Perceived discrimination outside health care settings and health care utilization of Turkish and Moroccan GP patients in the Netherlands

Majda Lamkaddem¹,², Marie-Louise Essink-Bot², Walter Devillé¹,³, Marleen Foets⁴, Karien Stronks²

¹ NIVEL (Netherlands Institute for Health Services Research), Utrecht, the Netherlands
² Department of Public Health, University of Amsterdam, the Netherlands
³ Medical Anthropology and Sociology Unit, University of Amsterdam, the Netherlands
⁴ IBMG (Institute of Health Policy and Management), Erasmus University, Rotterdam, the Netherlands

Background: Problematic interethnic relationships, expressed by feelings of discrimination, may contribute to ethnic variations in health and health care utilization. The impact of daily perceived discrimination on (mental) health has been shown. Less is known about the effect of everyday discrimination on the health care utilization. We examined the relationship between perceived discrimination of Turkish and Moroccan patients on GP health care utilization in the Netherlands and on health services use in the home country. Methods: Cohort study within the second Dutch National Survey of General Practice (2001). Interviews were conducted with 416 Turkish and 381 Moroccan respondents, and repeated in 2005 among respectively 118 and 102 participants. Linear, logistic and zero-inflated binomial regression models were used for the analyses. Results: Perceived discrimination was associated with non-attendance to the GP. Perceived quality of GP care was not a mediator in this relationship. No evidence was found for substitution of health care utilization in the home country to health care in the host country. GP attenders had higher odds of using health care in the home country than non-attenders. Over time, a lasting discrimination feeling was related to persistent non-attendance at the GP practice. Conclusion: Ethnic minority patients who feel discriminated may avoid GP health care. Further research is warranted on magnitude and health effects of such potential underutilization. Information on perceived discrimination within health care settings would increase insight into the profile of non-attenders, and on possible measures to better target interventions at a group at risk of underutilization.

Introduction

An extensive body of literature shows that perceived discrimination is associated with health problems, including depressive symptoms,¹ psychiatric disorders,²⁻⁶ and general poor self-rated health.⁷ Perceived discrimination has also been studied for its impact on health behaviours. Studies addressing this link found that perceived discrimination is associated with underutilization of care in general,⁸⁻¹⁰ medical care delays and non-adherence to treatment,¹⁰⁻¹² pharmacy prescription delays and medical tests delays,²⁻⁴ or substituting alternative health care to conventional health care.¹⁵

The association between perceived discrimination within health care settings and underutilization is easily understandable, in situations where patients avoid disagreeable medical encounters. However, the relation between perceived discrimination outside health care settings and underutilization of health care is less easy to explain. Studies focusing on underlying mechanisms are scarce. Some answers were formulated, for which empirical testing lacks until now. Burgess found evidence for an independent effect of perceived discrimination outside health care settings on health care underutilization,⁹ and suggested that experiences of perceived discrimination outside health care settings might lead individuals to avoid dominant culture institutions. These include the health care system, in which discrimination might occur as well.

The first objective of this article is to specify the explanation proposed by Burgess and test it empirically. When seen as potentially stressful, we expect the perceived quality of medical encounters to decrease in the eye of the patient. Perez et al.¹⁶ found an association between perceived discrimination outside health care settings and perceived quality of care. Perceived impaired quality of care would, in turn, affect utilization of health care. The effect of perceived discrimination outside health care settings on health care utilization would therefore be mediated by perceived quality of care.

Perceived discrimination may also have consequences for health care seeking behaviour. Bazargan¹⁵ showed that discrimination feelings are strongly related to alternative health care use. Would the use of health care in the country of origin constitute an alternative to mainstream healthcare in the host country for immigrants? In the Netherlands, it is common for some immigrant groups to spend holidays in the countries
of origin. Making use of health care in those countries is not exceptional. According to a Dutch report on health and well-being of elderly migrants, 63% of the Turkish elderly who spent a holiday in the country of origin also visited a health care provider there (42% for the Moroccan group). However, we found no studies examining the effect of perceived discrimination on use of health care in the country of origin.

