1 Introduction and research questions

1.1 Introduction

In recent decades the Netherlands has increasingly been host to a large number of different ethnic groups. As a consequence of decolonisation, active labour recruitment and better labour circumstances, many immigrants came to live and work in the Netherlands. Subsequently, their number increased strongly because of family reunion and family formation (Penninx et al., 1993). These immigrants often end up in a minority position, characterised by various kinds of social disadvantage. As in other areas, also with respect to health, ethnic minorities are frequently disadvantaged: their health status is often poorer than that of the indigenous population (Van Wersch et al., 1997; Uniken Vernema et al., 1995; Uitenbroek and Verhoeff, 2002; Razum and Twardella, 2002). Nevertheless, this general picture is not straightforward with respect to all minority groups and diseases. Moroccan men, for instance, are found to have a higher life expectancy and are less likely to suffer from cardio-vascular diseases as compared to the indigenous Dutch males (RIVM, 2006). Ethnic background is therefore suggested to relate in many (complex) ways to differences in health status between various ethnic groups. Mechanisms possibly operating are linked to genetic factors, experiences before and after migration, culture and acculturation, socio-economic factors and societal context (Uniken Venema et al., 1995; Stronks et al., 1999; Dijkshoorn et al., 2000). Varying importance is attached to each of these factors. Most research attention is paid to the influence of individual factors on health status such as socio-economic position and demographic characteristics.

In addition to the above, adequate use of health services is also perceived to be an important determinant of health (Andersen, 1995). Adequate use of health care is facilitated by accessibility and quality of the health care services. Reduced access and poorer quality of care can lead to delays in diagnosis and treatment and contribute to well-documented disparities in minority health (Amaddeo et al., 1995; Shin et al., 2005). For this reason one of the major themes in modern health policy is equity in health care services. Many definitions and criteria with respect to equity have been formulated (Andersen, 1995; Doorslear et al., 2000; Whitehead, 1990). In 1990, the World Health Organisation identified three goals in relation to equity:

a) equity in access when equal needs
b) equity in utilisation when equal needs
c) equity in quality of treatment when equal needs (Whitehead, 1990)

The principal interpretation of equity that underpinned much of the recent empirical work in this area focuses on equal use for equal need (Smaje and Grand, 1997). Need is most often measured by self-reported morbidity or perceived health. Since there are inequalities in need, use of care is expected to be distributed unequally. In this context horizontal equity (the equal treatment of equals) and vertical equity (the unequal treatment of unequals according to their inequality) can be distinguished (Alberts, 1998). When differences in health care use are explained predominantly by differences in need and demographic characteristics, one can speak of equity in health care use (Andersen, 1995). Utilisation is more unequal when variables such as social structure (e.g. ethnicity), health beliefs and income determine who gets care, rather than health care needs.

Central to our study is equity in health care between ethnic groups in terms of the actual use of services (Smits et al., 2002). The objective is to provide insight into differences in the actual use of health care services by ethnic minorities as compared to the indigenous Dutch population. Furthermore, the role of different determinants of health care utilisation will be studied in order to establish to what degree ethnic differences in utilisation are explained by these determinants. In addition to the use of health care our study also pays attention to the quality of care by comparing differences between ethnic groups concerning the perceived quality of general practitioner care. Patients' perceptions about aspects such as personal treatment, communication and information and continuity will be studied in the context of the multidimensional concept of quality of care (Harteloh and Verheggen, 1994). Health care that takes into account the needs and expectations of minority groups can contribute to a reduction in possible health disadvantage, which is the ultimate aim of equity in health care.

1.2 Theoretical background

For our study the widely used theoretical framework developed and elaborated by R.A. Andersen served as the reference point. This model was

