years. This is in accordance with national figures: in 2007, 70% of all GP trainees in the Netherlands were female.27

Practice setting and surgery planning. These results are displayed in Table 1. Of the receptionists, 67.5% ‘always’ or ‘often’ asked patients for the reason for the consultation. About a quarter (27%) of the receptionists asked this ‘sometimes’ and a minority (5%) ‘seldom’ or ‘never’ (data not shown). As far as the preference for a specific doctor is concerned, 41.3% often or always asked whether patients had a preference, 25.9% asked this sometimes and 32.7% never or seldom (data not shown).

Unbooked surgery for urgent cases was available in 67.9% of the practices. In 87.3%, this applied to the surgery hours of both the trainee and the trainer. Walk-in hours were held in 11% of the practices. During these hours, patients were usually seen by the doctor in order of arrival and the receptionist could exert no influence on the assignment.

Arrangements between the GP trainer and receptionist concerning the assignment of face-to-face consultations to the GP trainee were made in 29.4% of the practices. These arrangements were diverse and no evident pattern could be distinguished. For example, in some practices, the receptionists assigned ‘intra-uterine device insertions’ to the GP trainee or ‘easy cases only’.

Half (45.5%) of the receptionists reported arrangements for assigning home visits to GP trainees. These arrangements were even more diverse, ranging from ‘no care of terminal patients’ to ‘all emergencies’.

In 63.9% of the practices, meetings between the GP’s and the receptionist about surgery planning were held on a daily (37.1%), weekly (17.6%) or monthly basis (9.3%).
Table 1: Practice setting and surgery planning

<table>
<thead>
<tr>
<th>Factor</th>
<th>% (yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practice setting</strong></td>
<td></td>
</tr>
<tr>
<td>Single-handed practice</td>
<td>29.1</td>
</tr>
<tr>
<td>Male GP trainer</td>
<td>78.1</td>
</tr>
<tr>
<td><strong>Surgery planning</strong></td>
<td></td>
</tr>
<tr>
<td>Receptionist asked patients their reason for the consultation*</td>
<td>67.5</td>
</tr>
<tr>
<td>Receptionists asked patients for the preference for a specific doctor*</td>
<td>41.3</td>
</tr>
<tr>
<td>Unbooked surgery available in the schedule**</td>
<td>67.9</td>
</tr>
<tr>
<td>Arrangements of GP trainer and receptionist about consultations for trainee**</td>
<td>29.4</td>
</tr>
<tr>
<td>Arrangements of GP trainer and receptionist about home visits for trainee**</td>
<td>45.4</td>
</tr>
<tr>
<td>Walk-in hours**</td>
<td>11.0</td>
</tr>
<tr>
<td>Meetings about assigning (GP and receptionist)**</td>
<td>63.9</td>
</tr>
<tr>
<td>Receptionists worked as Nurse Practitioners as well</td>
<td>13.3</td>
</tr>
<tr>
<td>Nurse Practitioners present in practice</td>
<td>85.6</td>
</tr>
</tbody>
</table>

* Always or often

** Answer options were: yes, no, I do not know

**Assigning behaviour**

**General assigning behaviour**

Table 2 shows that the majority of the receptionists intentionally tried to create a varied patient mix (Items 2 and 3) that the majority at least sometimes used patient information to assign (Items 1, 4 and 5) and that the majority seldom used information on the trainee when assigning (Items 6 and 7).

To find out whether the receptionists were aware of a difference in patient mix between trainer and trainee, we asked them to respond to the following statement: ‘the patient mix of the GP trainer and GP trainee do not differ’. Most receptionists agreed or partly agreed [86.3%, 6.5% neutral, 7.1% do (partly) not agree].
Table 2: General assigning behaviour (N=326)

<table>
<thead>
<tr>
<th>I assign the GP trainee:</th>
<th>Often or always (%)*</th>
<th>Sometimes (%)*</th>
<th>Never or seldom (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patients who have consulted the GP trainee before</td>
<td>99</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2. Every possible problem</td>
<td>86</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>3. An intentionally varied patient mix</td>
<td>54</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>4. Depends on the reason for the consultation</td>
<td>20</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>5. Relatively easy problems</td>
<td>19</td>
<td>45</td>
<td>36</td>
</tr>
<tr>
<td>6. Patients with an ailment the GP trainee needs to study for the GP Specialty Training</td>
<td>14</td>
<td>30</td>
<td>56</td>
</tr>
<tr>
<td>7. On the basis of my impression of the GP trainee’s qualities</td>
<td>11</td>
<td>26</td>
<td>63</td>
</tr>
</tbody>
</table>

*For reasons of readability we reduced the 5-point Likert scales into 3-point scales.

