

Immigrants' utilization of a public emergency primary health care clinic in Oslo

A cross-sectional study among walk-in patients at Oslo Accident and Emergency Outpatient Clinic.

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Dissertation for the degree Philosophiae Doctor (PhD) at the University of Oslo



UiO : University of Oslo



Helseetaten



The Norwegian Research
Fund for General Practice



2018

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*Series of dissertations submitted to the
Faculty of Medicine, University of Oslo*

ISBN 978-82-8377-286-9

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Cover: Hanne Baadsgaard Utigard.
Print production: Reprintsentralen, University of Oslo.

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PAPERS I-III

2. Preface

When I started my work as a general practitioner at Oslo Accident and Emergency Outpatient Clinic (OAEOC) in 2006, I experienced a more heterogenic and diverse patient population compared to the patients I met during my internship practice period in the Northern parts of Norway. Language barriers, patients' different experiences of health and disease, cultural differences and dealing with health-care conditions that I did not consider as really emergency health-care, were a part of the daily work. In trying to advise or refer the patient back to their regular general practitioners (RGPs) for continuity of care, I often experienced that many immigrants were not familiar with this conception.

In 2009 I was engaged in a part time position as a university lecturer at Institute of Health and Society, University of Oslo. At the same time the South-Eastern Norway Regional Health Authority (HSØ-RHF) and the City of Oslo assembled a group, the "Project of Equity in Health Care" (Prosjekt Likeverdige Helsetjenester), planning to do a survey on immigrant's use of public emergency primary health care services in Oslo and Lillestrøm and admittance to the Emergency Department at the University Hospital of Akershus (AHUS). The project was initiated and directed by Manuela Ramin Osmundsen, a former politician and Minister of Children and Equality in Norway. The overall political purpose of the project was to develop strategies to secure that knowledge regarding the immigrant population impacted on the planned and future health-care programs, elaborate the health-care organizations strategically work on emphasizing equity in health care and to provide knowledge and contributions to the care coordination reform process between primary and secondary health-care services in Norway.

In light of this project, I recognized an opportunity to study more about my experiences from the work at OAEOC. Together with my supervisor Professor Per Hjortdahl, we were delegated the responsibility for the realization of the survey as part of a contract research project. Due to time restrictions given by the project management, study design, data collection and writing of the report had to be carried out within a 10-month period between February and December in 2009. This short time-frame resulted in pragmatic choices of study design. The results were summarized in a non-scientific report handed

over to the administration of HSØ-RHF and the Director of Primary Health and Social Services in Oslo for use in developing health-care strategies. This report has never been made public. Approval for further research was given by the project management and this is confirmed in the study protocol.

The present PhD-thesis is based on data restricted to the survey at the OAEOC since our interests were related to immigrants' utilization of the public emergency primary health care service in Oslo. We decided to exclude the data collected at Lillestrøm due to small study samples and low response rate among the walk-in patients and general practitioners. Focusing on the utilization of a public emergency primary health care outpatient clinic in Oslo made it possible to provide information and knowledge of the topic in a distinct major city-population consisting of a diverse population and abundant health-care facilities. The data material has been worked out scientifically with extensive statistical analysis compared to the raw-report.

This PhD-thesis contributes with new knowledge about emergency health-care use and health-seeking behaviour in a diverse population of walk-in patients in Oslo and manifests some health differences between immigrants and non-immigrants. This knowledge may provide potential useful policy implications in developing a sustainable health care organization and to secure equity health-care service for specific vulnerable groups.

3. Scientific environment

I was granted submission to the PhD course at Faculty of Medicine, University of Oslo (UiO) in September 2014, and have followed doctoral education at the Institute of Health and Society, Department of General Practice. During the education period I have benefitted from participation in regular research meetings with colleagues at the Department of General Practice and the Research Unit for General Practice in Oslo. In position as a PhD student, I have also been affiliated with the Norwegian Research School in General Practice (NAFALM) during a three-year period from 2014 – 2017. The Research School is funded by the Research Council of Norway. The school provides PhD-courses focusing on particular relevant knowledge and skills needed for doing research in the primary health care sector. Education is given by lectures, through courses and web seminars.

The main supervisor of this PhD project from its origin was Professor MD Per Hjortdahl at Department of General Practice, UIO. Co-supervisor was Professor MD Bård Natvig at Department of General Practice, UIO. In the middle of the PhD period the supervisors switched positions due to Professor Hjortdahl's retirement to emeritus.

During my educational program I have presented results from the study at four international congresses. The 19th Nordic Congress of General Practice, Gothenburg, Sweden in 2015, the WONCA Europe Conference, Copenhagen, Denmark in 2016, the EUPHA's 6th European Conference on Migrant and Ethnic Minority Health, Oslo, Norway in 2016 and the 20th Nordic Congress of General Practice, Reykjavik, Iceland in 2017.

UiO : **Institute of Health and Society**
University of Oslo



4. Acknowledgements

This project is a result of a beneficial collaboration enterprise between the South-Eastern Norway Regional Health Authority (HSØ-RHF), the City of Oslo and the Institute of Health and Society, University of Oslo, through the “Project of Equity in Health Care” directed by Manuela Ramin Osmundsen. Thanks to the former administration of HSØ-RHF directed by Bente Mikkelsen and the Director of Primary Health and Social Services in Oslo, Bjørg Maanum Andersson, for providing the initial funding of the project and giving me the opportunity to work out the survey in collaboration with highly competent members of the steering group. I am also grateful for the research grants provided by the Norwegian Research Fund for General Practice and the Norwegian Committee on Research in General Practice, making it possible to complete the PhD project.

I would like to express my sincere thanks to Anne Kathrine Nore, former Head Senior Consultant of Department of Emergency General Practice at the OAEOC, for introducing me to the Institute of Health and Society at UIO where I was granted a position as university lecturer in 2009. Thank you for acknowledging my interests in the immigrant research field and the continuous support and encouragement during the entire process. Thanks to the Head of Department of General Practice Professor Jørund Straand and associated colleagues for making me feel welcome and facilitating an inspiring and excellent workplace.

Without the scientific and social support from skilled colleagues at the Institute of Health and Society I would not have been able to accomplish the PhD project. I am sincerely grateful to my supervisors, Professor MD Per Hjortdahl and Professor MD Bård Natvig, who both have been engaged in the position as main- and co-supervisor during my period as research fellow and PhD student. I am sincerely grateful to Per Hjortdahl for his enthusiastic and patient engagement in the project throughout all obstacles and breakthroughs and for guiding me through the process becoming an academic researcher. His political- and organizational skills were strongly needed when facing issues and problems in the developing and realization of the study. He has been available for guidance when I have needed him and at the same time allowed me independence and

opportunity to work out the project in my own way. I would like to express my sincere gratitude to Bård Natvig for his inspiring contribution of research experience and pragmatically wisdom in developing the project at the time he was engaged as co-supervisor. I really admire his sense of humour and optimism skills providing new enthusiasm and working spirit when the scientific progress was stationary. His support and engagement as main supervisor in the accomplishment of the PhD project has been invaluable. I am very thankful to both my supervisors for all their time spending in thorough and wise counselling through the many review processes making it possible to publish the research. I also want to thank my co-author Ruth Aga at the Section of Orthopaedic Emergency for all her contributions regarding organization of the survey at the trauma clinic, data collecting and invaluable comments to the manuscript in the first paper. Warmest thanks to Ibrahimu Mdala for his invaluable assistance and supervision in performing the statistical analysis. I really admire his teaching skills in how to explain difficult theories in a way that is easy to understand.

Thanks to the Norwegian Research School in General Practice for creating an arena for education and acquiring practical skills in primary care research. I would like to express my sincere gratitude to Siri Evju Jansen for always helping me with practical problems and for thoroughly assisting me in plotting data into SPSS.

This thesis could not have been written without the women and men who have answered the questionnaire and participated in the survey. Thank you for your valuable contribution. I also wish to thank my colleagues, doctors and nurses at the OAEOC, for contributing their time and energy during the data collection process. Since my start at the OAEOC in 2006 I have enjoyed the particular good working spirit, gallows humour and genuine human concern among the colleagues working in an unpredictable setting caring for patients with mild to extremely severe health conditions. I would like to thank my former and present superiors at the Department of Emergency General Practice, Endre Sandvik, Anne Kathrine Nore, Jon Ørstavik, Harald Vallgård and Fredrik Rønning Iversen, for all their support and engagement in the research study. A special gratitude is expressed to Harald Vallgård for his social support and pragmatic solutions regarding my condition of employment when my son Sigve was extremely premature born and I

was occupied caring for him in the intensive care unit for several months. I am sincerely grateful to the Head Senior Consultant of the Section of Orthopaedic Emergency Knut Melhuus and Senior Consultant Martine Enger for their contributions in the project's steering group and their engagements and willingness to letting us conduct a survey in an extremely busy work environment.

And most importantly, my warmest thanks to my dear wife and best friend Gøril for supporting and sharing my ups and downs during the project and in life generally. Finally my love goes to our children Oda, Eskil and Sigve for reminding me that there are far more important things in life than being a PhD candidate.

Sven Eirik Ruud

Oslo, April 2018

5. Abbreviations and glossary

Abbreviations

CI	Confidence interval
DEGP	Department of Emergency General Practice (general emergency outpatient clinic)
ED/ER	Emergency department/ Emergency room
EEA	European Economic Association
EPHC	Emergency Primary Health Care
EU	European Union
HELFO	The Norwegian Health Economics Administration
HIE	Healthy immigrant effect
HSØ-RHF	South-Eastern Norway Regional Health
IRR	Incidence rate ratio
MITSO	The Municipal Interpretation and Translation Service of Oslo
NAFALM	The Norwegian Research School in General
OAEOC	Oslo Accident and Emergency Outpatient Clinic
OECD	Organization for Economic Co-operation and Development
OOH	Out-of-hours
OR	Odds ratio
PID	Personal identification number
REC	Regional Committees for Medical and Health Research Ethics
RGP	Regular general practitioner
SES	Socioeconomic status
SOE	Section of Ortophaedic Emergency (trauma clinic)
UDI	The Norwegian Directorate of Immigration
UN	United Nations

UNHCR The United Nations High Commissioner for Refugees

WHO World Health Organization

English-Norwegian Glossary

Care Coordination Reform	- <i>samhandlingsreform</i>
Contract research	- <i>oppdragsforskning</i>
Emergency Department / Emergency Room	- <i>akuttmottak</i>
Emergency Primary Health Care	- <i>legevakt (øyeblikkelig hjelp)</i>
Oslo Accident and Emergency Outpatient Clinic	- <i>“Oslo legevakt”</i>
Out-of-hours	- <i>legevakt utenom vanlig arbeidstid</i>
Primary health care	- <i>primærhelsetjeneste/førstelinjetjeneste</i>
Regional Comittes for Medical and Health Research Ethics	- <i>Regional komite for medisinsk og helsefaglig forskningsetikk</i>
Regular General Practitioner	- <i>fastlege</i>
Regular General Practitioner Scheme	- <i>fastlegeordning</i>
Secondary health care	- <i>spesialisthelsetjeneste/andrelinjetjeneste</i>
South-Eastern Norway Regional Health Authority	- <i>Helse sør-øst regionalt helseforetak</i>
The general emergency outpatient clinic (DEGP)	- <i>Allmennlegevakten</i>
The Municipal Interpretation and translation Service of Oslo	- <i>tolketjenesten i Oslo kommune</i>
The Norwegian Directorate of Immigration	- <i>Utlendingsdirektoratet (UDI)</i>
The Norwegian Research School in General Practice	- <i>Nasjonal forskerskole i allmenntmedisin</i>
The trauma clinic (SOE)	- <i>Skadelegevakten</i>
Urgency level	- <i>hastegrad</i>

6. Summary in English

Background: Oslo Accident and Emergency Outpatient Clinic (OAEOC) acts as an important and challenging meeting arena between the immigrant patient and the public health-care service. The present study originates from a collaboration project between the South-Eastern Norway Regional Health Authority (HSØ-RHF), the City of Oslo and Institute of Health and Society at University of Oslo with intention to explore immigrants' use of public emergency primary health care (EPHC) in Oslo. **Objective:** The purpose of this survey is to study utilization of a public EPHC clinic in Oslo and associated factors contributing to the utilization focusing particularly on patients with immigrant background. **Material and method:** This study has a cross-sectional design conducted at OAEOC during a two weeks period in September 2009. We included walk-in patients of all ages who either alone or with their relatives/guardians, without any referral or scheduled appointment, contacted OAEOC for immediate health care. The survey is based on data collected through information given by the patients and medical doctors in a non-validated questionnaire available in seven languages: Norwegian, English, Polish, Somali, Sorani (Kurdish), Farsi (Persian), and Urdu. The project is divided into three parts presented in **Papers I-III**. The first part explores how immigrants, immigrant subgroups and Norwegians use the public EPHC service at OAEOC, their self-reported affiliation to the regular general practitioner (RGP) scheme and concomitant use of RGPs separately for the general emergency outpatient clinic and the trauma clinic. In the second part we explore how patients of different regions of origin at the general emergency outpatient clinic perceive the level of urgency for obtaining medical assistance compared to the doctors' assessments of urgency level. In the third part we explore walk-in patients' reasons for attending the general emergency outpatient clinic versus consulting their RGP when this could have been relevant. **Results: Paper I:** We included 3.864 patients in the study; 1.821 at the general emergency outpatient clinic and 2.043 at the trauma clinic. Patients with immigrant background report a significantly higher frequency of visits at the OAEOC and by their RGP the previous 12 months compared to Norwegians. They are also over-represented in the patient population at OAEOC (35%) compared to their representation in the city population (27%). Their representation at the

general emergency outpatient clinic is 42% versus a more similar proportion in the city at the trauma clinic (29%). Walk-in patients from Sweden and Somalia are both higher represented and report higher use compared to Norwegians, while Pakistani and Polish participants show diverging results according to representation and self-reported use. Pakistani report higher frequency of use, but are not over-represented, in contrast to Polish patients who report lower use, but are over-represented compared to their representation in the city population. Among first-generation immigrants only 71% are affiliated with the RGP system, in contrast to 96% of Norwegians. The least frequent RGP affiliation is among immigrants from Sweden (32%) and Poland (65%). **Paper II:** The analysis included 1.821 walk-in patients at the general emergency outpatient clinic at OAEOC. We find discrepancies between assessments by walk-in patients and doctors of the urgency level of their encounters. Twenty-four per cent of the patients consider their emergency consultation to be non-urgent; immigrants (17%) and Norwegians (29%). In contrast to the doctors who consider 64 % of the encounters to be able to wait until next day; immigrants (68%) and Norwegians (62%). When we adjust for sex, age, self-reported RGP affiliation and time of consultation, patients from Eastern Europe, Asia and Turkey and Africa report significantly higher urgency levels compared with Norwegians. **Paper III:** The analysis included 1.022 walk-in patients at the general emergency outpatient clinic, 565 Norwegians (55%) and 457 immigrants (45%), offered a consultation during (Monday-Friday; 08:00-23:00). Among patients reporting a RGP affiliation, 49% have tried to contact their RGP before this emergency encounter; 44% of Norwegian and 58% of immigrant respondents. Immigrants from Africa and Asia are more likely to contact their RGP before attending the general emergency outpatient clinic compared with Norwegians. The reasons for attending the general emergency outpatient clinic versus a RGP can be divided into two different perspectives; personal preferences and system barriers. The personal preferences for both Norwegians and immigrants are difficulty obtaining an emergency appointment with their regular RGP and fast access to immediate health care at the general emergency outpatient clinic. System barriers are lack of access to a RGP because of being registered with a RGP in another district, seen among Norwegians, or not being registered with a RGP among immigrants, in addition to being told by the RGP office to contact the general emergency outpatient clinic.

7. Summary in Norwegian (Sammendrag)

Bakgrunn: I Oslo utgjør den stasjonære legevakten en viktig og utfordrende møteplass mellom innvandrerpatienten og helsevesenet. Denne studien har sin opprinnelse i et samarbeidsprosjekt mellom Helse Sør-Øst Regionalt Helseforetak (HSØ-RHF), Oslo kommune og Institutt for helse og samfunn, UIO, hvor innvandrerbefolkningens bruk av offentlig legevaktstjeneste i hovedstadsområdet ble kartlagt. **Formål:** Innhente kunnskap om befolkningens bruk av den offentlige legevaktstjenesten i Oslo og faktorer som medvirker til legevaktsøking med spesifikk fokus på pasienter med innvandrerbakgrunn. **Materiale og metode:** Studien er en deskriptiv tverrsnittsundersøkelse utført i løpet av en to ukers periode i september 2009. Vi inkluderte pasienter i alle aldre som på eget initiativ eller sammen med en pårørende/foresatt henvendte seg på legevakten for vurdering av akutt sykdom. Datamaterialet ble samlet inn ved hjelp av et ikke-validert spørreskjema på syv forskjellige språk: norsk, engelsk, polsk, somali, sorani, farsi og urdu. Prosjektet er delt inn i tre deler som presenteres i **Artikkel I-III**. I den første delen av prosjektet analyserer vi bruk av den offentlige legevaktstjenesten og selvrapportert tilknytting til fastlegeordningen og bruk av fastlege. Analysene er utført for innvandrere, subgrupper av innvandrere og nordmenn på både Allmennlegevakten og Skadelegevakten i Oslo. Andre del innhenter kunnskap om pasientenes egenvurdering av hastegrad ved henvendelse på Allmennlegevakten differensiert for de respektive gruppene sett opp mot legens alvorlighetsvurdering ved samme henvendelse. Tredje del har som formål å skaffe kunnskap om hvorfor pasientene velger Allmennlegevakten fremfor å dra til sin egen fastlege i tidsrommet da dette kan være relevant. **Resultater: Artikkel I:** Det er inkludert 3864 pasienter i studien; 1821 på Allmennlegevakten og 2043 på Skadelegevakten. Pasienter med innvandrerbakgrunn rapporterer en hyppigere bruk av både Oslo legevakt og fastlege de siste 12 månedene sammenliknet med nordmenn. De er også overrepresentert i pasientpopulasjonen på Oslo legevakt (35 %) sammenliknet med andelen de utgjør i Oslos befolkning (27 %). Fordelt på de to respektive avdelingene er innvandrerandelen 42 % på Allmennlegevakten og 29 % på Skadelegevakten. Pasienter med opprinnelse fra Sverige og Somalia er overrepresentert på begge avdelingene og rapporterer et høyere antall besøk på Oslo legevakt siste 12 mnd. For deltakende pasienter

med pakistansk og polsk opprinnelse er selvrapportert bruk av legevakten og deres representasjon i pasientpopulasjonen ikke samsvarende. Pakistanere rapporterer høyere besøksfrekvens, men er ikke overrepresentert i pasientgruppen sammenliknet med deres andel i Oslo befolkningen. Polakkene derimot er overrepresentert i pasientgruppen, men rapporterer lavere bruk. Blant førstegenerasjonsinnvandrerne oppgir 71 % at de har tilknytting til en fastlege, mot 96 % av nordmennene. Lavest tilknytting til fastlegeordningen har innvandrere fra Sverige (32 %) og Polen (65 %). **Artikkel II:** Analysen inkluderer 1821 pasienter på Allmennlegevakten. Resultatene fra studien viser ulikhet i hastegradsvurderingene gjort av pasientene selv og vurderingen gjort av behandlende lege. Andelen av pasienter som vurderer henvendelsen på Allmennlegevakten til ikke å være av øyeblikkelig hjelp karakter er totalt sett 24 %; innvandrere (17 %) og nordmenn (29 %). Legene derimot, vurderer at 64 % av henvendelsene kunne ventet til dagen etter; innvandrere (68 %) og nordmenn (62 %). Korrigert for kjønn, aldersgrupper, selvrapportert fastlegetilknytting og tidspunkt for konsultasjon viser resultatene at pasienter med opprinnelse fra Øst Europa, Asia inkludert Tyrkia og Afrika vurderer sin hastegrad signifikant høyere enn nordmenn. **Artikkel III:** Analysen inkluderer 1022 pasienter; 565 nordmenn (55 %) og 457 innvandrere (45 %) som har kommet til Allmennlegevakten i løpet av hverdager (mandag-fredag; 08:00-23:00). Resultatene viser at flere innvandrere (58 %) forsøker å kontakte fastlegen i forkant av henvendelsen på Allmennlegevakten sammenliknet med nordmenn (44 %). Innvandrere med opprinnelse fra Afrika og Asia har oftest forsøkt å kontakte fastlege på forhånd sammenliknet med nordmenn. Pasientenes begrunnelse for å henvende seg på legevakten istedenfor hos fastlegen kan deles inn i to; personlige preferanser og systembarrierer. Personlige preferanser gjeldende for både innvandrere og nordmenn er vanskeligheter med å få time raskt nok hos fastlegen og tidligere erfaringer om rask tilgang til helsehjelp på Allmennlegevakten. Systembarrierer hos nordmenn er at de har fastlegen sin lokalisert i annen kommune eller distrikt, mens innvandrere oppgir manglende tilknytting til fastlegeordningen. I tillegg oppgir begge grupper at de er blitt henvist til Allmennlegevakten for vurdering etter først å ha vært i kontakt med fastlegekontoret.