The second objective of this article includes testing the hypothesis that perceived discrimination on use of health care in the country of origin.

Moroccan group). However, we found no studies examining the effect of country of origin also visited a health care provider there (42% for the migrants, 63% of the Turkish elderly who spent a holiday in the Netherlands. These two points led our choice of studying perceived discrimination in relation to health care utilization within these two groups.

We examine the relationship between perceived discrimination outside health care settings and GP health care utilization among two of the major ethnic minority groups in the Netherlands. We first relate health care utilization of Turkish and Moroccan respondents to their reported feelings of discrimination in the Dutch society (in three domains/instances: general, government and work). Secondly, we examine the possible mediating role of perceived quality of GP care in this relationship. Thirdly, the consequences of perceived discrimination for use of health care in the country of origin during longer stays, i.e. holidays are being investigated. Finally, the stability of the associations between perceived discrimination, perceived quality of GP care and GP health care utilization are tested longitudinally, by comparing the results of 2001 with the results of 2005 among a cohort of respondents who also took part in a second measurement (T1 : 2001 and T2: 2005). Stable associations point out at a lasting behaviour.

### Conceptual model

The model guiding the hypotheses is adapted from R. Andersen’s Behavioural Model of Health care utilization. In this adaptation, perceived discrimination is linked to ethnic background and is regarded as a factor determining perceived quality of GP care (as a predisposing characteristic) and subjective (self-reported) health status (as a need factor). The relationship with health status is explained by the effect of perceived discrimination on mental or physical health through the stress response explored in several papers (see review of Clark et al.).

In turn, perceived quality of GP care predisposes individual to GP health care utilization, taking need factors and enabling characteristics into account. Finally, perceived discrimination operates through perceived quality of care and GP health care utilization to influence the use of alternatives to GP health care (substituting health care use in the country of origin to mainstream GP health care) (figure 1).

### Methods

#### Data collection

The data collection took place within the Second Dutch National Survey of General Practice (DNSGP-2), carried out in 2001. That study was conducted within a geographically representative sample of 104 general practices across the country. The initial recruitment of participants took place within the patient population registered at GP practices. The sample included GP-attenders as well as non-attenders.

The interviews in 2001 included participants from the four main ethnic minorities in the Netherlands, among which (children of) immigrants from Turkey and Morocco \((N = 797)\). In 2005, interviews were repeated among those respondents who agreed in 2001 to be enrolled in the 2005 survey. This resulted in a sample of 220 participants to both T1 (2001) and T2 (2005) measurements.

The questionnaire was translated towards the different native languages (forward–backward method) and field-tested. Respondents were interviewed in the language of their choice. Interviewers and respondents were matched on ethnicity. The response rate for T1 was ~50% and did not differ significantly between groups. The main reasons for non-response were that respondents could not be reached (24.9%) or refused (19.5%). Of T1 respondents, 72% agreed to take part in T2. Eventually 38.4% of the respondents who agreed at T1 took part in the follow-up interviews (118 Turkish and 102 Moroccan participants). The rest (\(n = 354\)) could not be reached (52.8%) or refused (8.9%).

### Measures

#### Perceived discrimination

Perceived discrimination was measured as a group phenomenon. The three statements concern the way the respondent’s national/ethnic group is being discriminated against by or within several instances, i.e. the government and in companies, and in general (see Box 1 of Supplementary Data). Respondents indicated the extent to which they agreed/disagreed with the statements on 5-point Likert type scales. As reliability analysis did not yield a sufficient Cronbach’s alpha (\(\alpha = 0.58\)), the main analyses were conducted for each item separately. Similar items were used in other studies.

#### Health care utilization

Health care utilization was measured using the self-reported number of contacts with the GP in the past 2 months. Non-attenders were included in the analyses and scored zero for this variable.