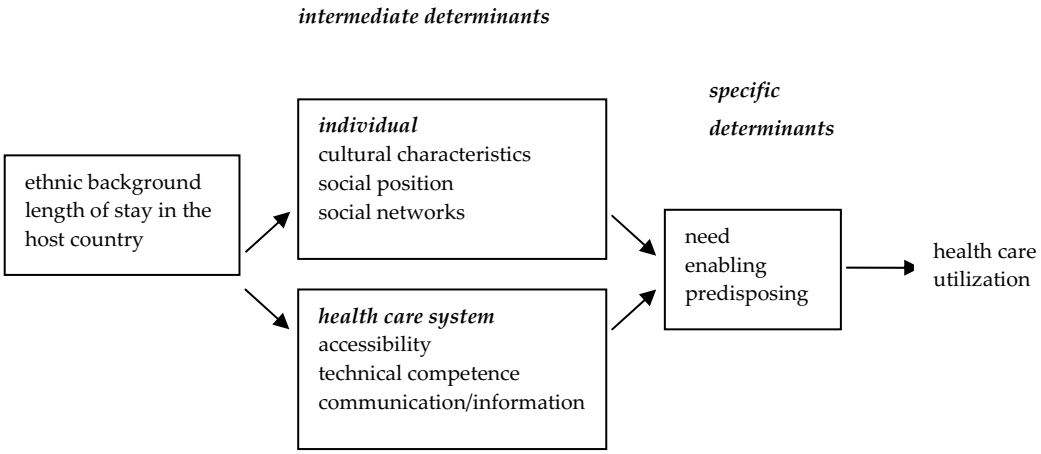
originally intended to analyse equity in the use of services (Andersen, 1995; Andersen and Newman, 1973). Over time the application of the model has increasingly shifted towards an explanatory model of health care use. In our study both purposes will be applied. The Andersen model provides a clear overview of the numerous variables that influence the process underpinning the use of health care services. The following description of the conceptual model we used in our study has, in addition to the Andersen model, been completed with elements from other research studying the relation between ethnic background, health status and health care utilisation (figure 1.1) (Uniken Venema et al., 1995, Mackenbach, 1996; Smaje, 1996; Stronks, 1998; Weide, 1998; Keenan et al., 2002; Cooper et al., 2002). Following the key elements of the Andersen model, we distinguish three main determinants of use: need factors, enabling factors and predisposing factors (Foets, 1999). These specific determinants are found at the patient level.

1 Need factors reflect deficits in the health status. Need is considered a principal determinant, which initiates the decision-making process regarding whether or not care will be sought. In our study focus will be on self-perceived need in terms of the evaluation of one's own health status. This is especially applicable with respect to first contact general practitioner care as this usually reflects the patient's own action in the help- seeking process. Once a patient has presented a problem to the general practitioner, need as evaluated by a professional can be considered as a factor explaining differences in the nature and amount of the follow up treatment.
2 Enabling factors reflect the resources that make it possible to use health care services. They are necessary but not sufficient conditions. Enabling factors are often expressed in terms of financial means and insurance status.
3 Predisposing factors reflect the propensity to use health care services. Psychosocial characteristics, knowledge of health and health care services, health beliefs and attitudes with respect to the use of informal care and self-care are examples of predisposing factors.

Since the indigenous population and ethnic minority groups differ with respect to each of these determinants, they may explain ethnic differences in health care utilisation. In an ideal situation ethnic differences in health care use should be solely determined by differences in need. If this is not the case, the influence of enabling factors indicates the necessity of socio-economic

policy and the influence of predisposing factors indicates the necessity of health education policy.

Figure 1.1 Conceptual model of health care utilisation by ethnic minority groups



The relationship between these specific determinants and health care use is not constant, but may, especially for migrant groups, change during their stay in the host country. Moreover, the relationship between ethnicity and health care use is mediated by a number of variables intermediating between ethnic background and length of stay in the host country and the specific determinants. These mediating variables act at the individual level or at the health care system level. At the individual level important mediating variables are:

- Cultural characteristics and the way these characteristics change over years of residence in a new country are assumed to be key determinants of ethnic discrepancies in health service use (Boomstra and Wennink, 2001; Bradley et al., 2002; Bruijnzeels et al., 1999; Bruijnzeels, 2001; Calnan et al., 1994). Cultural variables reflect the meaning people attach to reality (Campbell et al., 2001). Ethnic groups vary in opinions, values and norms, leading tot differences in lifestyle in general, and language use in particular. Subsequently, these cultural differences may influence need, as well as enabling and predisposing determinants (Cardol et al.,

2004). Cultural perceptions about symptoms may for instance influence the predisposing determinants, as ethnic minority patients may express their need differently, resulting in a missed diagnosis (Castles and Miller, 2003). Lack of proficiency of the language of the host country is also frequently reported as potentially hindering health care use, as inability to use the language impedes effective communication between health care providers and patients (Castles and Miller, 2003).