8. List of publications

This thesis is based on the following studies:

Paper I:

Ruud SE, Aga R, Natvig B, Hjortdahl P (2015)

Use of emergency care services by immigrants—a survey of walk-in patients who attended the Oslo Accident and Emergency Outpatient Clinic. *BMC Emerg Med.* 2015;15:25. Published online: October 2015

Paper II:

Ruud SE, Hjortdahl P, Natvig B (2016)

Is it a matter of urgency? A survey of assessments by walk-in patients and doctors of the urgency level of their encounters at a general emergency outpatient clinic in Oslo, Norway. *BMC Emerg Med.* 2016;16:22. Published online: July 2016

Paper III:

Ruud SE, Hjortdahl P, Natvig B (2017)

Reasons for attending a general emergency outpatient clinic versus a regular general practitioner – a survey among immigrant and native walk-in patients in Oslo, Norway. *Scand J Prim Health Care.* 2017;35:35-45. Published online: February 2017

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9. Introduction

The share of immigrants in European populations is substantial and growing. Although some exceptions exist, most health information systems in Europe still have a long way to go to improve data collection for the health differences between immigrants and non-immigrants [1]. Equity in health service provision and health outcomes is a major contemporary concern facing health systems throughout Europe and reduction of inequities is now recognized as a core dimension of health system performance [2]. The basic human right of access to health services has been manifested in numerous international and European legal instruments, applicable to varying degrees to all countries in Europe. The 1946 WHO constitution first declared the right to health, and Article 12 of the International Covenant on Economic, Social and Cultural Rights sets out “the right of everyone to the enjoyment of the highest attainable standard of physical and mental health [3, 4].

Improvement of immigrant health care and provision of access for immigrants to appropriate health services is a challenge for many high-income countries. Health-care systems around the world are facing increases in unplanned hospital admissions and international literature reviews report that approximately one third of the emergency department (ED) consultations are non-urgent visits [5-7]. The consequences of increased utilization of emergency services by patients with non-urgent health-care enquiries decrease access for patients with genuine emergency cases, reduce the quality of care (prolonged waiting times, delayed diagnoses and treatments, delayed care of seriously ill patients), and lead to higher expenses for the health-care system [6, 8-10]. A large proportion of hospital admissions could have been avoided through effective management and treatment in the community [6, 11]. Several studies report that immigrants tend to use emergency services for non-acute reasons [12-15]. This may reflect cultural differences related to health literacy, poor knowledge about the health-care system, language barriers and difficulties accessing a general practitioner [14, 16]. In regard to self-perceived health, most immigrants and ethnic minority groups appear to be disadvantaged as compared to the majority population [17, 18]. Continuity of care provided in primary care

have shown to be associated with prevention of illness and death, and reduced ED attendance and emergency hospital admission for ambulatory care sensitive conditions [5, 19-21]. Knowledge and skills gained through interpersonal continuity of care in a therapeutic doctor-patient relationship in conjunction to a holistic multi-dimensional diagnostic approach are important factors in achieving good health and prevention of disease [22].

Worldwide the number of international immigrants has increased from 153 million in 1990 to 244 million in 2015 [23]. The immigrants have left their homes for a variety of reasons, including conflict, political persecution, poverty, natural disasters or environmental degradation, discrimination and lack of access to basic services and the search for new opportunities, particularly in terms of protection, work or education [24]. Europe and Asia combined host nearly two thirds of all international immigrants. In the period between 1990 and 2015 Europe recorded the largest increase in the number of international immigrants, adding roughly one million additional immigrants per year [23]. The same trend has occurred in Norway. Since 1990 the Norwegian population has become increasingly multicultural and 740.000 international immigrants have arrived to the country. In 2009, when this study was conducted, the population of immigrants and Norwegians born to immigrant parents comprised 11% of the total Norwegian population and 27% of the population in the capital, Oslo. In 2016 the share in Norway had raised to 16% and 33% in Oslo with some of the deprived socioeconomic districts comprising more than 50% of immigrants and Norwegian-born to immigrant parents. This demographic change has introduced several challenges to the health-care system, including maintaining equity of access and handling new patterns of health-care utilization.

9.1 Use of emergency services among immigrants

9.1.1 International studies

Immigrants, like all citizens, require health and social services and one of the greatest challenges facing host countries lies in ensuring that health-care services are equitable,

accessible and able to meet the need of a diverse population. Differences in health-care use between immigrants and non-immigrants have been well documented in an international setting, although the results from literature reviews show a diverging picture of health services use [25-27]. A review study from 2009 looking at the use of somatic health services by immigrants in Europe identified six papers which reported on emergency room (ER) use [25]. This systematic review concluded that for those countries for which information was available, immigrants and non-immigrants showed both, higher, lower and equal levels in terms of utilisation. However, across countries there was a diverging picture, with indecisive conclusions on health-care utilization by immigrants, as well as difficulties in comparing findings across countries. A follow-up systematic literature review aiming to explore whether utilization patterns had changed in Europe since 2009 was published in January 2017 [28]. The principal finding from this review is that utilization of accident and emergency services are higher among immigrants compared with non-immigrants in most countries for which evidence is available, although it is a diverging pattern between countries and within countries. In addition, a third systematic review aiming to synthesize available literature relating to international immigrants' utilisation of EDs in European Economic Association (EEA) countries published recently, found that immigrants utilize the EDs more, and differently, compared to the native populations [29]. Much of the research on emergency health-care utilisation in Europe has been conducted in Spain [30-39], Italy [12, 40-44], Denmark [14, 45, 46], UK [47, 48], Switzerland [49, 50] and The Netherlands [51, 52]. The available literature also confirms that immigrants are significantly more likely to show up at the emergency clinics outside office hours, and are more likely than non-immigrants to use the services for non-acute problems [40, 42-44, 49, 50]. In the literature the terms emergency department (ED), emergency room (ER), accident and emergency department (A&E) and emergency ward (EW) is used equal for describing a medical treatment facility specializing in emergency medicine where patient present without prior appointment either by their own means, by referral or by that of an ambulance. In the present thesis we have chosen to use the term emergency department (ED).

9.1.2 Studies in Norway

The National Centre for Emergency Primary Health Care conducted a registry-based observational study of EPHC contacts in Norway 2008 and published the results in 2012. The study was a part of the project “Immigrants’ Health in Norway” located at the Research Group for General Practice at the Department of Public Health and Primary Health Care, University of Bergen. The study covered 1.715.278 out-of-hours EPHC contacts of the entire population in Norway in 2008 [53]. The material in this study was based on electronic compensation claims sent to the Norwegian Health Economics Administration (HELFO) merged with data from the National Population Register (Statistics Norway) using a unique personal identification number (PID-number). On average, immigrants as a whole had a lower contact rate per year than native Norwegians; (23.7% versus 27.4%). This trend was similar in all age groups, except for the youngest children (0-5 years) and elderly > 67, which reported higher contact rates than natives. Overall immigrants used EPHC services less than Norwegians, but there were large variations between immigrant groups. Immigrants from Asia, Africa and Latin America used the emergency services most, while immigrants from Western Europe had the lowest contact rates. However, based on region of origin, none of the groups had a higher contact rate than native Norwegians. Subgroup analysis of the four immigrant nationalities studied showed that labour immigrants from Germany and Poland used EPHC services considerably less compared to Norwegians, while asylum seekers from Somalia and Iraq used EPHC services more. Another study in Norway exploring immigrants’ use of primary health-care services in general, conducted on the same merged data as above, included 3.739.244 immigrants and natives ≥ 15 years registered in Norway 2008 [54]. The use was differentiated between RGP use and EPHC use, respectively. The results showed an average of 0.17 EPHC visits per year by Norwegians compared to 0.21 visits in immigrants from low-income countries, 0.19 visits in immigrants from lower-middle-income countries, 0.21 visits among upper-middle-income countries and 0.11 visits in immigrants from high-income countries. Overall, the study concluded that a significantly lower percentage of immigrants from high-income countries, but a higher percentage of all other immigrants used emergency services compared to natives, with no difference in

use rates. In this study, burden of morbidity was the variable with the highest effect size regarding frequency of use of primary health care. Patients were classified into morbidity groups according to the John Hopkins University Adjusted Clinical Groups case-mix system where all ICPC-2 diagnosis given to a patient are placed into specific Aggregated Diagnosis Group clusters categorizing patients according to illness burden [55]. In addition, immigrants' length of stay in Norway influenced the frequency of use in an increasing pattern during the first six to eight years of citizenship, while reaching higher levels than natives, and slowly tended to converge to native levels after longer residence in Norway. Findings based on the same register data showed that in people with an established relationship with a RGP, a significantly lower proportion of immigrants used their RGP, but those who used were more likely to be frequent attenders compared to Norwegians [54, 56].

The results provided in the registry-based observational studies originated from the National Centre for Emergency Primary Health Care in 2008 are in contrast to what has been described in the Immigrants' Health Report 2005/2006 conducted by the Statistics Norway published in 2008 [57]. The data is based on an interview-survey including a representative sample of respondents with immigrant background, 16-70 years of age, resident in Norway for at least two years. Respondents from ten different country backgrounds were selected; Bosnia, Serbia, Turkey, Iraq, Iran, Pakistan, Vietnam, Sri Lanka, Somalia and Chile. The results of the study showed an average of 0.6 visits of EPHC services during the last 12 months compared to 0.4 visits for the overall population. Immigrants from Somalia and Iraq reported highest utilization of EPHC with a mean number of 1.0 visits the previous 12 months. These results are based on self-reported utilization in contrast to the registry based observational study, which is reported as number of consultations registered through electronic compensation claims.

Since 2010 - 2012 the Statistics Norway have replaced the sporadic surveys of the population's utilization of RGP and EPHC services with a registry analysis using data from the KUHR database linked to variables of patients taken from Statistics Norway's statistical registers. The KUHR database is based on electronically submitted reimbursement claims from doctors to HELFO. These data are available in the StatBank

Norway accessible at the web [58]. Based on the data from 2012 to 2015, covering all EPHC visits in Norway, Norwegian-born with immigrant parents have higher number of annual consultations per person than the results for the total population. Immigrants have fewer visits compared to the total population (Figure 1). However, these figures are not corrected for age and gender.

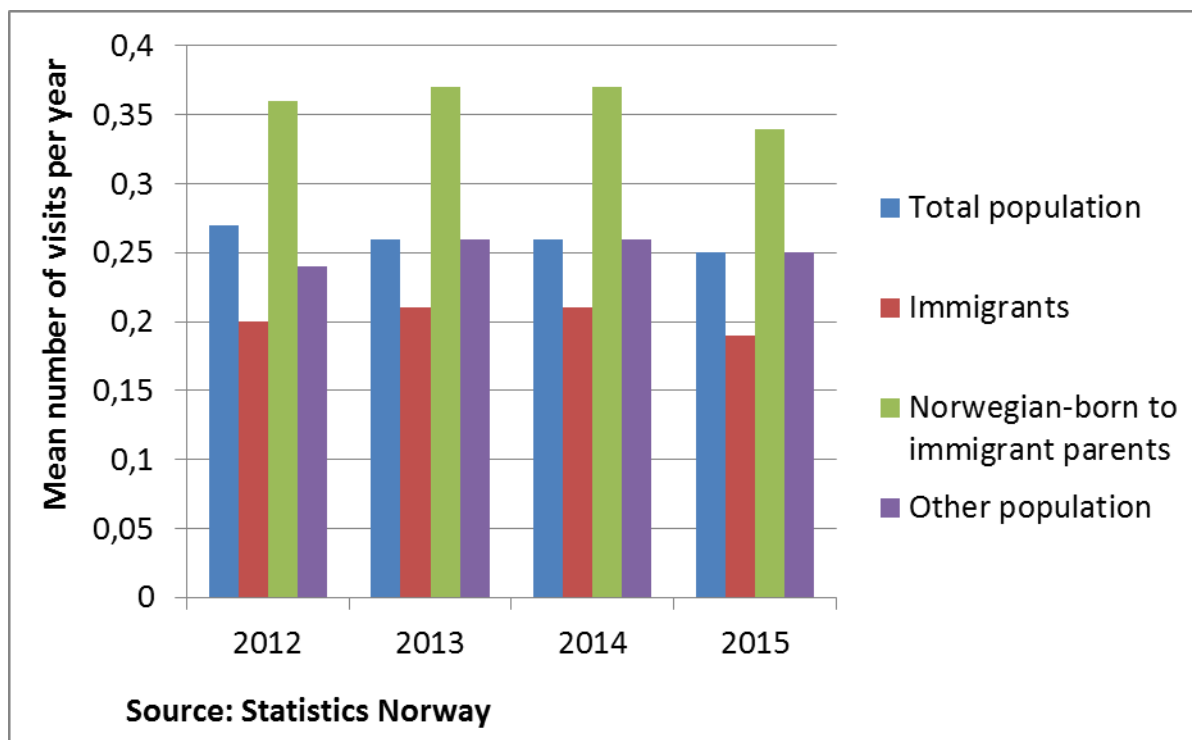


Figure 1 Distribution of group wise average number of yearly visits at EPHC clinics in Norway for all persons registered in the National Population Register (2012-2015). Based on data from Statistics Norway.

Immigrants' utilisation of emergency primary health-care services in Oslo has been studied in two different projects, the Oslo Immigrant Health Profile Study and the PhD thesis work by Ursula Goth "Immigrants' use of the General Practitioner scheme – A mixed Method study analysing access of primary health-care service facilities in acute but non-life threatening medical situations" [59, 60]. The Oslo Immigrant Health Profile Study was based on data material from two cross-sectional population surveys conducted in Oslo as a part of the Oslo Health Study (HUBRO) in 2000-2002 [59]. The Oslo Immigrant Health Profile study included 14.957 individuals with country background from Pakistan, Turkey, Iran, Sri Lanka, Vietnam and Norway. Based on the results from

self-reported use of emergency services, individuals from these five immigrant groups were more likely to be frequent users (defined as more than four visits per year) of emergency services than compared to Norwegians. The same pattern was registered according to frequent use of a general practitioner. The PhD project conducted by Goth was a Mixed Method project combining one quantitative study and two qualitative studies [60]. The qualitative part of the study was based on interviews with local RGPs and cultural key informants from the most frequent immigrant populations focusing on immigrants' health literacy and obstacles they faced navigating in the health-care system. Interviewed RGPs reported that immigrants often had difficulties in dealing with the public health service due to language barriers, differences in expectations, and a systematic failure to coordinate care [61]. Semi-structured interviews of key informants from the 13 largest country wise immigrant populations indicated that integration into the RGP scheme and adequacy of patient-RGP communication varied according to duration of stay in Norway, the patient's country of origin, the reason for migration, health literacy, intention to establish permanent residence in Norway, language proficiency, and comprehension of information received about the health-care system [16]. Informants noted as obstacles: doctor-patient interaction patterns, conflicting ideas about the role of the doctor, and language and cultural differences. The quantitative part was a registry-based observational study merged from two independent public registries by statistics Norway [62]. Consultation records providing the basis for RGPs' reimbursements were merged with socio-demographic details for residents of Oslo born after 1987 collected from the National Population Register. The definition of an emergency ward is not clearly defined in the study. It is unclear whether both the general emergency outpatient clinic and the trauma clinic at OAEOC are included in the material. As the consultation fee claims for RGPs' reimbursements are the origin of the KUHR database, we assume the trauma clinic population at the SOE was not included since they are reimbursed by the Regional Health Authorities (Helse Sør-Øst RHF) and not by HELFO. However, the quantitative results showed a diverse pattern of utilization of the emergency ward depending on country of origin, length of stay in Norway, age and gender. Although a general diversity of utilization was observed, the quantitative paper concludes a higher proportion of emergency ward use of total primary health-care use among immigrants

from Somalia (11.7%) while the lowest proportion of use were found in immigrants from Germany (5.3%) and Vietnam (5.3%) compared to Norwegians (6.6%) [62]. A study conducted by Goth et al (not included in her PhD thesis) was aiming to explore the utilization patterns of emergency wards, defined as EPHC services, in 22 municipalities representing all counties by residents of Norway five years after the introduction of the RGP list-patient scheme and for immigrants in Oslo ten years after the introduction [63]. The use of emergency services of total primary health-care consultations varied between the 22 municipalities for the years 2006, 2007, 2009 and 2010 ranging from 3% to 15%. The rate of contact with the EPHC during office hours was significantly lower throughout the country compared to Oslo. Analysis based on data from immigrants belonging to the most frequent groups in Oslo per 2016 showed that immigrants from Poland and Somalia had the highest use of emergency services during RGP office hours after controlling for age and duration of residency.

9.2 The concept of immigration and terminology

Immigration is the international movement of people into a destination country of which they are not natives or where they do not possess citizenship. The motive is to settle down or reside especially as permanent residents or naturalized citizens, or to take-up employment as a migrant worker or temporarily as a foreign worker. When people cross national borders during their migration, they are called migrants or immigrants (from Latin: *migrare*) from the perspective of the country that they enter. From the perspective of the country that they leave, they are called emigrant or out-migrant. Immigrants are motivated to leave their former countries of citizenship for a variety of reasons, including a lack of local access to resources, escape from prejudice, conflict or climate and environmentally induced disasters, need for exile, a desire for economic prosperity, to find or engage in paid work, family reunification or simply the wish to change one's quality of life.

Categorization of immigrants in the literature is ambiguous. Several terms is used in scientific papers when defining patients and their immigrant background including: country of origin, country of birth, country of origin or birth classified as income

categories according to the World Bank, first- or second-generations immigrants, ethnicity/ethnic groups, racial groups or citizenship. The concepts of ethnicity and race often appear in the literature. However, there are clear differences in the traditional definitions of these terms. According to Bhopal, ethnicity refers to a social group the person belongs to, and either identifies with or is identified with by others, as a result of a mix of cultural and other factors including language, diet, religion, ancestry, and physical features traditionally associated with race [64]. Race is by historical and common usage referred to the group a person belongs to as a result of a mix of physical features such as skin colour, hair texture and bone structure which usually reflect a genetic ancestry. The terms race and ethnicity are increasingly used as synonyms causing some confusing and leading to the hybrid terms race/ethnicity.

In our study patients were categorized based on immigration status and country of origin, according to the criteria and definitions used by Statistics Norway in 2009 [65]. Thus, we defined patients with immigrant background as persons born abroad of two foreign-born parents (first-generation immigrant) or Norwegian-born to two immigrant parents born abroad (second-generation immigrant). The country of origin was based on their birth country given status as first-generation immigrant, or their mother's country of birth if the patient was born in Norway (second-generation immigrant).

Although there is no universally agreed definition upon the term immigrant, United Nations (UN) has defined for statistical purposes an international immigrant as “*a person who changes his or her country of usual residence*” [66, 67]. A person's country of usual residency is the country in which the person has a place to live were he or she normally spends the daily period of rest. Temporary travel abroad for purposes of recreation, holiday, business, medical treatment or religious pilgrimage does not change the country of residence. A long-term immigrant is defined as a person who moves to a country other than that of his or her usual residence for a period of at least 12 months, so that the country of destination effectively becomes his or her new country of usual residence. A short term immigrant is a person who moves to a country other than that of his or her usual residence for a period of at least 3 months, but less than 12 months except in cases

where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage.

In Norway immigrants are categorized according to their juridical status as new Norwegian inhabitants by The Norwegian Directorate of Immigration (Utlendingsdirektoratet, UDI) [68]. The UDI is the central agency in the Norwegian immigration administration. They implement the government's immigration and refugee policy with regards to processing applications for protection (asylum), visitor's visas, family reunification, residence permits for work and study purposes, citizenship, permanent residence permits and travel documents. The different categories of immigrants according to definitions by the Norwegian Directorate of Immigration are presented in Box 1.

Box 1. Definitions of different immigration categories according to the Norwegian Directorate of Immigration (UDI).

- **Asylum seeker** - A person is called an asylum seeker if he or she has applied for protection (asylum) in Norway and the application has not yet been finally decided.
- **Refugee** - A refugee is a person who meets the requirements for being granted protection (asylum) in Norway.
- **Resettlement refugee (quota refugee)** - Resettlement refugees are usually people who are registered as refugees by the UN High Commissioner for Refugees (UNHCR), but who cannot be offered a permanent solution in the country they are currently in and who are therefore offered resettlement in a third country. It is the UN High Commissioner for Refugees (UNHCR) that submits the applications for resettlement refugees, and it is the UDI that decides who is allowed to come to Norway.
- **Family immigrant** - Family immigration is also called family reunification or forming a family. Those who apply for family immigration are usually the spouse, cohabitant or child of someone who lives in Norway either as refugee, labour immigrant or a Norwegian citizen.
- **Work immigrant/labour immigrant** - EU/EEA nationals are entitled to work and live in Norway. All EU/EEA nationals who are going to stay in Norway for more than three months must register with the police. They acquire the right of permanent residence after five years of legal residence. Citizens from the Nordic countries are exempted from the general rules on residence permit and registration because of the agreement in 1957 establishing the common Nordic labour market. Foreign nationals outside the EU/EEA who are going to work in Norway must hold a residence permit. For a worker to be able to apply for a residence permit for work purposes he/she must have received an employment offer.
- **Undocumented immigrant/ irregular immigrant** – Person being located in Norway without legal residence. Usually related to rejected asylum seekers which are still in the country, labour immigrants working in the black market without a legal residence permit and victims of human trafficking.
- **International student** – An international student is a person who attends an education or study program in Norway. The students need an admission letter from the education institution.