![Figure 1 Based on R. Andersen Behavioural Model of Health care utilization (1997)](https://academic.oup.com/eurpub/article-abstract/22/4/473/486139)

Marked in grey: empirical testing in the present paper. Other relationships hypothesised.
Use of health care in the country of origin
Respondents were asked whether they consulted a GP, a specialist or another health care provider in the country of origin during the past holiday, for those who went there.

Socio-demographic variables and self-rated health
Age, gender, ethnicity, education level, self-reported health status at T1 and at T2 were all measured by self report. Ethnicity was defined by the country of birth of the respondents and of both parents, according to the definition of Statistics Netherlands.24 Health status was assessed by the first question of the SF-36, using a 5-point Likert type scale.25

Perceived quality of care
Perceived quality of care was measured with the migrant version of the QUOTE questionnaire (QUality Of care Through the patient’s Eyes—Migrants version, QUOTE-Mi). The QUOTE was developed by Sixma26 to measure quality of care from the patient’s perspective on several aspects of GP health care, and was adapted for immigrants by El Fakiri27 (QUOTE-Mi). Within the QUOTE instruments, quality of care is defined as ‘the degree to which (perceived) performances of health and social care services meet the need of individuals with respect to important aspects’.26 Therefore, the instrument combines individual (i) importance ratings (I) and actual performance ratings (P) for each specific aspect, or item (j), of health care. The importance ratings are measured on a 4-point scale, ranging from ‘not important’ to ‘extremely important’. The performance ratings on the same items are also measured on a 4-point scale (1 = ‘no’, 2 = ‘not really’, 3 = ‘on the whole yes’, 4 = ‘yes’). Quality impact indices are calculated by the formula

\[ Q_{ij} = I_{ij} \times P_{ij} \]

The version of the QUOTE-Mi used in these analyses is based on 16 items (see Box 2 of Supplementary Data). The individual quality impact scores were added up and divided by the total number of items to produce an overall quality impact sum score (min. 4–max. 16).

Statistical analyses

Perceived discrimination, GP health care use and the role of perceived quality of GP care
Cross-sectional associations with the number of GP contacts were assessed at T1 using zero-inflated regression models, because of the excess number of cases with zero contact with the GP in the past 2 months. Models were built stepwise, including (Step 1) socio-demographic variables (age, ethnicity, education level and gender) and self-reported health status; (Step 2) perceived discrimination and (Step 3) perceived quality of care. Analyses were conducted separately for each of the three discrimination items (only models with significant associations are shown). These analyses were conducted for the whole T1 sample (n = 797).

Use of health care in the country of origin
Associations with the use of health care in the country of origin were assessed using a logistic regression, and included the same covariates as the analyses on the number of GP contacts. Contacts with the GP (yes/no) in the past 2 months were also added to the model. Only respondents who went to their country of origin in the past year/holiday were included in these analyses (n = 438). Of the 206 Moroccan respondents who stayed in Morocco in the past year 22% had contact with a health care provider there. In the Turkish group, approximately the same proportion of respondents spent the last holiday in Turkey (55.8% of the 416 respondents) and 28% had contact with a health care provider.

Five-year interval
Following the results of the analyses on GP health care use (see Results section), the longitudinal part of the study was conducted on the stability of the effect of discrimination on non-attendance to the GP practice. We used of logistic regression models to assess the OR’s of non-attendance to the GP practice at both T1 and T2 for respondents who reported feeling discriminated at both T1 and T2. Variables included in the models were age, gender, ethnicity, education level, self-reported health status at T1 and self-reported health status at T2. These analyses were conducted for participants to both T1 and T2 measurements (n = 220).

Statistical analyses were performed using GNU’s R and SPSS 16.0.

Results

Study population
The samples on T1 and T2 did not significantly differ from each other on ethnicity, gender, country of birth and educational level. Participants to T2 were on average one year younger than participants to T1 (almost significant). Multivariate analyses showing the odds of taking part to T2 based on socio-demographic characteristics at T1 showed the same results, indicating no selection effect within this cohort (published elsewhere).28 Average scores on perceived discrimination at T1 were significantly lower than at T2 for two out of three items. Perceived health status at T2 did not differ from T1 (table 1).