- Social position characteristics can also influence need, enabling and predisposing characteristics. Particularly differences in education, labour market position and income are relevant in the context of health care use and as determinants of need among minority groups. For instance, a lack of schooling, lower socio-economic status and poor living conditions are reported as barriers for use of health care services among minority groups (Castles and Miller, 2003).
- A final important determinant concerning the relationship between ethnicity and health care utilisation that needs to be mentioned concerns social network characteristics (Cecil and Killeen, 1997). The presence of social relationships implies social integration and in turn affects needs and predisposing factors. Social networks may provide social support, which again influences not only health status but also may be an alternative to the use of formal health care services. For instance, a possible explanation for frequently found urban-rural differences in health care use might be that less social support in urban areas results in a higher utilisation rate (Centraal Bureau voor de Statistiek, 1991; Centraal Bureau voor de Statistiek, 2002; Centraal Bureau voor de Statistiek, 2003; Centraal Bureau voor de Statistiek, 2005). Sociological explanation models perceive these behavioural patterns within a group to be especially determining of health care use in contrast to psychological models that put greater emphasis on health care use as an individual choice.

In addition to the above-cited mediating variables at the individual level, intermediating determinants can also be distinguished at the level of the health care system. Within a health care system, a number of variables are equal for all citizens. This is especially the case with respect to the supply volume and health care financing. Therefore they are not included in our study. At the same time little is known with respect to the quality of care received by minority groups (Chesney et al., 1982). The way in which health

care providers deliver their care may vary among ethnic groups. If the care is less well adapted to the needs of ethnic minorities, potential barriers for the use of services arise. Especially if this is the case in the eyes of the patients, these quality dimensions may influence health care utilisation. Relevant aspects are expertise in providing care to ethnic minorities, information and communication skills and aspects of personal treatment and continuity. The use of health care among minority groups is, for instance, negatively influenced by stereotypical attitudes towards minority patients, lack of cultural knowledge and the denial or ignorance of aspects of religious beliefs. Other variables decreasing the likelihood of health care use tend to be found at the system level such as the rigidity of the medical paradigm, complex intake procedures, impersonal communication through printed material and the lack of appropriate, translated information (Castles and Miller, 2003).

It is often difficult to account for differences in health care utilisation based on ethnicity. One problem is that ethnicity is often strongly related to socio-economic status. Some differences in health care utilisation may be more closely related to variables associated with a deprived situation rather than with ethnicity or culture (http://bmj.bmjjournals.com/cgi/content/full/328/-7434/258). Omission of interrelationships may oversimplify the role of ethnicity in health care utilisation (Cooper et al., 2002). Moreover, determinants in the Andersen model may relate differently to each other depending on ethnicity. The varying utilisation rates between ethnic groups suggest that ethnicity may function more as a moderator than as a predictor variable.

1.3 Research questions

With respect to ethnicity, a substantial body of international literature has documented differences between minority groups and the indigenous population in health care utilisation (Smaje and Grand, 1997; Chesney et al., 1982; Wells et al., 1987; Stronks et al., 2001; Cooper et al., 1998; Reijneveld, 1998; Wells et al., 1989; Patel, 1995; Ahmad et al., 1990; Van der Stuyft et al., 1989; Langwell and Moser, 2002; Smaje, 1998). These differences greatly depend on the type of health care service and vary considerably between and also within ethnic minority groups. At the start of our study, little information was available on the accessibility and quality of care as

perceived by ethnic minorities in the Netherlands (Weide, 1998). Most research was small-scale and restricted to a given locality, usually in one of the larger cites. Subsequently, the results were difficult to generalise. Therefore, our study aimed at a theory-based description of ethnic differences in health care utilisation on a nation-wide scale, including the four largest groups (Turks, Antilleans, Surinamese, and Moroccans). Since GPs constitute the gateway to medical care in the Netherlands, most health problems are dealt with in general practice, and access to secondary care requires referral. Therefore, we focussed on contacts with GPs, prescriptions and referrals to medical specialists. In addition, a large range of different health care services will be covered in our study. The interpretation of ethnic differences in health care use is complicated by the possibility that the use of one service may compensate for less use of another service (Pescosolido, 1992; Verheij, 1999). In order to gain more insight into potential substitution or complement effects, the use of different types of single services will not only be studied individually but also in relation to one another. This means that, in addition to the utilisation of single services, patterns of use will be considered. Patterns refer to the use of different sources of care during the same period. With respect to possible ethnic differences in the use of prescription medication, the issue of compliance may play a role. Ethnic minority groups are in general found to differ from the indigenous population in the use of prescription medication (Stronks et al., 2001; Espino et al., 1998; Taira et al., 2003; Hull et al., 2001). These differences are often ascribed to cultural variables, but the possible influence of differences in compliance is largely neglected. To what extent, for instance, do ethnic minorities actually use the medication that is being prescribed by the general practitioner? Comparing registration information from general practitioners with survey information from patients may shed more light on the actual use of prescription medication by minority groups as compared to the indigenous Dutch population. Based on the above, our first research question is:

1 *'To what extent do ethnic minorities differ from the indigenous Dutch population with respect to health care utilisation?'*

Differences in health status result in differences in health care need. It is not surprising that health status is found to be an important predictor of ethnic differences in health care use, as minority health is often poorer than in the

indigenous population (Van Wersch et al., 1997; Uniken Venema et al., 1995; Uitenbroek and Verhoeff, 2002; Razum and Twardella, 2002). Nevertheless, even after adjustment for health status, Turks, Moroccans and Surinamese, for instance, tend to contact GPs more often than the indigenous Dutch population (Bruijnzeels, 2001; Weide and Foets, 1997; Kocken et al., 1994; Weide and Foets, 1998). Moreover, after controlling also for socio-demographic variables such as age, sex and education, ethnic minority groups are frequently found to differ in health care use from the indigenous Dutch population. The remaining ethnic differences are frequently attributed to cultural variables but have been subjected to very little quantitative examination in relation to health status and socio-demographic characteristics. Because ethnic background in itself cannot explain differences in health care use, the question is whether cultural differences are the underlying concept accounting for these discrepancies. Our expectation is that the health care use of ethnic minorities will be more similar to the indigenous Dutch population after accounting for the possible influence of differences in socio-demographic and cultural characteristics and health status. Furthermore, special attention will be paid to the relationship between ethnic differences in health care utilisation and urbanisation level. As previous research in the Netherlands has chiefly been conducted within the context of large cities, it is unclear to what extent ethnic differences in health care utilisation also prevail beyond the main urban areas. As far as indigenous populations are concerned, the association between health care use and degree of urbanisation has already been established in various studies. Moreover, international research has shown that differences in health care use between urban and rural areas still remain, even after taking account of ethnicity (Verheij, 1999). In our study we try to establish whether ethnic differences in health care use are greater in highly urban areas than in less urban areas. If ethnic differences in health care utilisation are more pronounced in the cities, it may be assumed that these differences reflect mechanisms at work in an urban environment. However, if ethnic differences in health care utilisation are found to a comparable extent both within and outside the main cities, this would imply that there is a separate influence of ethnicity. Our second research question therefore is as follows:

2 *'To what degree can health status, socio-demographic and cultural characteristics explain ethnic differences in health care use?'*

Although insight into the extent of ethnic differences is an important issue, it does not provide a complete picture of health care provision to minority groups. Besides ethnic differences in the quantity of use, it is equally important to examine possible differences in the quality of provision of care. Perceptions concerning the quality of care may act as an intermediating variable between ethnicity and use of care, and may consequently be a possible explanation for ethnic differences in health care use. This may for instance be the case when a poor initial consultation necessitates further visits to GPs and complicates the referral process. In addition to the possible influence of quality of care on actual health care use, ethnic differences in quality of care may also put minority groups at risk for inferior care and subsequently poorer health status (Jung et al., 1998). Nevertheless, insight into minority patients' views on good general practice, their needs and wishes is still limited. Important aspects with respect to quality of care are competence, personal treatment, communication and information and continuity (Harteloh and Verheggen, 1994). International research suggests that ethnic minorities on average have poorer perceived quality of care and are more dissatisfied than the indigenous population (Jung et al., 1998; Ferguson et al., 2002; Virnig et al., 2002; Baker et al., 1996; Murray-Garcia et al., 2000). Moreover, minority patients often feel they are not understood or taken seriously by health care providers, especially regarding contact with GPs and mental health care providers (Van Wersch et al., 1997; Weide, 1998; Bruijnzeels, 2001; Rietveld, 2003; Van Wieringen et al., 2002). Communication problems were experienced by both patients and health care providers, as perceptions regarding health, illness and help seeking behaviour vary between ethnic minority patients and the indigenous Dutch population (Van Wersch et al., 1997). One can argue that people with the same ethnic background share a general set of values, resulting in a rather homogeneous perception of these quality of care aspects. In our study attention will be paid to the extent of this homogeneity by examining similarities and differences in patients' views on quality of GP care within ethnic groups. The third research question is as follows:

3 *'What are the differences in perceived quality of care between ethnic minorities and the indigenous Dutch population with respect to competence, personal treatment, communication and information and continuity?'*

In addition to the homogeneity of quality judgements between ethnic groups, quality judgements might also be clustered at the practice level. GP practices vary for instance in the number of registered patients with an ethnic minority background. It might be that more contact with ethnic minorities will influence the intercultural performance of GPs, which in turn could influence the perceived quality of care. From this perceptive, the percentage of ethnic minorities with a non-western background within the general practice may be a potential explanation for perceived quality differences at the general practitioner level. As patients' experiences with each GP might vary, it is interesting to see which quality aspects vary especially between general practices, and which aspects vary especially between minority groups. Previous research suggests that quality judgements are not only related to ethnicity, but also to socio-demographic characteristics and health status (Grol et al., 1999; Sixma et al., 1998; Williams and Calnan, 1991; Steven et al., 1999; Gribben, 1993; Baker, 1996). This raises the question to what extent possible ethnic differences in quality of care remain after taking these patient-related characteristics into account in addition to practice - related characteristics. The final research question is therefore:

4 *'To what degree are differences in perceived quality related to patient characteristics and to supply characteristics?'*

1.4 Study design and method

1.4.1 Data collection

Research among ethnic minority groups incurs additional problems compared to the general population, which require special attention (Alberts, 1998). For some respondents originating from a minority population interviews have to be conducted in their native language, because of their limited knowledge of the Dutch language. Also the inability to read or write well in their native language makes it sometimes necessary to conduct face-to-face interviews. A second problem is the validity of the instruments applied for research among minority groups, since originally most instruments were developed for the indigenous Dutch population. Thirdly a high response rate in ethnic minority groups is more difficult to achieve than in the Dutch population. Because of these difficulties, valid and reliable research among these groups is time consuming and expensive. To

overcome part of these problems the study was integrated in the second National Survey of General Practice (DNSGP-2) (Westert et al., 2005; Westert et al., 2006).

At the time of our study, in the Netherlands individuals with public health insurance (approximately 65% of the population) were obliged to be registered at a general practice. Individuals with private health insurance usually comply with this rule voluntarily. Therefore, the patient lists of all participating practices were used as the population denominator. The patient lists were derived from the practice computers at the beginning and the end of the DNSGP-2 (Westert et al., 2006). Part of the necessary data was available from regular data registration by GPs. Other data, especially the data necessary to explain differences between ethnic groups, were collected specifically among large numbers of respondents from the ethnic minority groups. A comparison group from the indigenous Dutch population was available from the regular data collection. The data collection for the DNSGP-2 started in 1999. The study was carried out according to Dutch legislation on privacy. The privacy regulation of the study was approved by the Dutch Data Protection Authority. According to Dutch legislation, obtaining informed consent is not obligatory for observational studies.

1.4.2 Design of the second Dutch National Survey of General Practice

An important feature of the DNSGP-2 is the use of unique identifiers in the collection of data which enables the interlinkage of all data on all measurement levels (Westert et al., 2006). The following sources of information were used in our study:

Census
Socio-demographic characteristics were collected by means of a one-page postal questionnaire sent to all patients enrolled in the participating general practices, irrespective of GP-consultation rate during the research period. The data included age, sex, health insurance, civil status, educational level, household composition, living arrangements, occupation and work status. Especially important for our study was the registration of the country of birth and the country of birth of the parents, for this allowed a classification of patients into ethnic groups and a distinction between first and second

generation migrants (Statistics Netherlands, 2002). It furthermore provided a possibility to classify general practices according to the percentage of minority patients in the practice population. The definition of ethnicity and the terminology as such surrounding ethnic minorities is not generally agreed upon nationally and internationally (Statistics Netherlands, 2002). In our study we chose to define a foreign background according to Statistics Netherlands as when at least one parent was born abroad (Statistical Yearbook of the Netherlands, 2002). The census also included a general question on number of years living in the Netherlands and perceived health. The census was administered in four languages (Dutch, English, Turkish and Moroccan Arabic).