9.3 Immigration and emigration in Norway

9.3.1 A historical retrospective

Throughout the human history immigration has been a fundamental instrument to improve essential needs for survival. Craving for food and shelter our ancestors had to move around in search for better living conditions. Climatic changes in the environment forced or encouraged the inhabitants to migrate to ensure the best way of living. When the glaciers started to withdraw from the European continent, our ancestors migrated towards the north and settled down creating new communities. Between the 12th-16th centuries, new political interests in Norway towards Europe, lead to an increased focus on commerce and trading. Increased political stability and geographically mobility brought merchandise across countries into creating new settlements of immigrants in Norway [69]. Skilled workers in commerce and crafts were recruited to the Norwegian society. The Hanseatic League brought several Germans to the country dominating most of the stock fish market. Immigrants from Holland, England and Scotland settled down in Norway and were engaged in timber- and fishery commerce. After a period of social and economical uprising, Norway experienced an outflow of people. Episodes with deprivation and conflicts lead to a massive emigration from Norway. During the 1800s Norway went through a period of decline and industrialization with a subsequent exodus of people to America. Approximately 800.000 Norwegians migrated to America in the period between 1825 and 1920 and during the Second World War approximately 50.000 Norwegians escaped from difficult living conditions in Norway to a more secure life in Sweden. Their motives for emigration were similar to what we find in many of the immigrants coming to Norway these days: poverty, religious and economical oppressions, class divisions, war and political conflicts.

9.3.2 Immigration to Norway during the post-war period

After the Second World War and towards the 70-80's the population growth in Norway was mainly influenced by excess of births (Figure 2). From the late 80's towards today the general population growth has expanded mainly caused by immigration from different parts of the world.

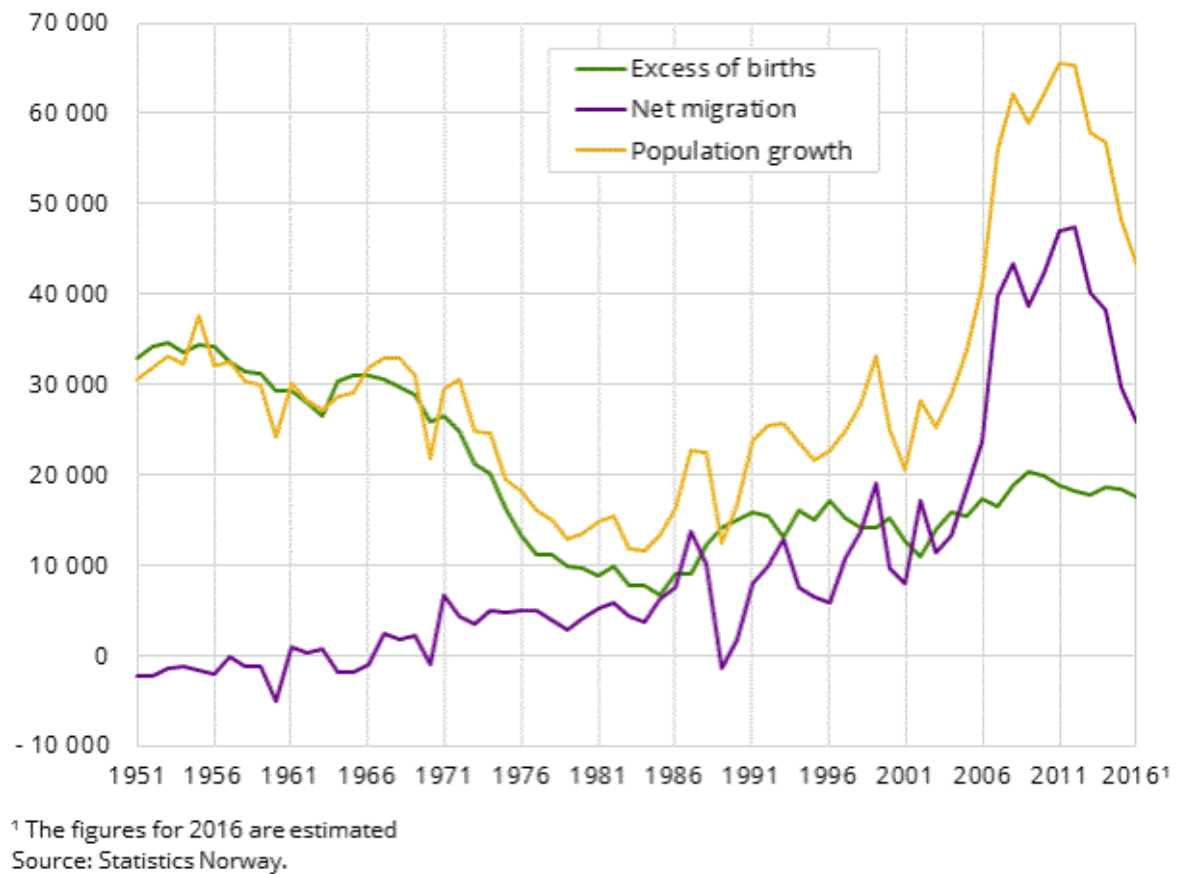


Figure 2 Excess of births, net immigration and population growth in Norway (1951-2016).

Political conflicts around the world throughout the post-war period have resulted in immigrants coming to Norway for protection. It started in 1956 when the Norwegian Government accepted to host Hungarian refugees as a consequence of the invasion by the Soviet Union [70]. Unstable political systems in Chile, Vietnam and Sri Lanka in the 70- and late 80's, resulted in a flow of refugees coming to Norway for protection. The 80-90's were characterized by immigrants arriving in Norway from Iran, Afghanistan, Bosnia (former Yugoslavia), Somalia and Iraq, as a consequence of war conflicts and political prosecutions. In the subsequent years and until now, the majority of immigrants applying for asylum have been immigrants from Somalia, Iraq, Afghanistan, and Eritrea. In the last few years asylum seekers from Syria has dominated due to the escalating conflicts in the middle-east region.

During the post-war period Norway has been through an economic uprising causing an opportunity for labour immigrants to enter the country for work. The discovery of large deposits of oil in the North Sea resulted in import of skilled oil-workers from particularly United States, who settled down temporarily or permanently. In the 60-70's labour immigrants from Pakistan, Turkey, Morocco and former Yugoslavia came to work in Norway [70]. A continuous development in the building construction services during the last decade has caused a flow of labour immigrants from the Eastern Europe, particular construction-builders from Poland, Lithuania and Latvia as well from other Nordic countries. Labour immigrants from Sweden have especially been engaged in the service-industries working as shop assistants and in restaurants.

The number of immigrants coming to Norway through family reunification has increased throughout the period between 1990 and 2015. Particularly family members to labour immigrants from Poland and Somali refugees have been accepted for a residence permit.

Figure 3 shows an overview of entry categories for immigration to all persons who have registered as a resident in Norway for the first time between 1990 and 2015. The statistics from Statistic Norway on reasons for immigration do not cover asylum seekers who are waiting for a residence so these numbers are supplied in the figure based on available data provided by the UDI statistics from 2007 to 2015 [71].

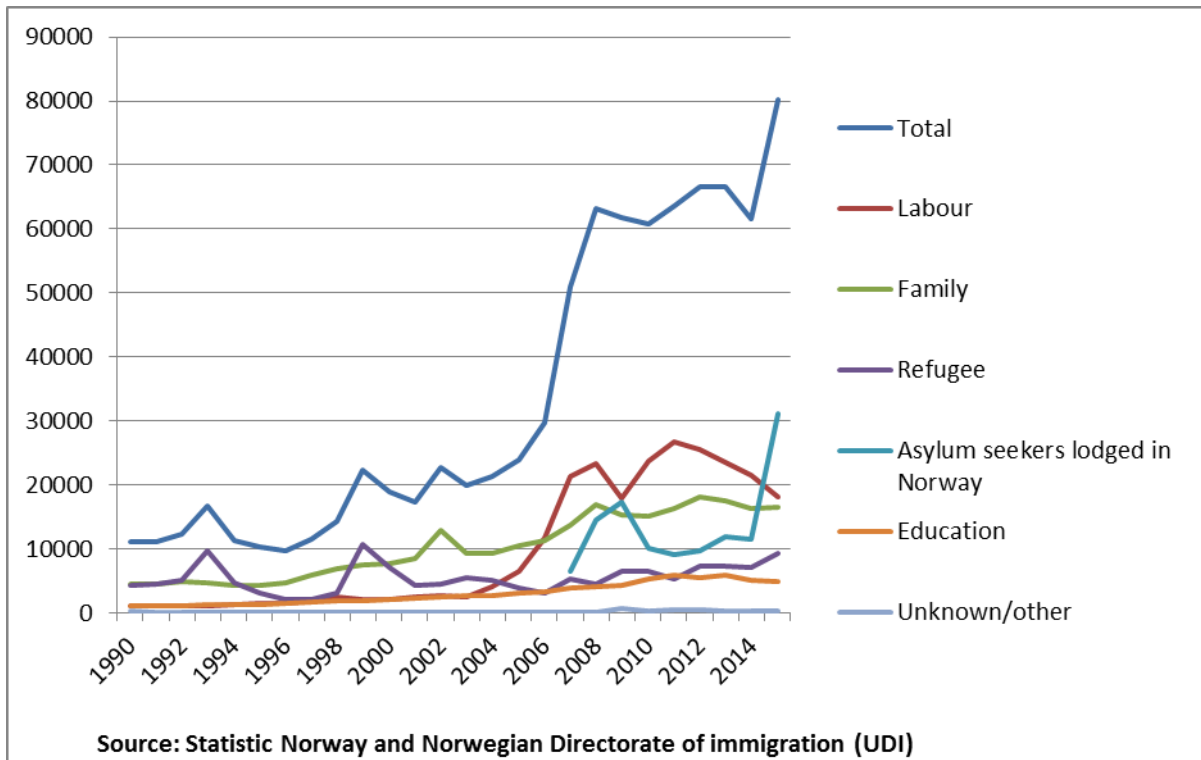


Figure 3 Immigration in Norway between 1990 and 2015 according to entry categories. For asylum seekers: 2007-2015. Based on data from Statistics Norway and UDI.

9.3.3 Immigrants in Oslo today

In 2016, immigrants and Norwegian-born to immigrant parents accounted for 16.3% of the total population in Norway; immigrants (13.4%) and Norwegian-born to immigrant parents (2.9%) [72]. They have originated from 223 different countries and independent regions. Persons with an immigrant background were resident in all Norwegian municipalities. Oslo had the largest population of immigrants and Norwegian-born to immigrant parents, both in relative terms and absolute figures. Of Oslo's 658.400 inhabitants, 163.300 were immigrants and 50.900 were Norwegian-born to immigrant parents constituting 33% of the capital's entire population. All districts in Oslo were above the national average of 16.3%. The districts with the highest proportions of immigrants and Norwegian-born to immigrant parents were the typically low socioeconomic districts located in the eastern regions of Oslo. The share of immigrants with locality of suburban residence in the eastern parts of Oslo is over 50%, in contrast to 17% in the high socioeconomic districts which mostly are located in the western parts.

The region of origin for immigrants and Norwegian-born to immigrant parents living in Oslo during the last decades has mainly been from Asia including Turkey, Africa and Europe (Figure 4). The ten most frequently represented nationalities in Oslo per 2016 were citizens with immigrant background from Pakistan, Poland, Somalia, Sweden, Iraq, Sri Lanka, Morocco, Turkey, Iran and Vietnam in descending order [73]. They made up 50.2% of all the 214.200 immigrants registered as citizens in Oslo. Asylum seekers waiting for a final answer to their applications and undocumented immigrants are not included in the statistics of residence.

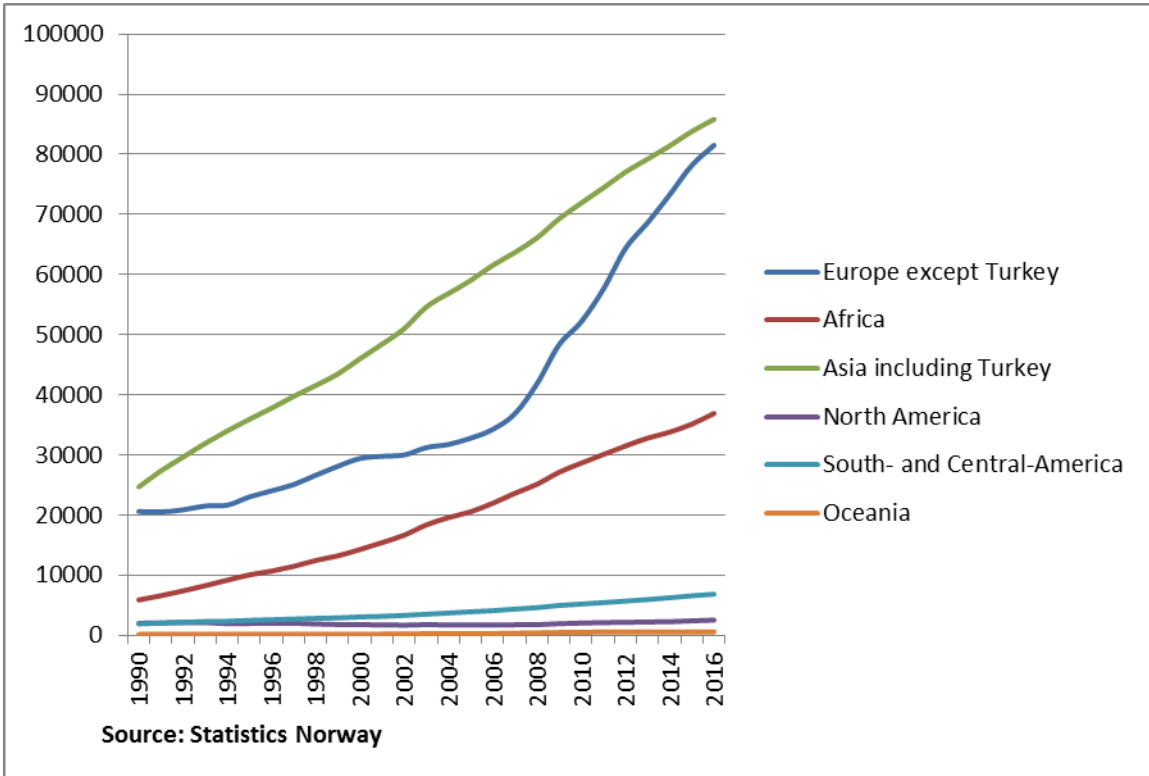


Figure 4 Number of immigrants and Norwegian-born to immigrant parents in Oslo by region of origin during 1990 – 2016. Based on data from Statistics Norway.

9.4 Health-care organization in Norway

9.4.1 General overview

The Organisation for Economic Co-operation and Development's (OECD) review of Health Care Quality in Norway states that the country has a world-class health system and consistently out-performs most OECD countries on hospital care indicators [74]. With health expenditure at 9.4% of GDP, it is also one of the more generous health spenders in the OECD. The Euro health consumer index ranked the Norwegian health system as third in Europe in 2016 [75]. The system of health-care provision in Norway is based on a decentralized model [76]. According to the Norwegian Directorate of Health the state is responsible for policy design and overall capacity and quality of health care through budgeting and legislation. Fully private general practitioners, specialist services and hospitals exist, but to a very minor degree, and mainly in urban areas. The public health-care system in Norway is free of charge for any person younger than the age of sixteen. Residents who have reached adulthood must pay a deductible each year before becoming eligible for a health-care exemption card. The card entitles one to free health care for the remainder of that year (Frikort, 2.205 NOK per 2017). Patients pay deductibles for consultations in primary health care and specialist outpatient clinics reimbursed by the Norwegian Health Economics Administration (HELFO). In terms of hospital admissions for immediate health care or elective treatment, all immediate health-care costs are covered.

The health-care organization in Norway is divided into primary health care and secondary health care organized at two separate levels of responsibility. Primary care is organized at municipal level and secondary care at the government level. The Norwegian model is based on the principle of lowest economical level of health care and the primary care is the foundation in this organization. More than 90% of all individual based treatments occur in general practice without involving secondary care [77]. According to the OECD report from 2016, improving primary health-care systems and co-ordination between health services will be necessary for helping Norway to meet the changing needs of its health-care system, as the population ages and hospital stays become shorter. Ahead of

this report, a new health reform (the Care Coordination Reform) was launched in 2012, aiming at better coordination of the health-care services, both between primary and secondary care, and within each level of care [78]. The health-care services are supposed to be directed more towards preventive care, and measures are taken to reduce the burden of changing demographics related to an increasingly older population, growth in immigration and lifestyle related illnesses.

9.4.2 Primary health care

The primary health care involves a diversity of public health-care services and is anchored at the municipal level. General practitioners play a key role in the primary health-care system as they are responsible for all initial assessment, investigation and treatment of patients during office hours (Mon-Friday, 08:00-16:00). The general practitioner's main task is to treat acute and chronic illnesses and provide preventive care and health education to primary care patients in a holistic perspective. A regular working-day consists of mostly scheduled appointments and some prearranged drop-in consultations for immediate health care patients. In Norway, general practitioners most commonly work as RGP's in group practices of 3-8 participants. According to statistics in 2015 there were approximately 4900 RGP's in Norway, among these 53 % were specialists in general practice [79]. The general practitioners are also responsible for serving the well child clinics, school health clinics and nursing homes. The closest working partners for general practitioners outside the office are nurses in home-based services, occupational therapists and physiotherapists. The municipalities deliver all these services, but they are supplemented by private health-care providers. These private providers treat predominantly socio-economically advantaged individuals and persons holding a private health insurance and do not receive financial compensation from the HELFO.

9.4.3 Secondary health care

The secondary health care consists of hospital services and specialist outpatient clinics i.e. ophthalmologists, otolaryngologists, psychiatrists and psychologist. However, the majority of medical specialists are employed by the hospitals. All public hospitals in

Norway are run by four Regional Health Authorities superintended by the Ministry of Health and Care Services. In addition to the public hospitals, there are a small number of privately owned health clinics currently operating. The public hospitals are funded by the public as part of the national budget. Management of patients in secondary care is based on referral by general practitioners or directly admittance by the pre-hospital ambulance services.

9.4.4 The Regular General Practitioner scheme

Norway introduced the RGP scheme (registered list-patient system) in 2001 in an effort to provide comprehensive stability and efficiency in the general practitioner–patient relationship. This registered list-patient system is anchored at the municipal level, and entitles residents qualifying of an assignment to a RGP on a voluntary basis. In a list-patient system the contract between the municipality and the RGP implies transfer of responsibility for providing services. The RGP is responsible for providing continuity in health care for the patients registered at the list and act as gatekeepers to secondary health care. The RGPs are reimbursed from the health authorities through a fixed annual fee per listed patient, fees for the specific procedures and services through HELFO and deductibles paid by patients. Only citizens who are registered in the National Population Register or asylum seekers and their families are entitled to register with the RGP scheme [80]. Asylum seekers, refugees and their children who have been assigned a temporary identification number can register with a RGP or use a primary health-care service organized by the municipal authorities. Immigrants with an intention to stay in Norway for at least six months and who have been allocated a residence permit can register with the RGP scheme after they have received a PID-number. Patients who fall outside the RGP scheme include undocumented immigrants, rejected asylum seekers and short-term labour immigrants. However, like all citizens, they have the right to receive emergency health care within the public health-care system. For them the emergency clinic may be the only relevant source of health-care service to attend because private health clinics are expensive and predominantly serve socio-economically advantaged individuals.

9.4.5 Emergency Primary Health Care in Norway in general

EPHC is an overall term of immediate health care provided by general practitioners in primary health care, while immediate health care served when the RGP office is closed is defined as out-of-hours (OOH) service. RGPs in most rural parts of Norway handle the EPHC needs of patients during regular hours (Monday–Friday, 08:00–16:00) and participate in OOH organization at evenings, nights and weekends. The organization of OOH services in Norway is different throughout the country due to geographically circumstances, but the trend during the last decades has been moving from municipal-based to larger inter-municipal co-operations with regular employees and improved competence [81]. In addition the use of home visit practice by doctors has been reduced for the benefit of offering a consultation in a stationary and medical equipped casualty clinic. The concept of EPHC offered out of hours, is for patients to get access to immediate medical care and receive essential medical diagnostics and treatment for acute illness and injuries [63]. The OOH services are based on a collegial cooperation between the RGPs to participate in a shift schedule. The number of OOH commitments per month depends on the organization of the service in the municipals and how many RGPs who participate in the program. Most emergency problems are treated in casualty clinics and by home visits, but the RGPs on duty also provide health-care services in emergency settings by cooperating with emergency medical technicians and paramedics at the ambulance service and anaesthesiologist at the helicopter emergency medical service [82]. In Norway, the role of a general practitioner as gatekeeper to secondary health-care services is more defined than in many countries where patients can show up at the ED without any referral.