Perceived discrimination, GP health care use and the role of perceived quality of GP care
The model in table 2 presents the regression coefficients of the number of GP contacts in the past 2 months at T1. The zero-inflated negative binomial regression fits the models for two parts: the factors associated with zero contacts with the GP, and the factors associated with the numbers of contacts with the GP.

Model 1 introduces the socio-demographic variables and self-reported health status. Being female and reporting a lower health status was positively associated with more GP contacts, but not with non-attendance. Model 2 introduces perceived discrimination (here in work domain). Perceived discrimination was positively associated with non-attendance. However, no significant association was found with the number of GP contacts. When adding perceived quality of care in the last step, the influence of perceived discrimination decreased slightly, but remained significant, while the coefficient of perceived quality of care did not reach significance for non-attendance. In this last model, neither perceived discrimination nor perceived quality of care showed significant associations with the number of GP contacts. The factors associated with non-attendance were different from the factors associated with the number of contacts in the linear part of the model (Y ≥ 0). Perceived discrimination was a significant predictor of non-attendance, but did not add any significant information about the number of contacts with the GP, above self-reported health status and confounding variables. On the other hand, self-reported health status was not significantly associated with non-attendance, opposite to perceived discrimination.

Use of health care in the country of origin
Table 3 presents the OR’s for variables associated with the use of health care in the country of origin during the past holiday. The OR’s of having had contact with a health care provider in the country of origin were significantly higher for older respondents at Step 1, and those with a better health status had lesser odds of having used health care in the country of origin. Model 2 adds perceived discrimination to the model (here in the work domain). This variable did not add any significant information to the model. The same analyses were conducted for the two other discrimination domains and showed similar results. The last step introduces information on contacts with the GP in the Netherlands. Those who had no contact with the GP in the Netherlands (past 2 months) had smaller odds of having used health
Non-attendance in 2001 and 2005

Table 4 presents the results for variables associated with no contact with the GP both in 2001 and in 2005 (vs. the other possible scenarios). Each model presents the results with a different perceived discrimination item (general-government-work), computed as the persistence of a high discrimination score (above 3) from 2001 through 2005. In the first model, the persistence of a high discrimination feeling (domain: general) was associated with no contact with the GP in 2001 and in 2005. These analyses took the increase in perceived health into account (perceived health status at T1 and at T2), which was also a significant determinant of unchanged non-attendance. The two other models did not yield significant associations between the persistence of discrimination in the two other domains (work and government), but the directions of these associations followed the same pattern as for the first model. For those two last models, being younger and a better perceived health at T2 were significantly associated with no contact with the GP in 2001 and in 2005.

Discussion

Perceived quality of GP care did not contribute significantly to the models explaining health care utilization. Perceived discrimination outside health care settings showed an important relationship with having had no contact with the GP, but was not associated with the care in the country of origin. The association with reported health status was not significant anymore.