Registration via electronic medical records

Participating GPs recorded all contacts with their patients during one calendar year; 87% of the data were collected in 2001. Data about contacts of patients with the practice were derived from the routine registration in the electronic medical records (n=1.5 million contacts). In addition to contact characteristics this registration also included interventions by GPs, including prescriptions.

Patient health interview

A health interview survey among a random sample of 5% of the total practice population (all ages) was performed. The computer-assisted personal interview was carried out at the person's home by a trained interviewer. In addition a second health interview survey among a random sample of Turkish, Moroccan, Surinamese and Antillean migrants aged 18 years and older was carried out. The majority of the interviews were performed in 2001. The interviews among the ethnic minority groups involved largely the same instruments as among the Dutch speaking population. In addition, an instrument measuring the degree of acculturation in the Dutch society was administered. To improve the validity and reliability of the questions among the ethnic minority groups, much attention was paid to the content of the questionnaire. The questionnaire was independently translated forward-backward for this purpose. A pilot was performed to test comprehensibility and acceptance of the questionnaire on a comparable sample. Given that bi-lingual people are often found to be

influenced by factors such as their age, gender and education, and produce translations that are too formal and literary for most people, field testing focussed on bi-linguals as well as mono-linguals (Hendricson et al., 1989; Hunt and Bhopal, 2003). The pilot interviews were observed on a screen by two members of the research team. This way questions needing clarification or causing any kind of emotional response were identified and necessary adjustments could be applied. The interviewers were bilingual and had been specially trained. The interviewers offered the opportunity to choose between an interview in Dutch or in the mother tongue of the respondents, depending on language mastery and preference. The oral interview took place at the interviewee's home with the help of a paper questionnaire. The core part of the self reported data included validated instruments to measure health status and health care utilisation and a wide range of specific and intermediating determinants:

- Needs, defined as perceived health status. Also included were questions on the number of chronic health problems.
- To justify the multi-dimensional character of cultural characteristics, measurements in a very broad sense were applied. Attention was paid to the acquisition of the content of cultural beliefs and values and language proficiency in Dutch, in addition to more epidemiological variables such as length of residence, temporary re-migration and perceived ethnicity.
- Illness behaviour, including informal and self care, as well as use of complementary medicine and utilisation of services in home countries. This latter might serve as a alternative for GP consultation (CBS, 1991).
- Perceived quality of health care. An instrument that proved to be a useful measure of user views of quality of care is the QUOTE (QUality Of care Through the patients Eyes) (Sixma et al., 1998). Because no valid and reliable instrument existed to measure the quality of GP care among ethnic minorities, the generic QUOTE questionnaire was adapted for use among Turkish, Moroccans, Surinamese and Antillean patients before the start of the study (El Fakiri et al., 2000; Van Lindert et al., 2000).

1.4.3 Research population

In the DNSGP-2 195 GPs in 104 practices participated. These were distributed throughout the country. For the composition of this sample the 'Landelijke Informatie Netwerk Huisartsen' (LINH) was used, which is a

national network of general practices. To make the sample nationally representative for the National Survey, extra general practices were recruited from disadvantaged areas in large cities. The total population of these practices consisted of 399,068 people at the start of the study. There was no age limit for inclusion in the National Survey. Only those permanently living in an institution were not included. In order to answer the research questions, for the interviewed groups of ethnic minorities the aim was to include approximately 300 patients per group.

1.4.4 Representativeness of GPs and practice population

GPs participating in the survey were, in most respects, representative of the Dutch GP population. Sex, age, part-time/full-time working, urbanisation level of the practice location and geographical distribution concurred with national figures. However, with regard to the practice type, GPs working solo were relatively underrepresented in the study population (31% versus 43%). The total practice population that was listed at the participating practices was comparable to the population of the Netherlands with respect to sex, age and type of health insurance (Westert et al., 2006).