9.4.6 Emergency Primary Health Care in Oslo in particular

The situation is more complex in Oslo. If individuals become acutely ill during the daytime, they are intended to seek help from their RGP during regular hours (08:00–16:00, Monday–Friday). However, if their RGP is unavailable or if they are not assigned to a RGP, individuals frequently attend the general emergency outpatient clinic which is part of the larger Oslo Accident and Emergency Outpatient clinic (OAEOC), or one of

Oslo's few and smaller private emergency care facilities. Outside of regular RGP working hours, individuals are expected to go to the OAEOC for urgent medical care. Patients need to pay a deductible at both day and night time when consulting for health care, unless they have become eligible for a health-care exemption card. For minor injuries and trauma, individuals have the possibility to by-pass their RGP, regardless of the time of day, and proceed directly to the trauma clinic at the OAEOC. However, conditions which do not require x-ray and special equipment can also be consulted at the RGP office. Major trauma cases and other emergencies are admitted directly to the ED at Oslo University Hospital by ambulance or medical referral. The OAEOC acts as a gatekeeper to secondary care through a process of acute and elective referral. Persons with an immediate health care need can show up at the general emergency outpatient clinic without any referral or scheduled appointment, register their problem, and wait their turn pursuant to a triage code (defined as walk-in patients) on a 24 hours seven days basis. By contrast, at most RGP offices, patients must make a scheduled appointment, preferably on the same or next day. Patients or their families may find it more convenient to use the emergency care facility of the clinic equipped with a full range of medical services and diagnostic tools (i.e. ultrasound machines, x-ray for chest- and abdominal diagnostics and extended laboratory tests) instead of making an appointment with their RGP.

9.5 Health associated factors in immigrants

9.5.1 Socioeconomic status

Inequalities in health among groups of different socioeconomic status (SES) measured by education, occupation and income, constitute one of the main challenges for public health [83]. It is well established that individuals of a lower socioeconomic background have an increased risk of morbidity and premature mortality and that this is affected with several adverse health outcomes, including high health care utilization, unplanned hospital admissions, mental health disorders, lower functional level, higher prevalence of pain and lower quality of life [84-87]. A study from Norway has found pro-rich and pro-educated social inequalities in needs-adjusted utilization of hospital outpatient services and for private medical specialists [88]. However, needs-adjusted utilization of RGP and

inpatient services, which have low access threshold or are free of charge, were found to be equitable. Behavioural, psychological and material factors have been identified as key pathways in the explanation of socioeconomic inequalities in health [89-91]. A systematic review published in 2016 showed that all three factors contribute to the explanation of socioeconomic inequalities in self-perceived health [92]. The behavioural explanation takes into account that poor dietary habits, low physical activity and substance use are more prevalent among people of lower SES [93]. SES is linked to a wide range of health problems, including low birth weight, cardiovascular disease, hypertension, arthritis, diabetes, and cancer. The psychological hypothesis emphasises that negative life events, chronic strain, low mastery of daily life and low social support are unequally distributed to the disadvantage of people of lower SES and thus contribute to social inequalities in health [94]. Chronic stress associated with lower SES may also increase morbidity and mortality through its effect on human physiology by rising allostatic load through the conversion of sociocultural and environmental influences into physiological characteristics [95]. Finally, the materialist explanation postulates that health inequalities are the result of worse material and structural conditions, such as low employment status, financial difficulties, hard physical working conditions or poor housing conditions, all of which are found more often among socioeconomic deprived people [90, 96]. Poor SES might itself be a result of immigrant status and ethnic origin, because of a process of social exclusion [97]. In a health-care utilisation perspective, low SES is associated with increased use of EDs and primary health care in general practice [51, 98]. Immigrants are a heterogenic group in most societies, but in general they fall into the category of low SES. Norway in general is acknowledged as a country where socioeconomic gradients in access to health care are very low or non-existent. The main reason for this is probably the low personal costs for health care provided by public hospitals and primary care providers. However, the health inequalities across a social gradient when it comes to life expectancy appear to be more prominent in Oslo compared to the rest of the country. In the eastern districts of Oslo where over 50% of the population are immigrants, the life expectancy in men are 8.8 years and women 6.9 years lower than for those living in the western districts [99]. Studies conducted in Oslo at ethnic minority groups living in the

eastern districts have also reported an increased morbidity among immigrants affecting life-style diseases as obesity, diabetes and cardiovascular disease [100-104].

9.5.2 Health literacy

Health literacy concerns the knowledge and competences of persons to meet the complex demands of health in a modern society. The term was introduced in the 1970s and is of increasing importance in public health and health care today [105]. A systematic review of existing health literacy definitions and models has resulted in an integrated definitions of the concept as, *the knowledge, motivation and competencies to access, understand, appraise and apply health information in order to make judgements and take decisions in everyday life concerning health care, disease prevention and health promoting to maintain or improve quality of life throughout the course of life* [106, 107]. Skills and competencies in health literacy are necessary as the contemporary health-care systems have become more complex, and people are often expected to make their own decisions with regard to health care, disease prevention and health promotion [108]. Low health literacy may result in less healthy life-style choices and difficulties in making an informed decision with respect to health promotion programs [109, 110]. Language barriers and poor knowledge about the health-care system can impact the way immigrants navigate the system and appraise and apply health information. Strategies to enhance health literacy skills in immigrants will most likely increase the chance to better health outcomes, thereby moving towards health equity in the Norwegian society [109-111]. A systematic review of interventions to reduce ED visits found the greatest magnitude reduction in patient education [112].

9.5.3 Minority stress

Minority stress describes chronically high levels of stress faced by members of stigmatized minority groups over time, resulting in long-term health deficits [113]. Minority stress theory has been studied with regard to its impact on several types of health effects, most of which examined racial and sexual minority populations [114]. There is substantial evidence for the harmful health effects of perceived prejudice and discrimination across a range of mental and physical health outcomes including

depression, psychological distress, anxiety, cardiovascular disease as well as potential risk factors for life-style diseases and substance abuse [114-116]. Immigrants may be subjected to multiple discrimination, violence and exploitation, all of which often directly affect their physical and mental health. Experiences of discrimination may contribute to health problems through allostatic overload developed by heightened stress responses and negative emotional states through cardiovascular reactivity and cortisol responses [95]. An increasing body of literature describe how distressing challenges tend to affect the human physiology by rising allostatic load through the conversion of sociocultural and environmental influences into physiological characteristics. A prospective cohort study on data from an unselected Norwegian population, has demonstrated that existentially demanding life circumstances are associated with the development of multi-morbidity in a dose-response manner [117].

9.5.4 Healthy immigrant effect

Research related to immigrants' health in a variety of countries has found that immigrants are typically healthier than the native-born population, at least initially upon arrival in their new country [118-120]. This phenomenon is called the "healthy immigrant effect" (HIE). One hypothesis is that immigrants' health advantages is explained through the positive self-selection of individuals who might systematically differ from those who do not migrate in terms of health and social characteristics. The emigrants who leave their country of origin are not necessarily a random sample of the population left behind. The theory of positive self-selection in immigrants postulate that only the healthiest and most motivated individuals choose to move and are able to undergo the traumatic experience of migration to a new country. At the state level, receiving countries can impose a positive selection of healthy immigrants through their immigrant admission policies [121]. There is also evidence that the immigrants' health advantages decline with time spent in the host country and converges toward the health status of native-born residents, or even becomes worse. One theory is that convergence in health outcomes might arise from a process of assimilation in which recent immigrants take on characteristically host country cultural norms, risky behaviours and diets. An alternative hypothesis is that recent immigrants face barriers to the use of health-care services because of language or cultural differences,

and a lack of information and experience with their new health-care system. This may lead to worsening health status over time because of relative under-use of preventative health screening, under-diagnosis and neglected treatment of health problems.

9.6 Theoretical foundation

Why is immigrants' utilization of a public emergency primary health care clinic in Oslo of concern? The capital of Norway was in 2008 considered a global city according to the Globalization and World Cities Study Group and Network. The population was increasing fast during the early 2000s, making it the fastest growing major city in Europe at the time. This growth stemmed for the most from international immigration and related high birth rates, but also from intra-national immigration.

9.6.1 Theoretical framework

Access to health care is central in the performance of health-care systems [122]. Health care-seeking behaviour can be affected by individual factors, diseases, and the availability and accessibility of health services [123]. System barriers faced by immigrants encountering the established health-care system, cultural expectations and personal preferences influence how immigrants use health-care facilities, and may give rise to inequity in health care. The importance of information on the health status and healthcare-seeking behaviour in immigrants, comprising a heterogenic population, is important to correctly address the health challenges and priorities which policy makers need to respond to.

One model of describing the use of health-care services is the behavioural model defined by Andersen as a multilevel model that includes individual and contextual determinants of using health services [124]. To understand the individual determinants, three major factors have been described as predisposing factors which includes demographic factors of age and gender as "biological" imperatives, social factors including education, occupation, ethnicity and family status, and mental factors including individual's attitudes, values and knowledge of health and health services. The contextual determinants are health organization and provider-related factors and community

characteristics. In the present PhD thesis we aim to study the utilization of a public emergency primary health care clinic in Oslo seen through the light of contextual determinants described as system barriers and individual determinants expressed as the walk in patients' personal preferences. The behavioural model defined by Andersen is further elaborated on in the method section.

Health inequalities research has given rise to many questions and debates about definitions of concepts, analytical strategies, interpretation of findings and explanatory models [125]. Overall, inequality and equality are recognised as dimensional concepts, simply referring to measureable quantities used to describe differences, variations, and disparities in the health achievements of individuals and groups. Inequity and equity, on the other hand, are political concepts, expressing a moral commitment to social justice. The most widely cited definition of health inequity is the one proposed by Whitehead and Dahlgren, "health inequalities that are avoidable, unnecessary, and unfair are unjust" [126]. In Norway health care equity is based on the principle to make health care accessible to every resident by promoting policies enhancing access to health care and at the same time aim to control the quality of care regardless of the individual's social factors and economic status. Thus, equity in access to health care is achieved when the health care is delivered irrespective of factors such as age, gender, SES, religion, sexual orientation or immigrant status.

9.6.2 Methodological principles

Research should be designed to answer the question of interest as simply and clear as possible. The most common research designs can be divided into quantitative or qualitative methods. Quantitative research designs are either descriptive: subjects usually measured once, or experimental: subjects measured before and after an intervention. A descriptive study establishes only associations between variables; an experimental study can establish causality. Qualitative research methods are appropriate for description and analysis of properties, contents, or experiences in the field we want to study [127]. In qualitative studies, textual data are drawn from interviews, observations, or written material. In the analysis, raw data are transformed into findings by interpretation and

summarization of the material, in contrast to quantitative methods which rely on numerical data collected through descriptive or experimental studies. Qualitative research methods can help us to improve our understanding of the question studied [128]. Rather than thinking of qualitative and quantitative strategies as incompatible, they can be seen as complementary and assess the problem from different perspectives and improve the validity of research [129]. Integrating quantitative and qualitative results in science is called mixed method research.

When conducting research on utilization of health-care services we are interested in determining the prevalence or occurrence of a specific characteristic and individual determinants associated with the use. The study of the occurrence and distribution of health-related states or events in specified populations, including the study of the determinants influencing such states, and the application of this knowledge to control the health problems, is defined as epidemiology [130, 131]. Methods for collecting such data can be divided into questionnaire surveys or register based studies. Achieving information regarding individuals' personal experience, feelings and attributes is best served and valid through a qualitative approach, however, such information may also be quantified in a questionnaire. In the present PhD thesis, given the reservations and regulations in the contract research assignment, we chose to conduct a quantitative research design in order to fulfil the time frame restrictions.

9.6.3 Preconditions for research

The present PhD-thesis is based on data achieved through a contract research survey conducted by means of restrictions related to a short time frame and specific incentives issued in the mandate. These preconditioned regulations had implications on the choice of study design. The initial objective in the contract research document was to conduct a quantitative and qualitative analysis of immigrants using the public emergency primary health care services in Oslo and Lillestrøm and their admission to the emergency department at the University Hospital of Akershus (AHUS). Despite this rather comprehensive study aim, data collection and preparation of a descriptive report had to be carried out within a 10-month period in 2009. In order to complete the study within the

ten months limit, we ended up doing only a quantitative study aiming to register immigrants' use of the services and associated factors representing some individual determinants and preferences related to the utilization. This down-scaled approach was approved through discussions and negotiations with the board of "Project of Equity in Health Care".

Our study project was designed and conducted at a time when a lack of research in the field existed at national and regional level. The only reports existing were the Immigrant Health Report 2005/2006 conducted by the Statistic Norway and the Oslo Immigrant Health Profile Study in 2000-2002 which were both based on self-reported data. The national register-based study by Sandvik et al. [53] was published later in 2012 and Goth et al. published their study results in 2012 and 2014 [62, 63]. In addition three independent systematic review reports published in 2010 and 2017 have synthesized the evidence relating to immigrants use of emergency health-care services in Europe. Thus, the research according to immigrants' health and utilization of health-care services at both national and international level has moved forward since 2009.

There is, however, a gap between the principle findings in the two systematic reviews from 2017 exploring utilization of emergency services in Europe and the national register-based study published in 2012 covering out-of-hours EPHC in Norway. The systematic reviews conclude that immigrants utilize the ED more than natives in general while the Norwegian study concludes that immigrants have a lower contact rate than natives. Nevertheless, it is not possible to compare an ED setting in Europe with an out-of-hours EPHC in Norway due to the different medical conditions taken care of. The present thesis includes walk-in patients in an urban setting utilizing the OAEOC with an opportunity to drop-in consultations 24 hours 7 days a week. This patient population might be similar to walk-in patients attending an ED in Europe, but differ from the general ED population, since the latter consists of more severe medical conditions.

A problem with systematic reviews is the external validity of the results. Data from both small-sized questionnaire surveys conducted on local and regional levels and more comprehensive register data studies conducted on national levels are summarised into a

common principal findings. This process can be complicated because studies included in the reviews represent different countries comprising very different immigrant populations as well as structural differences in the organization of the health-care system. The single studies differ in inclusion criteria and finally, inconsistency of categorization and definition of immigrants is prominent.

The present PhD thesis provides supplemental knowledge to the work conducted by Goth in exploring immigrants utilization of an emergency outpatient clinic which are neither fully applicable to ED services internationally nor out-of-hours EPHC in Norway. In addition, our results cover the aspects of integrating undocumented immigrants lacking a PID-number in the patient population, which potentially provide an overview of the entire walk-in patient population not explored by register-data studies which depend on PID-numbers. In addition, information about the immigrant representation in the patient population at the trauma clinic in Oslo is not covered in other Norwegian studies since these data are based on data from the KUHR database and not explicitly addressed in the Health Report 2005/2006, the Oslo Immigrant Health Profile Study in 2000-2002 and the study by Goth. Our study also contributes to reduce gaps in the international literature according to patients' and doctors' evaluation of perceived urgency levels in the light of various immigrant groups.

9.6.4 Research hypotheses

In light of the documented research knowledge established in Norway in 2009, our main hypothesis was that immigrants utilized the OAEOC more compared to native Norwegians and used the emergency outpatient clinic instead of consulting their RGP. We also hypothesized from empirical experience that immigrants were more often presented with general medical problems than trauma and injuries problems, and that immigrants experienced the urgency level of their health problems to be more severe compared to Norwegians.

10. Objectives

The overall objective in this thesis was to study utilization and individual and contextual factors contributing to the use of public emergency health care services at Oslo Accident and Emergency Outpatient Clinic among walk-in patients with immigrant background.

The aims of the individual studies were:

Paper I: To evaluate how immigrants, immigrant subgroups and Norwegians attending the OAEOC utilized the public emergency primary health care service in Oslo, their self-reported affiliation with the RGP scheme and concomitant use of RGPs.

Paper II: The primary aim of this study was to evaluate how patients and their doctors perceived the level of urgency for obtaining medical assistance and to determine the concordance between their assessments in a diverse population of walk-in patients attending the general emergency outpatient clinic at OAEOC. The secondary aim was to explore whether there were any differences in the assessments of the level of urgency by Norwegians, immigrants, and subgroups of immigrants based on their region of origin. Finally, we wanted to explore whether there were any associations between the level of urgency for the consultation as perceived by patients and the result of the consultation.

Paper III: The primary aim of this study was to evaluate whether walk-in patients had attempted to contact their RGP before attending the general emergency outpatient clinic during regular hours (Monday–Friday, 08:00–23:00). Secondary we wanted to explore their reasons for attending the general emergency outpatient clinic after first having contacted their RGP office. Finally, we wanted to explore the reasons why some patients did not attempt to contact their RGP prior to the emergency outpatient clinic visit.

11. Methods

11.1 Setting

Oslo Accident and Emergency Outpatient Clinic

The Oslo Accident and Emergency Outpatient Clinic (OAEOC) was established in 1900 and has since its origin been located at the same address in the centre of Oslo city (Figure 5). This public emergency outpatient clinic is well known and acknowledged among the population in the capital as an EPHC provider easily accessed 24 hours a day, seven days a week.



Figure 5 Oslo Accident and Emergency Outpatient Clinic.

The OAEOC is organizationally divided into two main divisions, the Department of Emergency General Practice (DEGP, or the general emergency outpatient clinic) and the Section for Orthopaedic Emergency (SOE, or the trauma clinic). The general emergency outpatient clinic is staffed by general practitioners and operated by the Municipality of Oslo, while the trauma clinic is an integrated section within the Orthopaedic Department of Oslo University Hospital and staffed by registrars/residents in orthopaedic. The trauma clinic treats injuries and other minor trauma cases not in need for direct admission to a

hospital while the general emergency outpatient clinic handles patients in need of medical emergency health-care treatment.

The OAEOC is in a special position compared to most regular EPHC clinics in Norway with reference to the volume of patients served and the variety in services delivered. In addition to act as a gatekeeper for secondary health-care hospitals, the OAEOC possess a position almost similar to what is found in EDs elsewhere in Norway and internationally. An important task is to triage, investigate, stabilize and diagnose severely ill patients and patients admitted by ambulance and then transfer them to the right hospital holding the respective speciality if necessary. The OAEOC is equipped with a full range of medical services and diagnostic tools (i.e. ultrasound machines, x-ray for chest- and abdominal diagnostics and extended laboratory tests), a 24h observation unit with 16-18 beds used for treatment and diagnostic examination, specialized facilities for minor orthopaedic treatments and injury treatments found in ordinary EDs. Health-care supporting units is located in the same building constituting a psychiatric emergency outpatient clinic, a social emergency service, a sexual assault referral centre and a community emergency medical communication call centre.

Patients arrive at the OAEOC either alone or together with their relatives (in this PhD thesis defined as walk-in patients), or are brought in by emergency services (ambulance, police, and emergency outreach teams). At the clinics, the walk-in patients are seen by a specialist nurse for registration and triage before waiting for their turn to be seen by a general practitioner or an orthopaedic physician according to their health-care problem, respectively. Patients brought in by emergency services enter the OAEOC via separate entrances, and they are treated according to the level of urgency of their condition. In 2009 the general emergency outpatient clinic and the trauma clinic handled about 180.500 patients: 82.000 emergency admissions to the general emergency outpatient clinic, 72.000 emergency admissions to the trauma clinic and 26.500 follow-up appointments at the trauma clinic (based on data from the Electronic Personal Journal).

11.2 Design

This study is based on a cross-sectional design conducted by means of a questionnaire survey among walk-in patients and medical doctors at OAEOC during a two weeks period between the 2nd and 16th of September 2009. A two-week period was chosen due to time restrictions imposed by the OAEOC management and the financial employer “the Project of Equity in Health Care”. This period was considered to be representative of a normal work schedule for both the general emergency outpatient clinic and the trauma clinic as we expected no medical epidemics and not many tourists during this time. Patients were registered for the study on a 24-hour basis. Walk-in patients entering the OAEOC main entrance were invited to participate in the study (Figure 6).