Assigning subpopulations

In Table 3, the neutral value was predominantly (>50%) selected in nearly all items, indicating that most receptionists had no preference for assigning to the trainee or the trainer. New patients were the only exception: more than half of the receptionists mostly or always assigned them to the GP trainer.

To find patterns in the assigning behaviour with respect to the different subpopulations, we performed a PCA. Five components were identified, resulting in a cumulative explained variance of 58.2%. We interpreted these components as the five assigning patterns shown in Table 3. The first two were complex patients and immigrants. The third pattern consisted of subpopulations with a preference for a specific doctor, a female one or the GP trainer, for instance. The fourth pattern consisted of patients with 'no preference' for a specific doctor due to the urgency of their complaint because they were new to the practice or would visit it only once. The fifth pattern consisted of ‘children and minor ailments’.

For ‘complex cases’, >50% of the receptionists reported being neutral in assigning to either trainer or trainee, but 30% reported a preference to assign to the GP–trainer (except for many prescriptions). For ‘minor ailments and children’, the opposite is true: among the minority that was not ‘neutral’, there was a preference for assigning these patients to the trainee. In the ‘no preference’ pattern, this could be distinguished, too, with a clear exception for new patients, as mentioned earlier.
<table>
<thead>
<tr>
<th>PCA Component</th>
<th>Explained Variance (%)</th>
<th>Subpopulation</th>
<th>Mostly or always to the GP trainer**</th>
<th>Neutral**</th>
<th>Mostly or always to the GP trainee**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex</td>
<td>14.0</td>
<td>Psychological problems</td>
<td>32</td>
<td>62</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Difficult cases</td>
<td>38</td>
<td>57</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many family problems</td>
<td>32</td>
<td>63</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many prescriptions</td>
<td>3</td>
<td>91</td>
<td>6</td>
</tr>
<tr>
<td>Immigrants</td>
<td>11.5</td>
<td>Immigrants who do speak Dutch</td>
<td>0</td>
<td>96</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Immigrants who do not speak Dutch</td>
<td>2</td>
<td>94</td>
<td>4</td>
</tr>
<tr>
<td>Specific preference</td>
<td>11.5</td>
<td>Gynaecological problems</td>
<td>5</td>
<td>80</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demanding patients</td>
<td>7</td>
<td>89</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elderly patients</td>
<td>6</td>
<td>91</td>
<td>4</td>
</tr>
<tr>
<td>No preference</td>
<td>11.3</td>
<td>Emergency cases</td>
<td>18</td>
<td>52</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New patients</td>
<td>55</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Passer-by patients</td>
<td>5</td>
<td>63</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Small surgery</td>
<td>20</td>
<td>54</td>
<td>26</td>
</tr>
<tr>
<td>Children &amp; minor ailments</td>
<td>9.8</td>
<td>Children</td>
<td>0</td>
<td>88</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minor ailments</td>
<td>0</td>
<td>67</td>
<td>32</td>
</tr>
</tbody>
</table>

* Percentages (abbreviated)
** For reasons of readability we reduced the 5-point Likert scales into 3-point scales.
Discussion

SUMMARY OF THE MAIN FINDINGS
Assigning patients to doctors is the responsibility of medical receptionists. We were interested in their assigning behaviour because it might play an important role in disparities in the patient mix of GP trainees. In our study, we found that almost all receptionists asked patients about their reason for the consultation and the majority at least sometimes discussed which doctor would be seen. In more than three quarters of the practices, no arrangements for assigning during consultation hours were reported and in more than half of the practices, no arrangements for home visits were reported. This suggests that most receptionists have at least some latitude when assigning patients. Receptionists, therefore, play a considerable role in determining a trainee’s patient mix.

However, our results show that most receptionists were not inclined to assign a patient specifically to either the GP trainer or the trainee. They reported intentionally assigning a varied patient mix to trainees. Their strategy in assigning a varied patient mix is not only passive (assigning any patient to any doctor) but active to some extent, too. In general, this can be considered to be a positive result because a varied patient mix that leaves no educational gaps and covers the entire field of primary care is an essential part of a GP’s training.