1.4.5 Response

In total 294,999 people returned the census (76.5%). A total of 12,699 Dutch-speaking people were interviewed, regardless of ethnic background. The response rate of this study was 64.5%. The response rate did not vary significantly for age or gender. Refusal was the most common reason for non-response (66.9%). In addition, a random sample was drawn of respondents identified on the census as having a Turkish, Moroccan, Surinamese or Antillean background. Of those who retuned the census form, 7,355 were aged 18 or older and appeared to have a Moroccan, Surinamese, Antillean or Turkish background. From this group 2,682 people were approached for participation in the interview. In total 1,339 agreed and were interviewed (response rate 49.9%). The most important reasons for non-response were difficulties in reaching the sampled persons (24.9%) and refusal (19.5%). No indications for a selective non-response were found concerning age, health insurance and gender (see Appendix 1.1 – table 1.1). Remarkably, non-

responders who reported poor health in the census were initially most frequently unreachable, but once people in poor health were reached relatively few refused participation. The refusal rate was highest among the lower educated category, whereas among the higher educated category difficulties in reach ability was the most frequent reason for non-response. Inability to reach people was also the most important reason for non-response among people living in less densely urbanised areas. Nevertheless, the refusal rate increased with urbanisation. Surinamese and Antilleans were most difficult to reach, but once they were contacted these groups were relatively less inclined towards refusal. Among Turkish groups the opposite was the case.

Table 1.2 (see Appendix 1.1) provides an overview of characteristics of the potential sample, derived sample, respondents and non-respondents. The characteristics remained comparable in all groups. The proportions in the potential sample were replicated in the derived sample and among respondents. Only the Surinamese were less well represented in the derived sample compared to the potential sample. Respondents also differed negligibly from the non-respondents. Only women seem to be a little over-represented. The largest percentage of respondents were in the age category 31-50 years old. Most respondents reported satisfactory perceived health, were moderately educated, had public health insurance and lived in a highly urbanised area. Most respondents resided in the provinces North Holland and South Holland. With regard to ethnicity, 30.2% had a Turkish background, 27.9% Moroccan, 22.3% Surinamese and 19.6% Antillean.

Non-response is a common problem in research among minority groups. Inclusion in our study started with a census by means of a one-page postal questionnaire. This possibly influenced the response rate and subsequently the precision of the results, as illiterate people might not have returned the questionnaire, resulting in over- or under- representation of certain groups. As ethnicity is not registered in general practices, it was not possible to estimate possible characteristics of people who did not respond to the one-page questionnaire. Nevertheless, the distribution of age and sex of the respondents per ethnic group did not differ systematically from the national figures (see Appendix 1.1 – table 1.3) (CBS, 2002). Only among Surinamese respondents, were women and elderly over-represented. Among Antilleans a small shift in the same direction was found.

1.5 Outline of the thesis

The research questions of this dissertation are investigated in subsequent empirical chapters. Chapters 2-8 comprise a series of published or submitted manuscripts. Some overlap in content between these chapters was inevitable, since it had to be possible to read each chapter independently.

Chapter 2 describes a systematic assessment of the international literature concerning ethnic differences in primary care utilisation.

Chapter 3 reports on the differences between the major migrant groups and the indigenous Dutch population concerning self-rated health and its socio-demographic determinants, the use of GP-care and the incidence of diagnoses made by general practitioners.

Chapter 4 evaluates whether ethnic differences in health care use are greater in highly urban areas than in less urban areas.

Chapter 5 describes the nature of ethnic differences in health care utilisation by assessing patterns of use in addition to single service utilisation.

Chapter 6 discusses the relationship between cultural distances and utilisation of health care by analysing important cultural aspects that could either promote or hinder the use of care in the Netherlands.

Chapter 7 aims to gain insight into similarities and differences between ethnic minority groups and the Dutch population in patients' views on quality of GP care.

Chapter 8 examines to which extent ethnic differences between self-reported data and data based on electronic medical records from general practitioners might be a validity issue or reflect lower compliance among minority groups.

Chapter 9 contains a summary of the empirical findings and discusses the methodological strengths and limitations of our study. Subsequently, the implication of the study results for general practice, as well as directions for future research are described.