**Table 1** Socio-demographic characteristics of the participants to T1 and T2

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency, T1 (n = 797) n (%)</th>
<th>Frequency, T2 (n = 220) n (%)</th>
<th>P-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moroccan</td>
<td>381 (47.8)</td>
<td>102 (46.4)</td>
<td>0.151</td>
</tr>
<tr>
<td>Turkish</td>
<td>416 (52.2)</td>
<td>118 (53.6)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>419 (52.6)</td>
<td>119 (54.3)</td>
<td>0.260</td>
</tr>
<tr>
<td>Male</td>
<td>378 (47.4)</td>
<td>100 (45.7)</td>
<td></td>
</tr>
<tr>
<td>Country of birth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>101 (12.7)</td>
<td>37 (16.8)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>696 (87.3)</td>
<td>183 (83.2)</td>
<td>0.318</td>
</tr>
<tr>
<td>Age (at T1), mean (SD)</td>
<td>36 (12.45)</td>
<td>35 (11.85)</td>
<td>0.053</td>
</tr>
<tr>
<td>Educational level (at T1), mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None/primary</td>
<td>348 (43.8)</td>
<td>97 (44.3)</td>
<td>0.491</td>
</tr>
<tr>
<td>Secondary</td>
<td>395 (49.7)</td>
<td>112 (51.1)</td>
<td>0.385</td>
</tr>
<tr>
<td>Vocational/university</td>
<td>52 (6.5)</td>
<td>10 (4.6)</td>
<td>0.148</td>
</tr>
<tr>
<td>Perceived discrimination (at T1 and T2) (score min. 1–max. 5), mean (SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td>2.8 (1.2)</td>
<td>2.8 (1.0)</td>
<td>0.765</td>
</tr>
<tr>
<td>Government</td>
<td>2.5 (1.2)</td>
<td>2.8 (1.0)</td>
<td>0.000</td>
</tr>
<tr>
<td>General</td>
<td>3.2 (1.2)</td>
<td>3.4 (0.9)</td>
<td>0.008</td>
</tr>
<tr>
<td>Perceived health status (at T1 and T2) (score min. 0–max. 100), mean (SD)</td>
<td>59.76 (22.58)</td>
<td>58.30 (20.33)</td>
<td>0.294</td>
</tr>
</tbody>
</table>

**Table 2** Multivariate associations with the number of GP contacts (past 2 months) (Y): Zero- inflated negative binomial regression coefficients

<table>
<thead>
<tr>
<th>No contact with GP in past 2 months [Y=0, inflated part]</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.3540</td>
<td>−1.7762</td>
<td>−2.4798</td>
</tr>
<tr>
<td>Age (years)</td>
<td>−0.0909</td>
<td>−0.1097**</td>
<td>−0.0970**</td>
</tr>
<tr>
<td>Gender</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Male</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Female</td>
<td>−0.5776</td>
<td>−0.4440</td>
<td>−0.4000</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Moroccan</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Turkish</td>
<td>−0.9081</td>
<td>−0.7061</td>
<td>−0.7450</td>
</tr>
<tr>
<td>Education</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Primary</td>
<td>1.0253</td>
<td>1.5276</td>
<td>1.3281</td>
</tr>
<tr>
<td>Secondary</td>
<td>0.0159</td>
<td>−1.7768</td>
<td>−1.0585</td>
</tr>
<tr>
<td>Vocational/university</td>
<td>0.0163</td>
<td>0.0212</td>
<td>0.0205</td>
</tr>
<tr>
<td>Perceived health status</td>
<td>0.6296**</td>
<td>0.5796**</td>
<td></td>
</tr>
<tr>
<td>Quality of GP care</td>
<td>0.0745</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3** Multivariate associations (adj. ORs) with the use of health care in the country of origin during the past holiday

<table>
<thead>
<tr>
<th>No contact with GP in past 2 months [Y&gt;0, count part]</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.1287**</td>
<td>1.1994**</td>
<td>1.0584**</td>
</tr>
<tr>
<td>Age (years)</td>
<td>0.0041</td>
<td>0.0042</td>
<td>0.0033</td>
</tr>
<tr>
<td>Gender</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Male</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Female</td>
<td>0.2686**</td>
<td>0.2880**</td>
<td>0.2803**</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Moroccan</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Turkish</td>
<td>−0.1042</td>
<td>−0.0622</td>
<td>−0.0844</td>
</tr>
<tr>
<td>Education</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Primary</td>
<td>0.2712</td>
<td>0.3032**</td>
<td>0.2997*</td>
</tr>
<tr>
<td>Secondary</td>
<td>−0.0590</td>
<td>−0.1627</td>
<td>−0.1475</td>
</tr>
<tr>
<td>Vocational/university</td>
<td>−0.0225**</td>
<td>−0.0228**</td>
<td>−0.0226**</td>
</tr>
<tr>
<td>Perceived health status</td>
<td>−0.0367</td>
<td>−0.0348</td>
<td></td>
</tr>
<tr>
<td>Quality of GP care</td>
<td>0.0185</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Another limitation is that GP health care utilization is based on self-report instead of registration data. Recall bias might play a role, but then there is no evidence that this would be more important among participants who feel more discriminated than among the others. Also, the recall window was relatively short (past 2 months preceding the interview date), which lowers the error risk. Therefore, we do not expect self-report to be responsible for errors in the results on the influence of perceived discrimination on GP health care utilization.