Receptionists’ assigning behaviour with respect to patient subpopulations shows similar results. The majority of the receptionists did not report a preference when assigning patient groups to GP trainers or trainees.

We found some exceptions. One involved complex patients, who were rarely specifically assigned to trainees, whereas one-third of the receptionists reported having a preference for the GP trainer. For many trainees, handling complex patients is a specific learning objective, mainly in their third training year. Here, a relative underexposure may exist. Minor ailments were preferably assigned to trainees in approximately one-third of cases and new patients were preferably assigned to the GP trainer. The first meeting between the GP and a new patient serves as an opportunity to become mutually acquainted and it therefore makes little sense to assign new patients to a trainee who will reside in the practice for a limited period of time only.

Based on the focus group, we interpreted the subpopulations comprising the pattern ‘specific preference’ for a doctor. We were surprised by the fact that the re-
Results suggest that, in general, the receptionists report not assigning these patients to their ‘own’ doctor (the trainer) or a female doctor (often the trainee).

**STRENGTHS AND WEAKNESSES**
As far as we know, this is the first study investigating the assigning behaviour of receptionists. We were, therefore, unable to build on previous research. To increase the content validity of the questionnaire, we used the outcome of a focus group as a basis for construction. This study was based on self-reporting and it cannot be ruled out that receptionists were only partly aware of their actual assigning behaviour.

**OTHER WORK IN THIS AREA**
No other studies addressing the influence of assigning behaviour of medical receptionists on the patient mix of GP trainees have been published, but our findings partly corroborate earlier observational studies about differences in patient mix between trainers and trainees in GP. Both Eccles and Vintges found that GP trainees saw more acute minor conditions than their GP trainers. Likewise, our study shows that minor ailments were more often assigned to GP trainees.

Eccles and Vintges also found that fewer chronic conditions were seen by trainees. We did not include chronic patients as a separate category, but many are found among elderly patients in combination with the complex pattern. Our results show that complex patients were indeed more frequently assigned to trainers, but elderly patients were assigned neutrally.

Interestingly, Eccles found that ‘female conditions’ were seen by trainees less often, whereas in our study, 80% of the receptionists did not assign these conditions with any preference. Since both studies were conducted at different times and locations, on different scales (62 practices in Northern England and 5 practices in Amsterdam) and with outcome measures different from our study (patient mix as reported in the electronic patient system), it is difficult to draw firm conclusions from these comparisons.

**IMPLICATIONS FOR RESEARCH**
In order to further optimize GP training, new updated observational studies on the composition of patient mix are required. Detecting underexposure in the patient mix can be of value and if an underexposure to complex patients is confirmed, appropriate patients may be steered towards the trainee.
Assigning behaviour is the only factor that can be influenced easily—practice setting is not or hardly changeable and surgery planning can only be influenced to a certain extent. Since our study shows that most receptionists have at least some latitude to steer the patient mix in a specific direction, favourable steering might be accomplished by instructing receptionists. An intervention at the receptionist level seems rational. In a further study, we will therefore investigate whether receptionists’ assigning behaviour can indeed be changed.

If it can, the patient mix of trainees could be adjusted to create better learning and supervision conditions. Better understanding the possibilities of influencing patient mix may also contribute to personalized curricula, tailored to the individual needs of each GP trainee.
REFERENCES

Registrar operating experience over a 15-year period: more, less or more or less the same? Surgeon 2004; 2: 161–4.


Appendix 1.

RESULTS OF THE FOCUS GROUP
One or more of the receptionists in the focus group raised the following issues: They wanted to know the patients’ reason for the consultation and felt that this knowledge influenced their assigning behaviour. They seemed to differentiate between first- and third-year GP trainees: the more experience they presumed a trainee to have, the more complex the problems they tended to assign. They preferred to assign minor ailments to first-year trainees. Other factors that made them assign patients to trainees were patients who had been seen by the trainee before, female patients who preferred a female doctor, emergency cases, patients presenting an ailment the trainee needed to study as part of the specialty training, specific patient groups the trainee explicitly asked to see. They were more likely to assign patients with psychosomatic complaints and other complex social situations to the GP trainer; sometimes, the trainer asked them to do so. They did try to allocate a variety of problems to the surgery hours of the trainee. Some found it difficult to fill the trainee’s surgery hours.