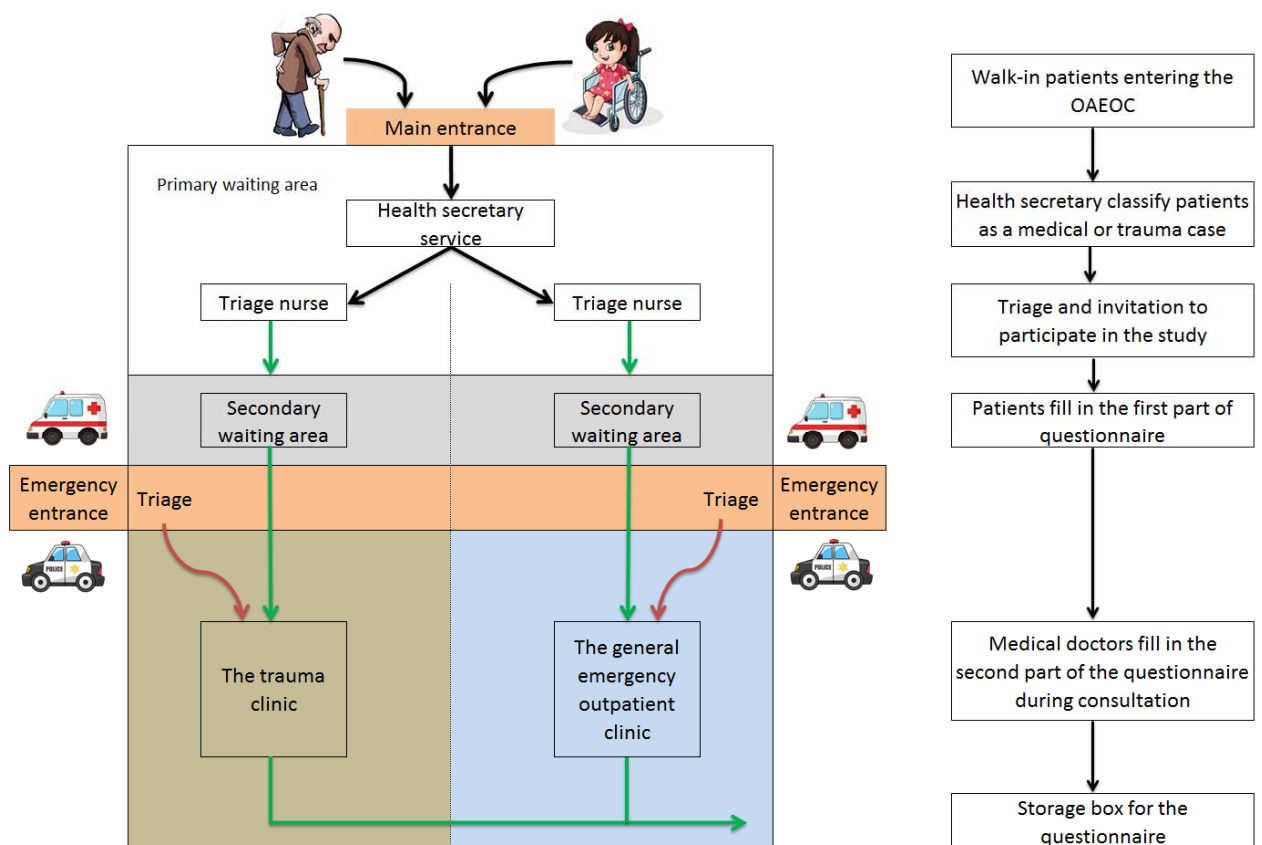


Figure 6 Flow chart of patient inclusion at the OAEOC.

The participants, or a caregiver or guardian for patients fifteen years or less, were given oral and written information about the study by the triage nurse and were informed that their participation was voluntary and that they would remain anonymous. If the patient did not fulfill the inclusion criteria or did not want to participate in the study, the triage

nurse registered this information in the registration form. If they agreed, walk-in patients, or their caregiver/guardians, were recruited by the triage nurse and asked to complete a 15-item questionnaire while waiting in the secondary waiting area for a consultation with a medical doctor. Relatives or on-site health-care personnel assisted children younger than 15 years and elderly patients when answering the questions. Patients not able to sit in the waiting room were offered a bed in an examination room where they filled in the questionnaire, either themselves or together with a relative or guardian. The questionnaire consisted of two parts: one part for the patient and one part for the doctor. The patients returned their completed part of the questionnaire to the doctor, who supplemented their part at the end of the consultation.

Questionnaire

The survey was based on data collected through information given by the patients and medical doctors in a non-validated questionnaire. The 5-page questionnaire used in the study consisted of a folder including a registration form at the front page, study- and consent information to the patient at page two, questions to the patient at page three and four, and finally questions to the medical doctor on the last page. The registration form at the front part consisted of information regarding inclusion and exclusion criteria. For every folder a unique reference number was printed at each part referring to the participant surveyed. The questionnaire and attached information sheets were available in seven languages: Norwegian, English, Polish, Somali, Sorani (Kurdish), Farsi (Persian), and Urdu (Appendix A; Norwegian, English and Urdu versions shown). The Municipal Interpreting and Translation Service of Oslo (MITSO) advised which language to select and prepared the translations of the original questionnaire. An independent translator examined and proofread each language edition, and then compared it with the original text in Norwegian. Inconsistencies were resolved through discussions between the translators. Some of the questions were written specifically for this survey, and the rest were based on a validated survey by the Norwegian Knowledge Centre for the Health Services and studies conducted by the National Centre of Emergency Primary Health Care [132-134]. The questionnaire took about two minutes to complete and was administered during the waiting time. Content of the questionnaire folder is presented in Table 1.

Table 1 Questionnaire folder content

Folder content	Information and variables
Patient information (page 1)	Study information Consent information
Registration form (page 2)	Registration of inclusion or exclusion Reasons for exclusion If excluded: information on patient's (sex, age, ethnicity)
Questionnaire Part I (page 3-4)	Questions to the patients/or relatives/guardian Person filling in the questionnaire* Sex Age Place of residency* Patient's country of origin Patient's mother country of origins Patient's father country of origin Native language* RGP affiliation status RGP's geographically location* Number of RGP visits within the last 12 months Number of OAEOC visits within the last 12 months Patients self-reported assessment of urgency level Work status Attention to contact a RGP prior to the OAEOC visit or not Reasons for attending the OAEOC versus a RGP
Questionnaire Part II (page 5)	Questions to the medical doctor Date of consultation Time of consultation Medical doctors's assessment of the patient's urgency level Consultation results Rating of language barriers during the consultation* Help to solve language barrier* Cultural challenges (free text)*

* Data not used in the PhD thesis

11.3 Theoretical framework and development of model

We used a model compatible with Andersen’s Behavioural Model of Health Services to study walk-in patients’ utilization of OAEOC (Figure 7).

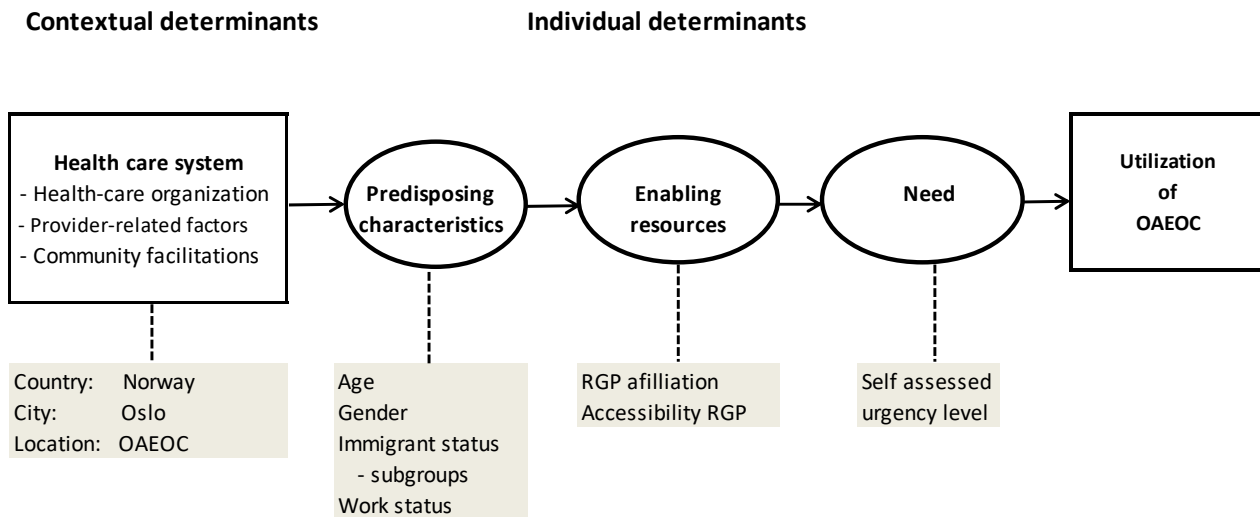


Figure 7 Model of healthcare-seeking behaviour with included variables put into a context compatible with Andersen’s Behavioural Model.

According to the behavioural model three major individual determinants including demographic factors of age and gender as “biological” imperatives, social factors including education, occupation, ethnicity and family status, and mental factors including individual’s attitudes, values and knowledge of health and health services, are associated predisposing factors in health-seeking behaviour. In our thesis the contextual determinants were predefined by the health-care organization and provider related factors in Oslo, and information about individual determinants was registered from a questionnaire. We included the following predisposing individual characteristics: age, gender, immigrant status with sub-groups and work status. We registered the patients’ self-reported affiliation to the RGP list-patient system and their experience of accessibility by their RGP as enabling resources and self-reported urgency level as a factor explaining the patients self-assessed health care need. In the present thesis we discuss healthcare-seeking behaviour of a public emergency primary health care clinic in

Oslo through the light of contextual determinants described as system barriers and individual determinants expressed as the walk-in patients' personal preferences.

11.4 Material

In our study we wanted to examine utilization of the public emergency primary health care services among walk-in patients at OAEOC. In **Paper I** we explored the utilization patterns for all walk-in patients agreeing to the inclusion criteria and presented the results separately for the general emergency outpatient clinic and the trauma clinic. In **Paper II** we explored how patients and their medical doctors perceived the level of urgency for obtaining medical assistance in situations that seeing a RGP could have been a relevant option. Patients attending the trauma clinic were not included in this analysis. According to standard procedures, these patients are expected to by-pass their RGP, regardless of the time of day, and proceed directly to the trauma clinic for further examination. In **Paper III** we wanted to explore walk-in patients' reasons for attending the general emergency outpatient clinic versus consulting their RGP. In this study, we focused on patients attending the general emergency outpatient clinic during Monday–Friday, 08:00–23:00. Because of periodic long waiting times a reasonable number of patients during the evening (16:00–23:00) would have tried, or would have had the option, to contact their RGP during office hours before attending the general emergency outpatient clinic.

Walk-in patients of all ages except patients attending scheduled return visits were included in the study. Patients arriving with severe urgency levels and reduced ability to cooperate were considered not eligible for inclusion. This applied for patients admitted by ambulance, those triaged as “red priority” or who were assumed to need help within a few minutes, or those who were seriously intoxicated or having an acute psychiatric episode. Patients attending the OAEOC for a scheduled appointment or did not want to participate were registered, but not included in the analysis. In our study patients were categorized based on immigration status and country of origin, according to the criteria and definitions used by Statistics Norway in 2009 [65]. We defined patients with immigrant background as persons born abroad of two foreign-born parents (first-generation immigrant) or Norwegian-born to two immigrant parents born abroad (second-generation

immigrant). We divided patients into groups based on their immigration status and country of origin according to their birth country, or their mother's country of birth if the patient was born in Norway. In the official national statistics, patients with another immigration status, such as foreign-born with one Norwegian parent, Norwegian-born with one foreign-born parent or foreign-born with two Norwegian-born parents (including international adoptees) are classified as "the rest of the population".

The participants in our study were grouped as Norwegians, immigrants (first-generation immigrants) and Norwegian-born persons with immigrant parents (second-generation immigrants). "Norwegian" was defined by the common term referring to native Norwegians as well as persons classified as "the rest of the population". We were not allowed to record participants' PID-numbers in the questionnaire because this information is restricted for privacy and ethical reasons. Therefore, we were unable to classify the proportions of illegal or undocumented immigrants and thus we included all immigrants, regardless of legal status, in one group. **In paper I**, the four most frequently represented countries among immigrants and Norwegian-born participants with immigrant parents (Sweden, Pakistan, Somalia and Poland) were selected for further analysis. **In Paper II and III**, we divided patients according to groups of region of origin based on their birth country or their mother's country of birth if the patient was born in Norway using the criteria and the definitions provided by Statistics Norway in 2009. Table 2 represents an overview of the design, study characteristics and variables in **Paper I – III**.

Table 2 Overview of the design, study characteristics and variables in Papers I - III.

	Paper I	Paper II	Paper III
Type of study	Cross-sectional	Cross-sectional	Cross-sectional
	Descriptive	Descriptive	Descriptive
Setting	OAEOC	OAEOC	OAEOC
	— DEGP	— DEGP	— DEGP
	— SOE		
Year	2009	2009	2009
Inclusion time	24h - 7 days	24h - 7 days	Mon – Fri, 08:00-23:00
Participants	Walk-in patients	Walk-in patients	Walk-in patients
Numbers included	3.864	1.821	1.022
Immigrant groups	- First generation - Second generation	- First- and second generation combined	- First- and second generation combined
	<i>Selected countries</i>	<i>Region of origins</i>	<i>Region of origins</i>
	— Sweden	— Nordic countries	— Nordic countries
	— Pakistan	— Western Europe, North America, Oceania	— Western Europe, North America, Oceania
	— Somalia	— Asia including Turkey	— Asia including Turkey
	— Poland	— Africa	— Africa
		— Latin America	— Latin America
Sex	Both	Both	Both
Age range	All ages	All ages	All ages
Socioeconomic status	Work status	Occupational status as a proxy for SES	Work status
Study variables	Self-reported use of OAEOC	Patients' assessment of urgency level	Attempt to contact a RGP prior to the emergency visit
	Self-reported use of RGP	Doctors' assessment of urgency level	Reasons for attending the emergency outpatient clinic
	Self-reported RGP affiliation	Time of consultation	
	Proportional representations	Consultation results	

11.5 Statistical analysis

The questionnaires were coded and entered into a database using EpiData Software version 2.2. (EpiData Association) and analysed with SPSS version 22.0 and STATA version 13.3. Statistical significance was set at 5% level ($p < 0.05$).

In **Paper I** we used Pearson's chi-square test to identify associations between categorical variables and one-way analysis of variance (ANOVA) to identify differences between means. Two different approaches were used to analyse OAEOC utilization patterns. In the first approach, we used Poisson regression analyses adjusted for age and gender to assess participants' OAEOC and RGP visit frequencies as incidence rate ratios. In the second approach, we used Pearson's chi-square and Z-proportion tests to compare the proportions of first- and second-generation immigrants and those from the four most frequently represented countries among the patient population, with their respective proportions within the general Oslo population. For the gender- and age-stratified proportion analyses, we used bootstrapping to create 95% confidence intervals (CIs).

In **Paper II** we used descriptive statistics and a Z-proportion test to obtain frequencies with 95% confidence intervals for nominal and ordinal categorical variables. To explore the difference in how patients perceived the level of urgency in light of the doctors' overall evaluation, we estimated the agreement (concordance) between their assessments using a Kendall tau-b correlation coefficient. We used binary logistic regression modelling to quantify associations of explanatory variables and outcomes according to the urgency level assessments. The patients categorized the urgency level related to their encounter according to three pre-defined levels. I: 'very urgent. I must have help within an hour or sooner', II: 'fairly urgent. I must have help within a few hours', and III: 'not so urgent. I could *perhaps* have waited until tomorrow'. The three pre-defined urgency levels used by the doctors were: I: 'very urgent. The patient must have help within an hour or sooner', II: 'fairly urgent. The patient must have help within a few hours', and III: 'not so urgent. The patient could have waited until tomorrow'. The urgency assessment by both patients and doctors was dichotomized into 'immediate' (categories I and II) and 'non-urgent' (category III). The independent variable was region of origin, adjusted for gender, age, self-reported RGP status, and time of consultation.

In **Paper III** categorical characteristics including statements of the reasons for attending an emergency clinic were analysed using Pearson's Chi square 2 x 2 crosstab analyses or Fisher's exact test if the expected values within cells were < 5. The few respondents at the general emergency outpatient clinic who had ticked for "an acute injury" on page three in the questionnaire (Appendix A) were merged into a common statement, "I/we do not feel the RGP provides the help we need now/acute trauma", in the analysis. We used one-way ANOVA to compare mean age. Binary logistic regression analysis adjusted for sex, age, work status, self-assessed urgency level and number of RGP visits during the preceding 12 months was used to identify associations between immigrant background and attempt to contact a RGP for consultation before the emergency encounter.

11.6 Ethical considerations and consent to participate

The survey was conducted in a manner to provide full anonymity and no possibilities to trace back sensitive information from the data material. The study was presented to the Norwegian Data Protection Authority, the Oslo University Hospital Information Security and Privacy Office, and the Regional Committees for Medical and Health Research Ethics in Norway and received no further comments or restrictions, given that no personal identification, including PID-numbers, or diagnosis data were collected.

The participants, caregiver, or family members for patients aged 15 years or younger were given oral and written information about the study (Appendix B). Consent information was available in seven languages. The patients were informed that their participation was voluntary, that they would remain anonymous, and that no personal identification data would be recorded. The participants were informed that they did not need to give a reason for not taking part in the survey, and that this decision would have no consequences for the treatment he/she received from the OAEOC. Returning the completed questionnaire at the end of consultation was considered as consent for study participation. We have aggregated and analysed our data in such a way as to minimize the possibility of fostering stigmatization when involving comparison of different populations. This is further elaborated on in the discussion section.

12. Summary of the papers

12.1 Paper I

Use of emergency care services by immigrants — a survey of walk-in patients who attended the Oslo Accident and Emergency Outpatient Clinic

Aim: To explore how immigrants, immigrant subgroups and Norwegians attending the OAEOC utilized the public emergency primary health care service in Oslo, their self-reported affiliation to the RGP scheme and concomitant use of RGPs. **Methods:** A cross-sectional multilingual questionnaire survey of walk-in patients attending the OAEOC during two weeks in September 2009 including both the general emergency outpatient clinic and the trauma clinic. **Results:** The analysis included 3.864 patients: 1.821 attended the general emergency outpatient clinic and 2.043 attended the trauma clinic. Both first- and second-generation immigrants reported a significantly higher OAEOC and RGP visit frequency the previous 12 months compared to Norwegians. Norwegians, representing 73% of the city population accounted for 65% of OAEOC visits. In contrast, first- and second-generation immigrants made up 27% of the city population but accounted for 35% of OAEOC visits. This proportional increase in use was primarily observed in the general emergency clinic (42% of visits). Their proportional use of the trauma clinic (29%) was similar to their proportion in the city. Among first-generation immigrants only 71% were affiliated with the RGP system, in contrast to 96% of Norwegians. The least frequent RGP affiliation was among immigrants from Sweden (32%) and Poland (65%). Walk-in patients from Sweden and Somalia were both more often represented and reported higher use compared to Norwegians, while Pakistani and Polish participants showed diverging results related to groups' population representation in Oslo and self reported use. **Conclusions:** In Norway, immigrant subgroups use emergency health-care services in different ways. Understanding these patterns of health-seeking behaviour may be important when designing public emergency health-care services.

12.2 Paper II

Is it a matter of urgency? A survey of assessments by walk-in patients and doctors of the urgency level of their encounters at a general emergency outpatient clinic in Oslo, Norway

Aim: To explore how patients and their doctors perceived the level of urgency for obtaining medical assistance and to determine the concordance between their assessments in walk-in patients attending the general emergency outpatient clinic at OAEOC. The secondary aim was to explore whether there were any differences in the assessments of the level of urgency by Norwegians, immigrants, and subgroups of immigrants based on their region of origin. Finally, we wanted to explore whether there were any associations between the level of urgency for the consultation as perceived by patients and the result of the consultation. **Methods:** A cross-sectional multilingual questionnaire survey was distributed to all walk-in patients at a general emergency outpatient clinic in Oslo during two weeks in September 2009. Urgency levels of doctor–walk-in patient encounters were assessed based on their region of origin in a diverse Norwegian population. **Results:** The analysis included 1.821 walk-in patients. Twenty-four per cent of the patients considered their emergency consultation to be non-urgent, while the doctors considered 64% of encounters to be non-urgent. The concordance between the assessments by the patient and by their doctor was positive but low, with a Kendall tau-b coefficient of 0.202 ($p < 0.001$). Adjusted logistic regression analysis showed that patients from Eastern Europe (odds ratio (OR) = 3.04; 95% CI 1.60–5.78), Asia and Turkey (OR = 4.08; 95% CI 2.43–6.84), and Africa (OR = 8.47; 95% CI 3.87–18.5) reported significantly higher urgency levels compared with Norwegians. The doctors reported no significant difference in assessment of urgency based on the patient’s region of origin, except for Africans (OR = 0.64; 95% CI 0.43–0.96). **Conclusion:** This study reveals discrepancies between assessments by walk-in patients and doctors of the urgency level of their encounters at a general emergency clinic. The patients’ self-assessed perception of the urgency level was related to their region of origin.

12.3 Paper III

Reasons for attending a general emergency outpatient clinic versus a regular general practitioner – a survey among immigrant and native walk-in patients in Oslo, Norway

Aim: We wanted to evaluate whether walk-in patients had attempted to contact their RGP before attending the general emergency outpatient clinic during regular hours (Monday–Friday, 08:00–23:00); to explore their reasons for attending the general emergency outpatient clinic after having first contacted their RGP; and to explore the reasons why some patients did not contact their RGP before the emergency clinic visit. **Method:** A cross-sectional study using a multilingual anonymous questionnaire among native and immigrant walk-in patients attending a general emergency outpatient clinic in Oslo (Monday–Friday, 08:00–23:00) during two weeks in September 2009. **Results:** The analysis included 1.022 walk-in patients: 565 Norwegians (55%) and 457 immigrants (45%). Among patients reporting a RGP affiliation, 49% tried to contact their RGP before this emergency encounter: 44% of Norwegian and 58% of immigrant respondents. Immigrants from Africa OR = 2.55 (95% confidence interval (CI): 1.46–4.46) and Asia OR = 2.32 (95% CI: 1.42–3.78) were more likely to contact their RGP before attending the general emergency outpatient clinic compared with Norwegians. The most frequent reason for attending the emergency clinic was difficulty making an immediate appointment with their RGP. A frequent reason for not contacting a RGP was lack of access: 21% of the Norwegians versus 4% of the immigrants claimed their RGP was in another district/municipality, and 31% of the immigrants reported a lack of affiliation with the RGP scheme. **Conclusion:** Access to primary care provided by a RGP affects patients' use of emergency health-care services. To facilitate continuity of health care, policymakers should emphasize initiatives to improve access to primary health care services.