Despite these points, this article has shown a specific risk profile for GP health care utilization of patients who feel discriminated. Adding information on perceived discrimination within health care settings to discrimination feelings outside health care settings would give a better insight into the specific profile of non-attenders to the GP practice, and on possible measures to better target interventions at a group at risk of underutilization. The question remains on the magnitude of this risk, and its health consequences. In the Netherlands, the gatekeeping system gives the GP a central place. Alternatives for GP health care are therefore limited, and could be hazardous if medical risks are high, or put unnecessary pressure on emergency care. Any country with large immigrant populations should take the effects of racial discrimination into account when assessing the equity in access to public services like health care. We believe that research on this topic should be conducted in other contexts and countries in order to offer a broader base for these findings.

**Supplementary data**

Supplementary data are available at EURPUB online.

**Acknowledgements**

We wish to thank Wim Busschers for his statistical advice.

**Funding**

The Netherlands Organization for Scientific Research, Social Cohesion Program, subprogram; the Dutch Multicultural and Pluriform Society (MPS) (grant number 261-98-618).

**Conflicts of interest:** None declared.

**Key points**

- Perceived discrimination outside health care settings influences the non-attendance of ethnic minorities to the GP practice;
- The longitudinal perspective shows that a lasting discrimination feeling is related to a persistent non-attendance to the GP practice among ethnic minorities;
- Although common, the use of health care in the country of origin is not a substitution to the health care in the host country;
- Implication in the context of the Dutch gate keeping system is that GP non attendance might jeopardize health of the concerned groups, seen the little alternatives for GP care. It might also put unnecessary pressure on emergency care.

**References**

Growing discontent of Swiss doctors, 1998–2007

Thomas V. Perneger¹, Marie Deom¹,², Stéphane Cullati¹, Patrick A. Bovier³

¹ Division of Clinical Epidemiology, University Hospitals of Geneva, and Faculty of Medicine, University of Geneva, Geneva, Switzerland
² Chaux-de-Fonds Hospital, La Chaux-de-Fonds, Switzerland
³ Community-based General Internist, Lausanne, Switzerland

Correspondence: Thomas V. Perneger, Division of clinical epidemiology, University Hospitals of Geneva, 4 rue Gabrielle-Perret-Gentil, CH-1211 Geneva, Switzerland, tel: +41 22 372 9037, fax: +41 22 372 9035, e-mail: thomas.perneger@hcuge.ch

Background: Work satisfaction of doctors is a useful indicator of the functioning of the health-care system. We documented the work satisfaction of doctors nine years apart, before and after the implementation of several health-care reforms (limitation of working hours for medical trainees, restrictions on new doctors’ offices, new reimbursement fee schedule, greater administrative controls). Methods: Two surveys of all doctors working in the Canton of Geneva, Switzerland (1998: 1146 respondents, 2007: 1546 respondents). The doctors filled in a 17-item questionnaire rating their satisfaction with different aspects of their professional life, each on a scale between 1 and 7. For each item, proportions of highly satisfied (scores 6–7) and highly dissatisfied (scores 1–2) doctors were compared over time. Results: The proportion of doctors who were highly satisfied decreased significantly for 15 out of 17 items between 1998 and 2007. Meanwhile, ‘time and respect’ (+5.0%).

Professional satisfaction of doctors is important for several reasons. 1–5 First, it is desirable for its own sake—all things being equal, it is better if doctors are happy at work than not. Secondly, professional satisfaction is an indicator of the good functioning of the health-care system as a whole; some global quality systems such as the European Foundation for Quality Management model include professional satisfaction among key...