Appendix 1.1

Table 1.1 Reasons for non-response among the minority groups by age, sex, ethnicity, perceived health, type of insurance, education and level of urbanisation (%)

	Unreachable	Refusal	Language problem	Other
N	669	522	12	140
Age				
18-30	53.8	38.0	1.4	6.8
31-50	49.4	38.2	0.7	11.7
50+	44.3	41.7	0.4	13.6
Sex				
male	51.4	38.2	0.5	9.9
female	48.4	39.5	1.3	10.9
Perceived health				
excellent	43.1	43.1	1.7	12.1
good	51.5	36.8	0.3	11.9
moderate	48.8	41.0	1.2	9.0
poor	49.4	38.6	-	12.0
very poor	78.9	10.5	-	10.5
Education				
none	45.3	47.4	1.5	5.8
elementary school	44.3	41.6	1.4	12.8
high school	52.0	36.5	0.6	11.0
college or university	53.8	38.8	0.6	6.9
Type of insurance				
public	50.3	38.1	1.0	10.6
private	47.1	44.7	-	8.2
Level of urbanisation				
very highly urbanised	50.8	41.9	1.0	6.2
highly urbanised	47.5	39.1	-	13.5

- table 1.1 continues –

- table 1.1 continued -

	Unreachable	Refusal	Language problem	Other
moderately urbanised	53.9	34.7	-	11.4
slightly urbanised	40.2	32.6	3.8	23.5
not urbanised	72.2	16.7	-	11.1
Ethnicity				
Moroccans	48.0	40.2	0.5	11.3
Antilleans	53.3	34.9	-	11.8
Surinamese	54.3	36.2	0.3	9.2
Turks	43.9	44.2	2.8	9.1

Table 1.2 Characteristics of respondents from the minority groups, sample and potential sample (%)

	Non respondents	Respondents	Sample	Potential sample
N	1343	1339	3994	7355
Age				
18-30	36.6	32.8	32.5	32.6
31-50	43.6	46.3	46.7	46.7
50+	19.8	20.9	20.8	20.6
Sex				
male	46.6	41.2	46.1	45.2
female	53.4	58.8	53.9	54.8
Perceived health				
excellent	13.0	11.0	12.3	13.1
good	43.9	40.8	41.7	41.7
moderate	24.1	25.2	24.5	22.9
poor	6.2	6.8	6.8	6.4
very poor	1.4	1.1	1.4	1.3
unknown	11.4	15.2	13.3	14.6

- table 1.2 continues –

- table 1.2 continued -

	Non respondents	Respondents	Sample	Potential sample
Education				
none	10.2	10.0	10.1	9.2
elementary school	22.0	24.8	23.7	22.0
high school	53.0	49.5	50.6	53.2
college or university	11.9	11.7	11.8	12.2
unknown	2.8	4.0	3.8	3.4
Type of insurance				
public	86.4	89.0	87.5	86.3
private	12.7	10.2	11.7	12.9
unknown	0.9	0.7	0.8	0.9
Level of urbanisation				
very highly urbanised	50.4	60.1	53.2	55.3
highly urbanised	22.1	14.3	18.3	19.2
moderately urbanised	16.3	16.0	15.8	14.5
slightly urbanised	9.8	7.2	10.5	9.0
not urbanised	1.3	2.3	2.1	2.0
Ethnicity				
Moroccans	27.6	27.9	29.0	20.4
Antilleans	25.2	19.6	20.0	13.3
Surinamese	23.5	22.3	21.7	40.8
Turks	23.8	30.2	29.3	25.5
Region				
Drenthe	1.0	0.4	0.6	-
Flevoland	3.2	3.3	2.9	-
Friesland	1.1	0.8	1.0	-
Gelderland	5.9	3.9	5.7	-
Groningen	6.6	6.6	5.8	-
Limburg	3.5	2.5	3.6	-
Noord-Brabant	6.8	5.1	6.1	-
Noord-Holland	22.0	22.6	24.9	-
Overijssel	3.4	4.6	4.2	-
Utrecht	9.0	14.9	12.3	-
Zeeland	1.7	1.6	1.6	-
Zuid-Holland	35.7	33.6	31.4	-

Table 1.3 Age and sex of the respondents from the minority groups and national data (%)*

	Surinamese	Moroccans	Turks	Antilleans
Sex				
male (study)	27.9	48.0	47.7	36.9
male (national)	46.7	54.3	52.4	48.5
female (study)	72.1	52.0	52.3	63.1
female (national)	53.3	45.7	47.6	51.5
Age				
18-39 year (study)	42.8	66.2	69.8	55.7
18-39 year (national)	56.2	67.8	68.8	64.5
40-60 year (study)	40.1	28.1	24.3	34.7
40-60 year (national)	34.7	24.3	23.9	29.9
60 year and older (study)	17.2	5.7	6.0	9.5
60 year and older (national)	9.1	7.8	7.2	5.5

* data Statistics Netherlands 2002 (CBS, 2002)