13. Discussion

13.1 Summary of main results

The results presented in this PhD thesis indicate that immigrants in Oslo, including both immigrants and Norwegian-born with immigrant parents, utilize the walk-in services at the OAEOC more than would be predicted by their representation within the general population in the city. This conclusion is supported by the patients' self-reported use of the emergency outpatient clinic during the previous 12 months. The proportional representation of immigrants and Norwegian-born with immigrant parents at the general emergency outpatient clinic is higher, whereas at the trauma clinic the representation is similar to the group's representation in the city population. Analysis conducted only for the walk-in patients at the general emergency outpatient clinic show that the patients' reasons for attending this clinic can be seen from two perspectives, namely personal preferences and system barriers.

The personal preferences for both Norwegians and immigrants relate to difficulties in obtaining an emergency appointment at their RGP. They also prefer the fast access to immediate health care at the general emergency outpatient clinic. The findings highlight a discrepancy between assessments of the level of urgency by walk-in patients and those by doctors for consultations at the general emergency outpatient clinic. Almost two-thirds of the walk-in patients seen at the emergency clinic are assessed by doctors as presenting with a non-urgent medical problem that could have waited for medical attention until the next day; in contrast, only about one-quarter of the patients answered that they could perhaps have waited until the next day. Immigrants from Eastern Europe, Asia and Turkey, and Africa more often assess a higher level of urgency for their consultation compared with Norwegians.

System barriers are manifested as a lack of access to a RGP because of being registered with one in another district (Norwegians) or not being registered with a RGP (immigrants), in addition to being told by the RGP office to contact the general emergency outpatient clinic. From the perspective of system barriers, the study highlights

an interesting finding concerning patients' affiliation rates with the RGP scheme. First-generation immigrants in general and labour immigrants from Sweden and Poland in particular report a lower rate of registration with the RGP scheme than Norwegians. In contrast, the affiliation rates of second-generation immigrants are similar to those of Norwegians.

13.2 Methodological considerations

Our main focus in this work was to study the utilization and individual and contextual factors contributing to the use of public emergency health-care services at the OAEOC among walk-in patients with immigrant background and Norwegians. The overall methodological considerations regarding study design and sampling will be discussed in general while explicit issues raised in the specific papers are commented on separately throughout the discussion section.

13.2.1 Methodological reflections

In the planning of this study we considered two different approaches, a register-based study and a questionnaire-based survey, respectively. Conducting a register-based study would have involved merging data from the EPJ-systems at OAEOC and Lillestrøm with data from the National Population Register (Statistics Norway) using a unique PID-number as a key variable. This method would have provided valid data for every patient attending and registered in the EPJ-system and not only walk-in patients. In addition, variables on individual determinants including SES according to educational level and family-income and length of stay in Norway, had been possible to link from The National Population Register. Taking into account that there were four different EPJ-systems within the emergency outpatient clinics included in the "Project of Equity in Health Care" and the time consuming process regarding application for approvals and merging of data registers, conducting a register-based study was considered as unrealistic given the time-frame of 10-months.

Using data from the KUHR database based on electronic compensation claims sent to the HELFO merged with Statistics Norway's statistical registers was another option for a

register-based study. This approach would only have covered patients attending the general emergency outpatient clinics, since the trauma clinics are a part of the Oslo University Hospital and AHUS reimbursed by the Regional Health Authorities (Helse Sør-Øst RHF) and thus not registered in the KUHR database.

We therefore decided to use a questionnaire-based survey to collect data and register the use of emergency services of patient groups based on their country of origin and classification as first- or second-generation immigrants. Using data based on a survey instead of a register may provide some shortcomings. Collecting data through a questionnaire depends on the participants' responses while a register-based study uses data already existing in the databases. Obstacles obtained when comparing immigrants to non-immigrant may cause problems with cross-cultural validity. Cross-cultural validity implies that the questionnaire has to be understood by different immigrant and cultural groups according to the intention of the researchers [135, 136]. The respondents have to be able to read and understand the questionnaire and to put it into context of their underlying cultural background. One way to facilitate the respondents' participation is by keeping questionnaires short and linguistically simple.

To achieve the aims of the study in **Paper I**, it could have been scientifically more compelling to conduct a register-study to diminish the information bias on self-report of health-care utilization of the public emergency primary health-care clinics. In retrospect, a larger sample size, a possibility to prolong the inclusion time and perhaps also strengthen the data of individual determinants through linkage to Norwegian health registers, could have increased the validity of the study. However, this approach would not have provided data on immigrants lacking a PID-number and would not have contributed to information regarding the study aims reflected in **Paper II and III**.

In **Paper II** and **Paper III** we wanted to describe the patients' personal experiences and attitudes towards their self-perceived urgency levels and reasons for attending the OAEOC instead of their RGP. Approaching these research questions we considered to use qualitative interviews or collect data through a questionnaire. According to Malterud, achieving information regarding individuals' personal experience, feelings and attributes

is best served and valid through a qualitative approach [127, 128]. Conducting individual in-depth interviews or focus group interviews in native Norwegians and subgroups of immigrants could have provided more nuanced information on personal preferences in explaining factors regarding utilization of the OAEOC. Giving the participants an opportunity to differentiate their answers in an interview could have provided more distinct information than in a questionnaire with predefined answer alternatives.

A qualitative approach involving focus on health literacy and health beliefs in different immigrant groups and subgroups could have provided information on causality regarding personal preferences and choices made according to use of emergency health-care services. Approaching the problem from different perspectives in a two step process generating a hypothesis through descriptive quantitative analysis prior to a qualitative follow-up study could have strengthened the validity of our results. In an ideal situation with no restriction and time limits, a mixed method approach to answer the research questions could have contributed to advance our understanding of health-care utilization patterns among immigrants in Oslo and provided more valid knowledge in the research field. Due to the reason of providing descriptive data in a field lacking data in 2009 and in order to accomplish the assignment agreement, we chose to collect the data analysed in the three subsequent papers from one questionnaire-based survey.

The combined use of population surveys and health services registers is a powerful tool for public health research since their respective limitations and assets can balance each other. National health services registers, like the KUHR database, are mostly implemented to manage the payment of health services. Therefore they can only supply data on to the population, services and health professionals covered by the health program. Population surveys provide data on topics that are not usually documented in health services registers and that can produce a more detailed description of services users. It is well acknowledged that national health services registers and medical records provide the most complete source of information on health care [137]. However, population questionnaire surveys and health interviews remain an important additional source to provide knowledge in the research field. In our research project we decided to conduct a population survey, but we are aware of the potential limitations of survey data

concerning their questionable validity when they involve self-reported information. In addition to the effect of social desirability, survey data on the use of health-care services may also be flawed by recall bias, discussed later in the thesis. In 2006 Bhandari and Wagner carried out a systematic review of 42 studies based on the linkage of individual data from population surveys or patients-based studies and administrative registers. Their results showed that self-reported data were of variable accuracy and depended on the recall time frame, sample population and the participants' cognitive abilities, type of utilization, utilization frequency, questionnaire design and mode of data collection, memory aids and probes. Figure 7 shows the weighted average for agreement, under-reporting and over-reporting found in this systematic review.

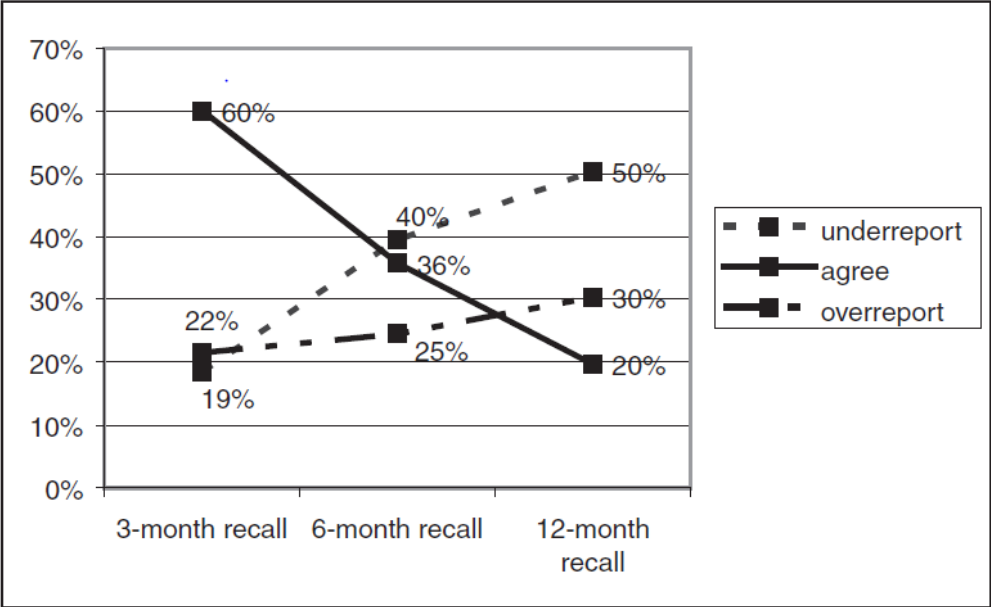


Figure 7 Weighted averages for agreement, under-reporting and over-reporting at 3, 6 and 12 months for self-reported physician visits versus register-based data. Source: Bhandari and Wagner [137].

The literature review of the 42 studies found that under-reporting was more common than over-reporting for recall of health-care utilization and was increasing according to length of recall period. With a recall period of 12 month the agreement between self-reported data and register-based data was only 20%, over-reporting 30% and under-reporting 50%. The review report claims that visits which are salient, by definition, stand out in memory for being unusual and will be remembered more easily. The prototypical example is self-

reported inpatient hospitalization and visits at an ED for emergency. In general the report recommends avoiding recall periods greater than 12 months, but for health-care use at services where patients experience frequent utilization, the recall period should be shorter. Gender, age, country of birth, self-rated health, number of chronic illnesses, having functional limitations and having mental health problems are associated with under- and/or over-reporting and needs to be taken into account when comparing the utilization of different socio-demographic groups [138].

Although it is well acknowledged that register-based studies seem to provide the most complete data on utilization of health care, they are not without problems or inaccuracies. In the Norwegian register-based study from 2008 by Sandvik et.al, 23.1% of the total number of EPHC contacts (1 715.278) lacked a PID-number, and thus were not able to be merged to the National Population Register for immigrant status linkage. Among the 23.1% contacts we find native Norwegians which did not remember their PID-number, illegal immigrants, short-term immigrants and some asylum seekers lacking a PID-number.

13.2.2 Study design and sampling

Design

Designing the perfect questionnaire is extremely difficult, or even impossible. In a search of similar studies, we did not find any validated questionnaires covering all aspects to address the research questions in this project. We therefore constructed a new questionnaire for this specific purpose. This non-validated questionnaire consisted of a folder including 15 questions to collect data on patient information and their preferences and five questions for supplementary information given by the doctor consulted by the patient (Appendix A). We used questions already validated in a study by the Norwegian Knowledge Centre for the Health Services and questions from two separate studies conducted by the National Centre for Emergency Primary Health Care [132-134]. In addition, we incorporated questions about country of birth for the patients and their parents, affiliation with the RGP scheme and the doctor's experience of language barriers during the consultation and remedies to solve the language problem (language barrier

issues are not dealt with in this thesis). Based on information about the patient's self-reported country of birth and that of her/his mother and father, we were able to categorize immigration background and country of origin according to criteria and definitions used by Statistics Norway [65]. To accommodate the multiple nationalities of the patients, the questionnaires and attached information sheets were available in seven languages. We consulted the Municipal Interpretation and Translation Service of Oslo (MITSO) for advice on the languages to use. Due to financial restrictions and a tight schedule, the number of language editions was restricted to the following seven languages as advised by MITSO according to the population composition and their experience with interpretation assignments in Oslo: Norwegian, English, Polish, Somali, Sorani (Kurdish), Farsi (Persian) and Urdu. Bilingual translators dedicated to each of the six language editions were engaged by MITSO to prepare the translations of the original questionnaire. An independent bilingual translator examined and proofread each language edition, and then compared it with the original text in Norwegian. Inconsistencies were resolved through discussion between translators. The quality of translation and validation of the translated instrument play a significant role in ensuring that the results obtained in cross-cultural research are not due to errors in translation, but rather highlight real differences or similarities between cultures in the phenomena being measured [139, 140]. According to a literature review exploring instrument translation processes, a minimum recommendation of standard for applying an instrument developed in another language should include back-translation and monolingual testing [140]. In back-translation, a target language version is translated back into the source language version by an independent translator to verify the translation and achieve semantic equivalence. Monolingual testing involves a person only speaking the target language being able to understand the meaning of the questions. In our study, we used neither back-translation nor monolingual testing; our approach must therefore be considered the lowest category for the use of translation in cross-cultural research and thus a methodological limitation.

Sample

The population from which the study sample was recruited is walk-in patients attending the OAEOC. We studied walk-in patients at both the general emergency outpatient clinic

and the trauma clinic in **Paper I**, but only walk-in patients at the general emergency outpatient clinic in **Papers II and III**. Patients brought to the OAEOC by the emergency services, who arrived with a severe urgency level and assigned a red triage code, who were severely intoxicated, or having a severe acute psychiatric episode were considered ineligible for inclusion because of their reduced ability to co-operate and consent to participation. For this reason, the study results may be relevant only to the emergency health-care utilization of walk-in patients at the OAEOC, which influences the external validity as discussed below.

Our study was based on patients' self-reports on a 24-hour basis over two weeks in September 2009 (weeks 36 and 37; 2–16 September). We consider this period as representative of a normal work schedule for both the general emergency clinic and the trauma clinic insofar as there were no major medical epidemics and not many tourists during this time. However, during the study period, the influenza A (H1N1) pandemic started to appear in Norway, but this did not escalate before weeks 43–46 (Figure 8) [141].

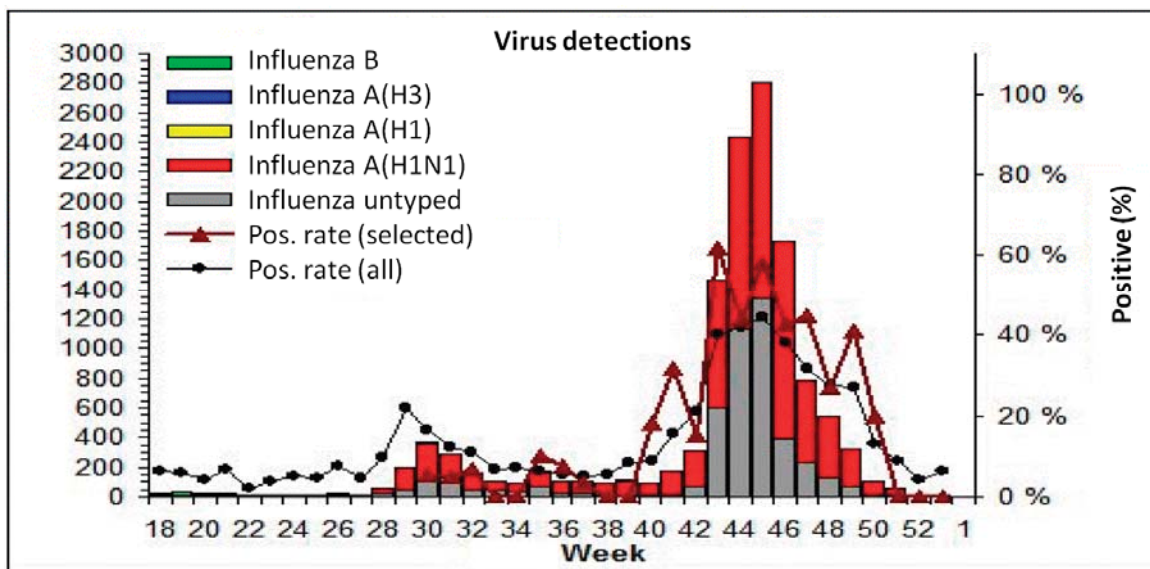


Figure 8 Numbers of influenza virus detections in Norway 2009.
Source: The Norwegian Directorate for Civil Protection (DSB)

We consider the two-week sampling period sufficient to generate a representative sample of the walk-in patient population. Implementation of the survey depended on more staff at

work, and due to economical and work-strain issues, a maximum limit of two weeks was set. Because the main purpose of the survey was to conduct a descriptive study analysing the utilization patterns among different groups of walk-in patients, we did not perform a power calculation of the number of patients needed from the different countries. The relatively short observation period may have created a potential sampling bias, which is also discussed below.

According to the EPJ registrations, a total of 7.548 patients were consulted at the OAEOC during the study period, comprising 1.250 scheduled appointments at the trauma clinic and 6.298 acute non-scheduled consultations at the OAEOC (Figure 9). However, 769 patients were not considered for inclusion by the triage nurse due to the periodic extremely hectic times at the emergency clinic. To our knowledge, these patients lost for evaluation of inclusion were predominantly acutely ill and brought in by ambulance, police or outreach teams through the emergency entrance and would not have qualified for inclusion in any case. Given that the main purpose of the study was to explore the utilization of emergency clinics by walk-in patients, it is unlikely that these missing patients unduly affected the overall results. The triage nurses evaluated a total of 5.529 patients for participation in the studies. Among these, 2.753 were seen at the general emergency outpatient clinic and 2.776 at the trauma clinic. Of the 5.529 patients who attended the OAEOC during the registration period, 923 were admitted by emergency services, were unable to co-operate due to intoxication or severe psychiatric episode, did not want to participate or gave no reason for not participating. Of the 4.606 walk-in patients included in the study and given a questionnaire by the triage nurse, 3.864 returned a complete questionnaire with country background information and thus represented the study sample in **Paper I**. The response rate of distributed questionnaires was 84%, which is relatively high compared with similar studies [15, 142, 143]. Separate flow charts of study participant inclusion at the general emergency outpatient clinic in **Papers II and III** are presented in those papers.

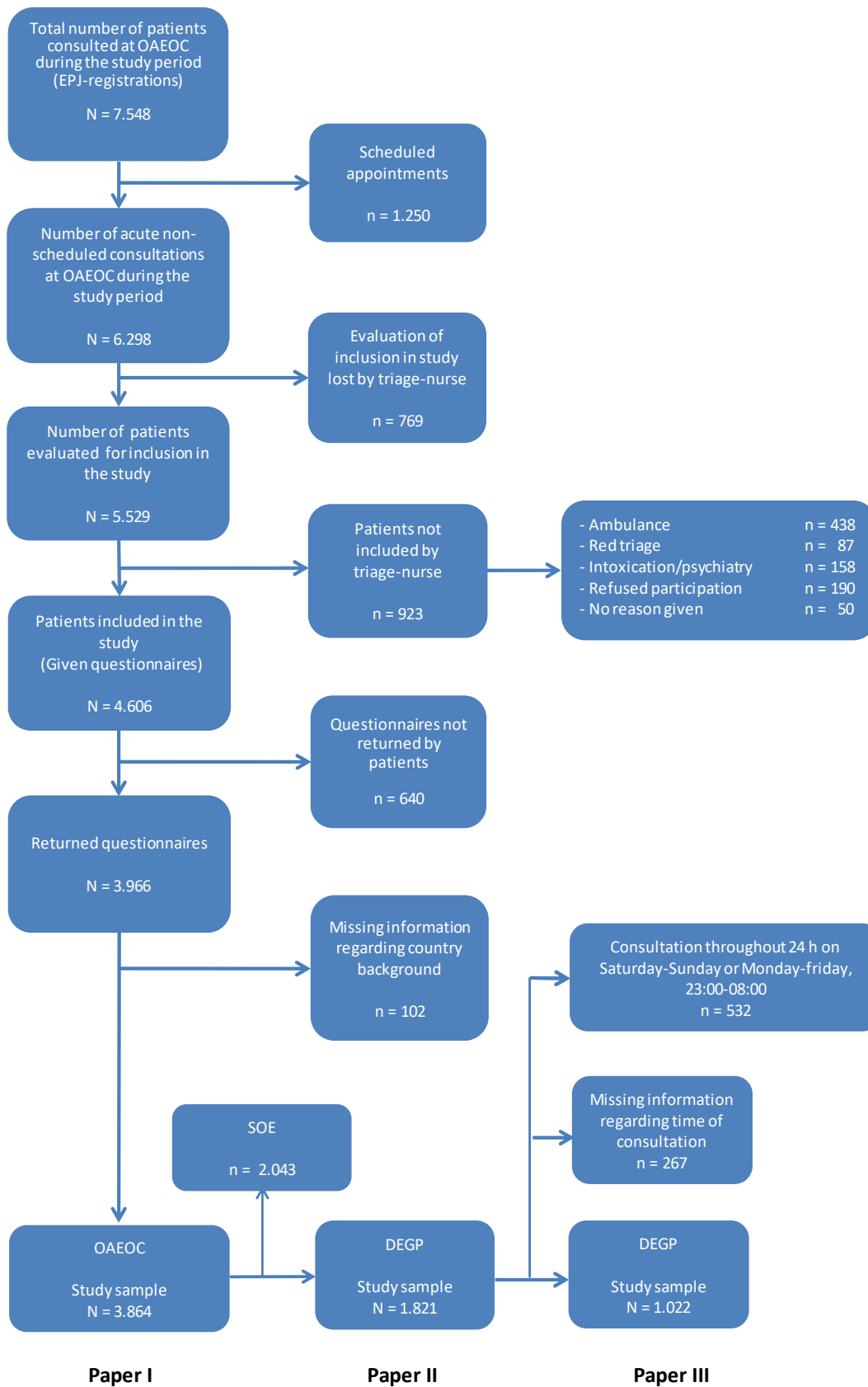


Figure 9 Flow chart of study participant inclusion in **Papers I-III**.

13.2.3 Internal and external validity

Internal validity implies that there is no bias (systematic errors) in the way the data are collected, analysed and interpreted. According to Rotman et al., bias is classified into three broad categories: selection bias, information bias and confounding bias [144]. It is important to understand these different types of bias and how they affect research conclusions to ensure the validity of findings [145].

Selection bias

Selection bias is a systematic error in a study that arises from the procedure used to select subjects and from factors that influence study participation [144]. In our study, the criteria for selecting subjects may differ between immigrants, subgroups of immigrants and Norwegians. In a questionnaire survey with a cross-sectional design, selection bias can also appear as non-response bias and volunteer bias [146].

Major selection bias may arise from the fact that the triage nurses did not manage to consider all patients for inclusion. Due to the periodic extremely hectic times at the OAEOC, 769 patients were lost for evaluation according to the inclusion criteria. As far as we are aware, these patients were predominantly acutely ill and were brought in by ambulance, police or outreach teams and would not have qualified for inclusion in any case. Given that the main purpose of the study was to explore the utilization of emergency outpatient clinics by walk-in patients, we can assume that the included participants constitute a relatively representative sample of walk-in patients at the OAEOC. Second, of a total of 4.606 questionnaires, 640 were not returned by patients during data collection. They may have decided to leave the emergency outpatient clinic before being examined or simply forgot to hand the questionnaire over to the doctor after the consultation; either way, this loss resulted in an attrition bias. In 359 (56.1%) of these 640 patients, we did not manage to register their country background during recruiting. Of the remaining 281 registered, 69.4% had Norwegian origin while 30.6% were immigrants. Considering the high proportion of unknown status, it is difficult to say to what degree this loss affected the results. If the distribution of registered patients is valid,

it may skew the results in the direction of fewer Norwegians in the study sample than originally recruited.

Non-response and volunteer bias arising from differences between immigrants and Norwegians in their decision to participate or not may affect the results [147]. Non-response may appear related to linguistic and/or educational limitations, to alienation generated by the focus of questions on disease and cultural assumptions, or mistrust regarding anonymity [148]. The distribution of immigrants and Norwegians may be skewed if one group or subgroup is over-represented among those not willing to participate. Despite fulfilling the inclusion criteria, the number of patients who refused to participate in the study was 190 (that is, 4.0% of the total number of patients potentially available for inclusion), of whom 105 (55.3%) were Norwegians, 70 (36.8%) were with immigrant background and 15 (7.9%) had missing data on background status (these data are not included or discussed in the papers). These numbers are based on the information given by the patient to the recruiting triage nurse under (age and ethnicity) on page two of the registration form. The information about ethnicity was registered as the patients' country of origin. The distribution between Norwegians and immigrants among non-responders was similar to the study sample, and they represent a low share of the potential available participants. We therefore do not believe that this would lead to an under- or overestimation of effects in findings. In addition, 102 participants included in the study had missing information on their country background and were withdrawn from the analysis. They represented 2.6% of the 3.966 questionnaires returned by patients; again, they may have simply forgotten to return questionnaires or were reluctant to give information about their origin. Although the share of missing information is quite low, any reluctance to report their status will likely be more common among immigrants, leading to an under-estimation of immigrants in the study sample. Sampling bias due to language problems may cause some members of the population to be less likely to be included than others, given the limited number of language versions of the questionnaires. However, 79% of participants with immigrant background preferred the Norwegian language version, followed by the English (10%), Polish (5%), Somali (3%), Urdu (2%), Farsi (Persian) (0.5%) and Sorani (Kurdish) (0.5%) versions.

In **Paper III**, we selected study participants depending on the time of consultation at the general emergency outpatient clinic, with a focus on Monday–Friday, 08:00–23:00. Because of periodic long waiting times (sometimes 2–6 hours) for walk-in patients at the general emergency outpatient clinic, a reasonable number of patients during the evening (16:00–23:00) would have tried, or would have had the option, to contact their RGP during office hours before visiting the general emergency outpatient clinic. Although it would have been more relevant to include patients attending the clinic 08:00–20:00, this was not possible due to categorization of the time of consultation variable as only three alternatives: daytime (08:00–16:00), evening (16:00–23:00) and night (23:00–08:00). During the late evening, when contacting their RGP would not have been an option, participants had the opportunity to reply, “I became ill outside office hours” in the questionnaire. Missing information on the time of consultation was found in 267 (15%) of the 1.821 cases, 166 (16%) Norwegians and 101 (13%) immigrants. Thus, the proportion of Norwegians and immigrants was roughly similar and does not constitute selection bias that would affect the validity of the study sample. However, the missing data will affect the findings concerning reasons for attending the emergency outpatient clinic versus a RGP and give rise to information bias.

Information bias

As in all questionnaire surveys, our results depend on what the respondent answer which is not necessarily the true answer. Information bias is a systematic error in a study that arises because the information collected about or from study subjects is inaccurate [144]. Information bias is also referred to as observational bias and misclassification. Common types of information bias in questionnaires and surveys are self-reporting bias caused by social desirability and recall bias, and confirmation bias [145]. In our survey, we asked the participants to quantify their frequency of OAEOC and RGP visits. The length of the recall period was 12 months and thus both under- and overestimations of the true effect are likely according to previous literature [137]. Self-reporting of urgency levels and frequency of visits by patients may involve a degree of social desirability or “pleasing effect” that affects the results. For instance, many study participants may consistently give answers that they assume investigators want to hear. Alternatively, urgency levels

can be overestimated in an attempt to justify their use of the general emergency outpatient clinic. Under-reporting the number of OAEOC visits as well as over-reporting the number of RGP visits may seem convincing in an attempt to express an appropriate use of the health-care system. In addition, the doctors may have been affected by confirmation bias or ascertainment bias according to their preconceptions, beliefs or preferences in the assessment of the patient's urgency level. Recognizing and emphasizing the current hypothesis that immigrants in general attend emergency services with non-urgent health conditions can psychologically influence doctors' assessments. Thus, not accounting for confirmation bias when interpreting the results, could affect the reliability of the research findings.

Confounding bias

A simple definition of confounding is the confusing of effects. This definition implies that the effect of one type of exposure is mixed with the effect of another variable, leading to bias [144]. Two methods can be used to deal with confounding bias in data analysis. One is stratification of variables and the other is to adjust for confounders using regression models. An overview of confounders and associated effects with respect to the regression models used in **Papers I–III** is presented in Table 3.

Table 3 Overview of confounders in the respective regression models in Paper I-III.

	Dependent variable	Effect estimate	Confounders
Paper I	Frequency of visits Ordinal	ICC	- Age - Sex
Paper II	Urgency level assessment Dichotomous	OR	- Age - Sex - Self-reported RGP status - Time of consultation - Occupational status proxy for SES
Paper III	RGP contact Dichotomous	OR	- Age - Sex - Work status - Urgency level assessments - Frequency of RGP visits

Age and sex are confounders of concern due to different patterns in utilization of health-care services and reasons for attending these services. In addition, SES is linked to a wide variety of health problems that may affect utilization of health-care services. One limitation in our study is the lack of valid data on SES such as patients' educational level and household income, and their degree of co-morbidity. In addition, co-morbidity may influence the frequency of visits to the OAEOC and RGP, and relate to the patient's perception of urgency level.

The survey registered the participant's or their caregiver's occupational status diversified as participation in working life, contributions of social welfare benefits, and status as pensioner, student or homemaker. In **Paper I**, we reported work status based on occupational data as a characteristic of the participants, but we only adjusted for age and sex in the first approach model using Poisson regression analysis of frequency of visits. In the second approach model, involving proportional comparisons, we stratified the findings according to age and sex. Lack of introducing SES in the Poisson regression model may have masked the true effect. However, statistical analysis conducted retrospectively that included work status as a proxy for SES revealed no significant

changes to the associations estimated by incidence rate ratios (Appendix C; supplementary data presented in Tables 4 and 5). In **Paper II**, we analysed the logistic regression model using a proxy variable of occupational status as an indicator of SES to validate the results presented. However, this approach made no significant changes to the associations for assessments of urgency level based on the patients' region of origin. Urgency level assessments by both patients and doctors showed that increased age was associated with a higher urgency level assessment, while sex and RGP registration status did not influence the perceived urgency level. In **Paper III**, we adjusted for work status as a proxy indicator of SES in addition to age, sex, patients' urgency level assessments and number of RGP visits the previous year to correct for possible confounding.

External validity

External validity is the generalizability of the study results to subjects outside the study sample. One major limitation in this study is the representativeness of the study sample. First, it did not cover the entire patient population that utilized the emergency services but focused only on walk-in patients with non-urgent or semi-urgent health conditions for which attending a RGP would have been a reasonable option. For this reason, the data may be relevant only to the health-care utilization of walk-in patients. Second, since the study covered only walk-in patients, we have no information about the immigration status of those excluded. It would have been relevant to explore how immigrants were represented in the categories of patients admitted to the OAEOC by ambulance and emergency outreach teams, or their representation among those experiencing intoxication or psychiatric episodes. This was not possible due to time restrictions that made it difficult to conduct a register-based study. Third, we have no information about emergency health-care utilization among people not using the OAEOC, for instance, those patients attending only their RGP or/and private health-care clinics. Assuming that some are frequent visitors to the OAEOC while others rarely use the facility, the results may be relevant only for exploring the utilization patterns for the patient population at the emergency outpatient clinic. The utilization of private health-care clinics, e.g. Volvat and Aleris, is difficult to investigate scientifically due to lack of epidemiological data from these clinics.

Due to the different ways of organizing the health-care system within regions and countries, it may be difficult to compare our study results from the OAEOC with emergency health-care services internationally. However, the OAEOC is equipped with a full range of medical services and diagnostic tools (i.e. ultrasound machines, x-ray for chest- and abdominal diagnostics and extended laboratory tests), a 24h observation unit used for treatment and diagnostic examination, specialized facilities for minor orthopaedic surgeries and injury treatments similar to EDs internationally. The emergency outpatient clinic in Oslo is some way special compared with regular OOH clinics in rural areas in Norway in that it deals with both primary and secondary emergency health care. Injuries and medical problems in need of hospitalization elsewhere in Norway can be diagnosed and treated on site or by admission to the observation unit at the OAEOC instead. Still, many trauma cases and other medical emergencies are admitted directly to the EDs at the hospitals in Oslo without any contact with the OAEOC. The study population in Oslo is clearly not representative of EPHC elsewhere in Norway where immigrants represent a substantially lower proportion of the population. Nevertheless, the medical conditions the walk-in patients present at the OAEOC is assumed quite similar to what is experienced in EPHC during daytime at the RGP offices and in OOH clinics in general.

We consider our findings of representation and utilization to be generalizable to the treatment of walk-in patients in EDs in European metropolitans constituting a diverse population of immigrants. The study results are thus not considered applicable to the general patient population in EDs. The systematic barriers experienced with affiliation to the RGP-list patient system are considered a local phenomenon in Oslo due to high representation of short-term labour immigrants and undocumented immigrants and thus not applicable to most other places in Norway. We consider our findings of personal preferences in need of health care experienced by urgency level and difficulties making an appointment with a RGP to be rather representative for walk-in patients attending EPHC in Norway.

13.2.4 Reliability

The reliability of variables relates to how stable or constant they are. In principle, a measurement procedure that is stable or constant should replicate the same (or nearly the same) results if the same individuals and conditions are used.

Here, the relatively short observation period of two weeks may have created a risk of sampling bias due to seasonal variations. To encompass seasonal variation, it would be necessary to administer data collection for a period every season. For the present project, this was not an alternative because of restrictions given by the employer.

About 70 individual doctors participated in the data collection, which may lead to some interrater variability in how the categories in the registration form were completed. In particular, the assessment of urgency level of their patients may vary depending on the doctor's work experience and personal perceptions. Different doctors working at the general emergency outpatient clinic may assess similar symptoms differently based on previous experiences. We elaborate on the reliability of the concordance analysis of patients' and doctors' assessments of urgency level in the discussion of results below.

The process of plotting data into the SPSS file is another source for reliability implications. I entered the questionnaire forms containing data from the general emergency outpatient clinic into the sav-file, while the adviser at the Department of General Practice, Siri Evju Jansen, plotted the data from the trauma clinic. This work required some interpretation of free text fields and case notes. Any inconsistencies and problems were resolved by discussion throughout the plotting process. Potential implications for the assessment of reliability with respect to the plotting of data only concern **Paper I**, as only the data plotted from the general emergency outpatient clinic were used in **Paper II and III**.

13.2.5 Strengths and limitations

Strengths

- Several studies have explored reasons for using an emergency clinic versus a general practitioner. This study adds new information about the role of immigrant background concerning the use of the emergency health-care services versus the regular primary health-care services for walk-in patients for whom seeing a RGP could have been an option.
- In contrast to register-based studies that require PID numbers, our individual survey approach covered patients who were not registered in the Norwegian National Population Register, such as undocumented immigrants, victims of trafficking, rejected asylum seekers and labour immigrants on a short-term stay in Norway.
- The survey reveals information in utilization patterns among Norwegians and immigrants between the general emergency outpatient clinic and the trauma clinic in Oslo.
- At the time of the survey, no other quantitative studies had analysed the concordance between the assessment of the urgency level for consultations by walk-in patients and that by doctors at a general emergency outpatient clinic.
- The response rate of distributed questionnaires was 84%, which is relatively high compared with similar studies.

Limitations

- The generalizability of the present survey is low. The study sample of walk-in patients at the OAEOC is not representative of those receiving health care in EPHC and OOH clinics elsewhere in Norway due to a higher population of immigrants in Oslo. Nor are the patients attending the OAEOC entirely comparable with emergency health-care visitors in international EDs.
- Given that we focused on walk-in patients only, this survey is not an epidemiological study of emergency primary health-care use in Oslo due to the

lack of information concerning patients' use of immediate health care by their RGPs and private health clinics.

- An important limitation of this thesis is that we used only quantitative methods, more specific questionnaires, to answer our research questions. A mixed method approach using additionally in-depth qualitative studies could have provided further insight into individuals' healthcare-seeking behaviour.
- The instrument translation processes of interpreting the questionnaire into six different target languages was not conducted according to standard recommendations, which involve back-translation and monolingual testing. In our study, we used only forward-translation, without back translation and without testing the questionnaire instrument in the target language. This is considered the lowest category for translation in cross-cultural research.
- Because the survey was conducted in 2009, our data may appear slightly outdated. However, there have not been any major changes in health-care organization during this period. The proportion of immigrants resident in Oslo increased from 27% to 33% between 2009 and 2016. Nevertheless, we do not believe that this increase has any major impact on the results in this study.
- One limitation of the study is the lack of good data on SES characteristics such as educational level and household income. However, the regression models were analysed using occupational status (**Paper II**) and work status (**Paper III**) as a proxy variable and indicator for social determinants.
- Another limitation applies to the lack of a measure of co-morbidity. The level of co-morbidity is relevant when interpreting the differences in utilization patterns and factors associated with representation at the OAEOC among groups of walk-in patients.
- It is possible that less integrated immigrants were more reluctant to answer the questionnaire because of language barriers or illiteracy. However, patients presenting to the emergency outpatient clinic often come with a friend or family member as an interpreter. This may partly be reflected in the high proportion that used the Norwegian version of the questionnaire.

- Because of the sample size, we were not able to evaluate differences in urgency assessments and reasons for attending the general emergency outpatient clinic according to country background. For instance, there is likely to be diversity among immigrants from different countries in Africa and Asia according to cultural differences; we were unable to address this issue here.
- A further limitation is that we have no information available on length of stay in Norway or reason for immigration among the participants, which may be important with respect to entitlements and the use of health-care services as shown in previous studies.

13.2.6 Clarification of inconsistency

One issue concerning inconsistency relates to how we divided the immigrant groups by categories within the three papers. In **Paper I**, the results were presented for first- and second-generation immigrants and for the four most frequently represented immigrant countries. In **Papers II and III**, patients were divided into groups of region of origin according to the criteria and definitions provided by Statistics Norway in 2009. In Table 6, we present secondary analysis of study participants based on representation by immigrants' region of origin in **Paper I**.

Table 6 Proportional representation of patient groups compared with that in the general population based on region of origin.

	OSLO	OAEOC	DEGP	SOE
	N = 586.860	N = 3.864	N = 1.821	N = 2.043
Region of origins	%	%	%	%
Norwegians	(72.7)	(64.7)*	(57.8)*	(70.8)
Nordic countries ¹	(2.5)	(5.6)**	(7.2)**	(4.2)**
W. Europe/N. America/Oceania	(2.2)	(2.9)*	(2.8)	(2.9)*
Eastern Europe	(4.1)	(5.8)*	(6.6)**	(5.0)*
Asia including Turkey	(12.0)	(12.3)	(14.2)*	(10.6)*
Africa	(4.7)	(7.3)**	(9.8)**	(5.0)
Latin America	(0.9)	(1.4)*	(1.5)*	(1.3)*

Including both immigrants and Norwegian-born with immigrant parents.

*Significant result at the $p < 0.05$ level, ** $p < 0.001$

¹ Sweden, Denmark, Finland and Iceland

For the respective regions of origin, Sweden accounted for 83% among the Nordic countries, Poland 43% of Eastern Europe, Pakistan 28% for Asia including Turkey and Somalia 40% of African countries. The reason for using different study groups in the three papers comes from our intention to illustrate the findings in different contexts. In **Paper I**, we explored a specific pattern of low RGP affiliation among labour immigrants that was quite different from immigrants in general. Since labour immigrants from Sweden and Poland accounted for two of the four most represented country backgrounds at the OAEOC, we wanted to study their utilization behaviour compared with the two most represented countries of immigrants in general (Pakistan and Somalia). Selecting study groups based on only the most represented countries of origin strengthened the precision without interfering with privacy exposure due to the low number of participants in the other country groups. In **Papers II and III**, our objectives concerned the patients' preferences and perceptions of factors contributing to their emergency outpatient clinic encounter. Assuming a culturally dependent component affecting these preferences and

perceptions, we chose to aggregate the study groups into region of origin to minimize the possibility of stigmatization and to increase the power of analysis.

Another issue concerning inconsistency is the use of work status in **Papers I and III**, and occupational status in **Paper II**, as proxies for SES. The variables were built on the same data, but used with and without merging. In the model involving occupational status as a proxy, the variable consisted of the following original categories: 1) Employed, 2) Social benefits (on sick leave/disability benefit/rehabilitation benefit), 3) Unemployed, 4) Homemaker, 5) Pensioner, 6) Student and 7) Other. In the model involving work status as a proxy, the original categories were merged into three categories: 1) Employed, 2) Social welfare benefits constituting patients receiving sick leave benefits, disability benefits, rehabilitation benefits and those who were unemployed, and finally 3) Other (homemakers, pensioners and students).

13.3 Ethical considerations

The survey was conducted in a manner to provide full anonymity and no possibility of tracing back sensitive information from the micro data. For this reason, names, PID-numbers and consultation diagnosis were not registered. The director of the “Project of Equity in Health Care” consulted the Norwegian Data Protection Authority in 2009 prior to the development of the study protocol and received no request for approval given that no personal identification data, including PID-number, were collected cf. Act on Personal Health Data Filing Systems and the Processing of Personal Health Data §§ 2 & 3 (Personal Health Data Filing System Act) [149]. In direct collaboration with the director of the Oslo University Hospital Information Security and Privacy Office by means of email correspondence and workshop meetings, we developed the questionnaire used in the survey ensuring privacy protection for all participants. For instance, our request to register the locality of suburban residence was rejected due to the possibility of tracing back information on an individual level. The study protocol was approved in the steering committee for the project constituting members from the South-Eastern Norway Regional Health Authority (HSØ-RHF), the City of Oslo, the OAEOC and the Institute of Health and Society at University of Oslo.

On 1 July, 2009, a new act on medical and health research (the Health Research Act) came into force with the purpose of promoting good and ethically sound medical and health research [150]. I informally approached the Regional Committees for Medical and Health Research Ethics (REC) in Norway in 2010 to ask whether the study already conducted should have been presented to the committee and whether there would be any problems associated with publishing the research. The project received no further restrictions, given that the study had been worked out in collaboration with the director of the Oslo University Hospital Information Security and Privacy Office.

The basic imperatives in health research should strictly adhere to the Declaration of Helsinki focusing on consent and predictability for the participants. Participation in research should not lead to risks and burdens if they are not found to outweigh the potential benefit, and researchers must act in the participants' best interests [151]. In our study, consent and predictability were handled using oral and written information about the study. The written information was available in seven languages. For participants with a mother language other than one of the seven languages, oral information and interpretation through a relative/guardian was provided as best possible. Participation was voluntary and no personal identification data were recorded. The decision to participate in the survey, or not, did not involve any consequences for the treatment the participant received from the OAEOC, nor did it cause any harm or risk. We did not request written consent to participate, but return of the completed questionnaire at the end of the consultation was taken as consent for study participation. Our intention was to provide data that were potentially useful for policy implications with the goal of developing a sustainable health-care organization and securing equity in health-care services for specific vulnerable groups. However, research involving comparison of different populations may foster stigmatization. Being aware of this, we aggregated and analysed our data in such a way as to minimize this possibility, while still being able to address our research questions. However, we are aware of the potential to present the results in a way that might lend support to stigmatizing stereotypes and fostering prejudices about certain immigrant groups.

13.4 Discussion of results

In this work, we studied the utilization and individual and contextual factors contributing to the use of the public emergency health-care services at the OAEOC among walk-in patients with immigrant background and Norwegians. We adopted two approaches for estimating utilization of the services: (1) self-reported frequency of visits during the previous 12 months and (2) proportional representation of different immigrant groups and selected countries compared with their respective distribution in the general population of Oslo. We discuss reasons for attending the general emergency outpatient clinic in the context of system barriers and the patients' personal preferences. The results are interpreted and compared with similar studies in the field. We also discuss how any potential biases might affect the results.

13.4.1 Utilisation of the OAEOC

In **Paper I**, we used two different approaches to analyse OAEOC utilization patterns. In the first approach, we analysed the participant's self-reported frequency of visits at the OAEOC during the previous 12 months for both immigrants (first-generation immigrants) and Norwegian-born with immigrant parents (second-generation immigrants). Self-reported frequency of visits was also analysed for the four most represented countries (Sweden, Pakistan, Poland and Somalia), which represented 38% of the total immigrant study sample constituting 79 different nationalities. The number of patients reporting high use (≥ 3 visits) of the OAEOC over the previous 12 months was higher among patients with immigrant background compared with Norwegians. The frequency of visits to the OAEOC during the previous 12 months measured as incidence rate ratios revealed that both first- and second-generation immigrants reported more visits compared with Norwegians. With the exception of patients from Poland, the trend for immigrant groups from Sweden, Pakistan and Somalia was a higher self-reported use compared with Norwegians. Women in general reported higher frequency of visits compared with men, and increased age was associated with lower frequency of use. A shortcoming of the incidence rate ratios analysis in **Paper I** is the lack of taking SES into account in the regression model. However, statistical analysis conducted retrospectively that included

work status as a proxy for SES revealed no significant changes to the associations estimated by incidence rate ratios (Appendix C; supplementary data presented in Tables 4 and 5). We did not have any information regarding the patients' level of health literacy or their level of household income. The self-reported use of OAEOC in **Paper I** are controlled only by the "biological" imperatives of age and gender and thus a limitation of the study. In addition it could have been relevant to introduce the individual's attitude as patient-assessed urgency level and provider-assessed urgency level as control variables into the model, to see whether the self-reported number of visits was associated with degree of self-percieved or provider percieved urgency levels. Another limitation applies to the lack of a measure of co-morbidity and immigrants' length of stay in Norway. The level of co-morbidity is relevant when interpreting the differences in utilization patterns and factors associated with representation at the OAEOC among groups of walk-in patients. We can assume that a higher level of co-morbidity will imply more visits to the health-care services; however it is difficult to predict whether these patients mostly attend their RGP or seek medical help at the OAEOC. We did not register any information on length of stay in Norway among immigrant participating in the study. In retrospective, one way to come across this issue could have been to use the chosen language of survey as a proxy for acculturation and included this as a control variable in the regression model. Assuming that well integrated immigrants preferred a Norwegian language edition, while less integrated preferred a non-Norwegian version, this could have been a proxy of length of stay in Norway. However, only 21% of the immigrant participants preferred to use a non-Norwegian language questionnaire and we do not know whether the high use of a Norwegian language edition reflects a well integrated patient population or that younger family members/relatives assisting the patient were more familiar answering in Norwegian. As stated previously in the thesis, the use of self-reported data on number of visits is likely to be influenced by recall bias.

To describe the utilization patterns in different groups attending the OAEOC we used a second approach. We performed proportional testing to compare the proportions of these respective groups among the patient sample with their respective proportions within the general Oslo population. Our data indicate that immigrant walk-in patients in Oslo, including both immigrants and Norwegian-born with immigrant parents, used the city's

walk-in services at the OAEOC more often than would be predicted by their representation within the general population. Their self-reported frequency of use at the OAEOC during the previous 12 months supported this conclusion. However, the results for the four most represented countries showed a somewhat contradictory conclusion according to the two approaches. Walk-in patients from Sweden and Somalia were more represented and reported higher use compared with Norwegians, while Pakistani and Polish participants showed diverging results according to representation and self-reported use. Pakistanis reported higher frequency of use, but were not over-represented, in contrast to Polish patients who reported lower use, but were over-represented compared with their representation among citizens of Oslo. A possible explanation for the divergence is that the representatives of the patients from Pakistan in the study sample may be frequent users of the OAEOC, while the rest of the Pakistani community in Oslo uses their RGP for primary emergency care visits. Recall bias or ascertainment bias may also have caused the participants from Poland to under-estimate their frequency of visits. Alternatively, short-term labour immigrants do not register as citizens of residence in Oslo during their stay in the capital and thus contribute to a higher representation in the population than found in the population statistics. In light of this, a major concern in the second approach to analysing utilization patterns is that the model may be biased in general according to place of residence for the study participants. The population register statistics in Oslo are based upon information from those registered with a place of residence in the city. However, the patient sample in the study represented not only persons with a self-reported place of residence in Oslo, but also from the neighbouring county Akershus and other counties in Norway (Table 7).

Table 7 Place of residence stratified by Norwegians and immigrants including Norwegian-born with immigrant parents.

Place of residence	Norwegians	Immigrants and Norwegian-born with immigrant parents
	Frequency (%)	Frequency (%)
Oslo	2.298 (91.9)	1.241 (91.0)
Akershus	79 (3.2)	31 (2.3)
Other county in Norway	106 (4.2)	40 (2.9)
Without a place of residence	8 (0.3)	17 (1.2)
Residence abroad	0 (0)	16 (1.2)
Missing	9 (0.3)	19 (1.4)
Total	2.500 (100)	1.364 (100)

In the study sample, the proportion of Norwegians reporting registered residence in Oslo was 91.9%; the figure for immigrants including Norwegian-born with immigrant parents was 91.0%. For the selected countries, the respective proportions were as follows: Sweden (94.4%), Pakistan (87.2%), Somalia (92.0%) and Poland (93.8%). Among Pakistanis, 9.0% were citizens of the neighbouring county Akershus. Although the population surveyed at the OAEOC did not consist of only Oslo residents, the proportion of Norwegians and immigrants who reported a place of residence in the capital was almost identical. Thus, any skewness of the findings in the second approach will not affect the general results presented in **Paper I**. In retrospect, it might have been appropriate to stratify this model to consider the self-reported place of residence in Oslo, or at least to discuss this issue in the paper.

In contrast to register-based studies that require PID-numbers, our individual survey approach included patients who were not registered in the Norwegian National Population Register, such as undocumented immigrants, rejected asylum seekers and labour immigrants on a short-term stay in Norway. Because there are no official registers for undocumented or illegal immigrants, we do not know the numbers or percentages of the

patient population that they comprise. Asking the patients their status in a questionnaire would probably not be reliable since illegal respondents would naturally be reluctant to report their status as undocumented or irregular immigrants. Although official statistics are lacking, estimates in 2006 and 2009 indicated that 12.000–18.000 undocumented immigrants were in Norway and we can assume that many lived in Oslo due to the possibility of passing unnoticed [152, 153]. This lack of registration in the population register implies a bias when comparing the study sample with the official population in Oslo. In general, the total number of immigrants staying in Oslo will be under-estimated in the official statistics over time. We do not know their number or country of origin. Nevertheless, we can assume that they use the OAEOC since they are not affiliated to the RGP scheme, and attending an expensive private health-care clinic is predominantly favoured by socioeconomically advantaged individuals. Comparing the proportions of immigrants and subgroups of immigrants consisting of an unknown number of undocumented individuals with the proportion of immigrants officially in the register statistics will provide biased results skewed towards an over-representation of immigrants at the OAEOC. How much this affects the results is impossible to estimate since an accurate number of undocumented immigrants is not available.

An alternative explanation for the over-representation at the general emergency outpatient clinic by immigrants may reflect an under-representation of Norwegians due to their use of private emergency health-care clinics. Although our impression from general practice in Oslo is that this is not the case, this alternative hypothesis is difficult to verify due to the lack of descriptive data from these clinics.

An issue that is always present in immigrant research is the assumption of heterogeneity of immigrants as a group and the lack of a common definition and inclusion criteria. This may cause problems when comparing results across countries and in literature reviews, and this issue is addressed in a systematic review by Norredam et al. (2009) [25]. In their review, the utilization of emergency care services by immigrants was found to be lower, equal or higher across different European countries. In contrast, two recently published literature reviews on the utilization of health-care services by immigrants in Europe show a generally higher use of accident and emergency services, which corresponds better to

the results in our study [28, 29]. **Paper I** is included in the two latest reviews mentioned above and achieved scores associated with a “fair” to “good” quality rating based on the guidance provided by a standardized quality assessment tool from the National Heart, Lung and Blood Institute (NHLBI) and the National Institute for Health and Care Excellence (NICE) [154, 155]. Although the three independent systematic review reports have synthesized the evidence relating to immigrants use of health-care services in Europe, the quality of the included studies vary greatly with considerable risks of bias and lack of external validity as well as low reliability of the procedure for measuring the utilization outcome. Major problems are related to the inconsistency of categorization and definition of immigrants and difficulties to compare studies due to methodological differences between the studies. The single studies contributing to the systematic reviews consist of both small questionnaire surveys conducted on local and regional levels and more comprehensive register data studies conducted on national levels. In addition, the studies included in the reviews represent different countries comprising very different immigrant populations as well as structural differences in the organization of the health-care systems. The studies also differ significantly in order to provide sufficient information about the individual determinants which affect the healthcare-seeking behaviour and use of services.

Bearing in mind the substantial differences between countries and the limited evidence base from which to draw conclusions, the review studies suggest that for most of the countries where information is available, immigrants are more likely to use accident and emergency services compared with natives. The generally higher utilization of these services may also be because some European countries provide emergency care free of charge, which makes use of these services more attractive for immigrants [156, 157].

Our study results show similar trends as the work by Ursula Goth, the Oslo Immigrant Health Profile Study, and the Immigrants’ Health Report 2005/2006 by Statistics Norway [57, 59, 60]. Goth found a diverse pattern of utilization of the emergency ward depending on country of origin, with the highest use among patients from Somalia, Sweden, Poland and Iraq [62]. However, the definition of emergency ward does not confirm whether both the general emergency outpatient clinic and the trauma clinic at the OAEOC were

included. In addition, immigrants from Poland and Somalia had the highest use of emergency ward services during RGP office hours after controlling for age and duration of residency in Norway [63]. Both the Immigrant Health Profile Study and the Immigrants' Health Report were based on data from cross-sectional population surveys including individuals categorized by country background. The results showed that immigrants were more likely to be frequent users of emergency services compared with Norwegians. They reported an average of 0.6 visits to EPHC services during the previous 12 months, with the highest frequency of 1.0 visits among Somalis compared with 0.4 for the overall population. However, this is a much higher frequency of visits compared with Diaz et al. who reported 0.17 visits to EPHC services by Norwegians and 0.11–0.21 visits by immigrants depending on the income status in the country of origin as categorized by the World Bank [54]. These reported data for average annual use are considerably lower than those found in our study, that is, 2.1 visits in patients with immigrant background and 1.9 visits by natives. However, in retrospect, it has been pointed out that the calculations of means (the mean number of self-reported OAEOC and RGP visits in the preceding 12 months) is obvious wrong due to use of a categorical variable instead of a continuous variable when registering the number of visits. The answer possibilities in the questionnaire were 0, 1, 2, 3, 4 or more. This erroneous will actually under-estimate the true mean of self-reported number of visits in our material and involve an even higher discrepancy with the register-based studies. One possible explanation for higher self-reported number of visits in our study may arise from recall bias or genuine over-reporting. Alternatively, the study sample may comprise a selected sample of frequent attenders of the OAEOC services.

Our results differ slightly from those obtained using a 2008 register-based study of immigrants' use of emergency primary health care in Norway [53]. That study concluded that immigrants generally used emergency services less frequently than did Norwegians, although substantial variation between immigrant groups was also found. Based on region of origin, immigrants from Asia, Africa and Latin America used the emergency services the most, while Western Europeans had the lowest contact rates. However, none of the groups had a higher contact rate than Norwegians. Subgroup analyses showed that labour immigrants from Germany and Poland used emergency care considerably less frequently

than did Norwegians, whereas asylum seekers from Somalia and Iraq used these services more often. This partly contradicts our study with respect to labour immigrants from Poland. One likely explanation for this discrepancy is that the observational register data study covered all of Norway, with many different forms of out-of-hours services; in contrast, our study focused on these services in a single, uniform facility in Oslo open 24-7. We can assume that information about how to navigate the health-care system is accessed more easily in a small village with a few RGPs compared with a more diverse and complex system in Oslo comprising many RGPs and secondary specialists. The OAEOC patient sample was also generally young, with a mean age of 29.6 years in Norwegians and 26.6 years in immigrants including Norwegian-born with immigrant parents. Thus, the higher utilization of services may be explained by previous research reporting that healthy young adults, who were mostly registered with a general practitioner, used emergency services more frequently because of convenience and ease of access rather than dissatisfaction with their general practitioner [158].

From the data on concomitant self-reported RGP use, both first- and second-generation immigrants revealed a higher frequency of visits (≥ 3 visits) than Norwegians. The frequency of visits as measured by incidence rate ratios revealed that immigrants including Norwegian-born with immigrants parents were associated with a higher number of visits by their RGP in the preceding 12 months compared with Norwegians. With the exception of patients from Pakistan, the other country of origin-based immigrant groups was associated with lower or equal frequency of RGP visits. Increasing age and being female were associated with higher frequency of use of RGP health-care services. Our results on self-reported RGP use agree to a certain extent with a 2015 Norwegian register-based study [56], which reported that a significantly lower proportion of immigrants used their RGP compared with natives. However, during the daytime, immigrants were more likely than natives to be frequent RGP users (≥ 7 visits), although there were differences between immigrant groups. In particular, elderly immigrants, labour immigrants and immigrants from high-income countries used RGPs less often, whereas refugees and immigrants from middle-income countries were over-represented among frequent RGP attenders.

Utilization within the two clinics at the OAEOC

To our knowledge, no other studies have explored the use of emergency health-care services among immigrants and non-immigrants separately for general and trauma medicine. Results from our survey reflect the different representation of immigrants between the general emergency outpatient clinic and the trauma clinic. The proportional representation of immigrants as one group (including both first- and second-generation immigrants) was higher at the general emergency outpatient clinic, whereas that at the trauma clinic was similar to the group's representation in the population of Oslo. However, focusing separately on second-generation immigrants, they were significantly over-represented at the trauma clinic. Stratifying the patients by age and sex showed that males in general consulted more frequently at the trauma clinic, whereas more females attended the general emergency outpatient clinic. This distribution was most prominent for first- and second-generation immigrant men, corresponding to almost two-thirds of the immigrant patients at the trauma clinic. The highest representation of men was seen among immigrants from Somalia (74.4%), Poland (69.6%) and Sweden (65.7%). Swedish and Polish males aged 20–39 years are often engaged in manual labour and are therefore probably exposed to more work-related injuries and accidents, for instance in construction and warehouse work, possibly explaining their representation at the trauma clinic [159, 160]. In addition, males are generally more involved in violence and crime [161]. Studies have also shown that immigrant women of non-Western origins are less physically active and have lower levels of engagement in sports activities, which may explain their under-representation at the trauma clinic in the young to middle-aged category particularly seen among Somali women [161-163].

13.4.2 System barriers

Affiliation with the RGP Scheme

In **Paper I**, we found different self-reported affiliation rates with the RGP scheme among subgroups of immigrants. First-generation immigrants reported a lower rate of registration with the RGP scheme than did Norwegians, while second-generation immigrants' rates were similar to those of Norwegians. The second-generation

immigrants living in Norway are mostly descendants of immigrants who arrived during the last decades and represent a relatively young population (mean age 9.7 years). They are generally well integrated into the Norwegian health-care system by having taken part in the mandatory Norwegian maternity and child health-care services and through their subsequent RGP affiliation. Immigrants from Sweden and Poland, mainly labour immigrants, reported the lowest affiliation rates with the RGP scheme. We found that labour immigrants with a low rate of registration with the RGP system were over-represented at the OAEOC compared with their representation within the population, which agrees with the findings of other studies [36, 143]. The lack of RGP registration among labour immigrants may be an important contributing factor to the increased workload for the OAEOC, due to the unnecessary visits by patients who could otherwise benefit for the continuity of care provided by a RGP. An establishment of a supplementary primary health-care centre for immigrants in Oslo who do not qualify for registration with the RGP scheme could diminish the system barrier these patients meet and facilitate continuity of care.

The four immigrant nationalities explored in this study have some distinct features in addition to being the four most frequently represented. One major difference between these nationalities concerns the employment rate. Patients presenting at the OAEOC from Sweden and Poland are mostly labour immigrants whereas the immigrants from Pakistan and Somalia report lower employment rates. In general, labour immigrants come to Norway on short-term work permits and many are not eligible to register with the RGP scheme [80]. Workers at temporary staff recruitment agencies on short-term contracts report obstacles in registering to become a citizen of residence in the Norwegian National Population Register. This may explain the low self-reported RGP affiliation rates among labour immigrants.

After stratifying the analysis to include only patients reporting an affiliation with the RGP system, we found that the proportions of patients from Sweden and Poland who attended the OAEOC were similar to their representations in the general Oslo population (referred to in **Paper I** as Additional file II). There may be two different explanations for this. One possibility is that the study participants who were affiliated with the RGP scheme used

their RGP in addition to the emergency services, while those lacking an affiliation used only the OAEOC. Alternatively, it may be that those not affiliated to the RGP scheme were not registered in the official population statistics, which confirms the potential bias that may arise by comparing the proportion of immigrants in the study sample with the proportion of immigrants in the official register statistics. A consequence of this may be that an unknown number of labour immigrants from Sweden and Poland reside in Oslo, but do not hold a residence permit.

Undocumented and illegal immigrants are not allowed to register with a RGP and this group of patients contributes to the low self-reported RGP affiliation among first-generation immigrants. Besides attending the OAEOC, undocumented and illegal immigrants have few public alternatives for receiving acute health care. In 2009, only one daytime primary health-care office in Oslo officially accepted to receive patients who were not registered with a RGP. This possibility was well known to the staff at the OAEOC. In addition a charity organization that runs a health-care centre for undocumented immigrants was open on two afternoons and evenings a week, that is, for a total of seven hours per week (in 2009) [164]. Apart from this, undocumented and illegal immigrant patients had to attend the OAEOC or one of the expensive private health-care clinics in Oslo. We were not able to find any official statistics on how many private clinics exist or how many patients they treat, and whether immigrants are represented in these facilities. Nevertheless, we can assume that those services have limited visits from undocumented immigrants due to the high consultation payments or the requirement for private health insurance.

Access to an immediate RGP appointment during opening hours

Increased utilization of emergency health-care services by immigrants may reflect cultural differences in health literacy, knowledge about the health-care system and difficulties in accessing a RGP due to language barriers [16, 28]. Thus, we assumed that immigrants would prefer to walk into the emergency clinic rather than telephone for an appointment with their RGP. However, this hypothesis was not supported from our

results in **Paper III**, which showed that more immigrants in general had tried to contact their RGP prior to the emergency visit compared with Norwegians.

In our study, 49% of all walk-in patients had tried to contact their RGP before self-referral to the emergency clinic during the period 08:00–23:00, Monday–Friday (58% of immigrants and 44% of Norwegians). Even after adjusting for sex, age, work status, self-assessed urgency level and number of RGP visits during the preceding 12 months, immigrants were still more associated with having tried to contact their RGP than Norwegians. Based on region of origin, the logistic regression model showed that this association was particularly strong for patients from Africa and Asia. In addition, significantly fewer Norwegians (37%) aged 16–30 years compared with immigrants (63%) of the same age had tried to contact their RGP. Oslo is a city with many educational institutions. This lower contact rate with RGPs may reflect the fact that many Norwegians of this age are students who come from other districts of Norway where they have an affiliation with their RGP. Alternatively, young Norwegians may prefer the emergency clinic as a matter of convenience.

The contact rate with an RGP office prior to visiting the OAEOC found in **Paper III** is higher than those in other reports from Norway (26%), Denmark (33%), the U.K. (21–32%) and France (32%) [14, 134, 143, 158, 165]. These different rates may reflect differences in the inclusion time frame of the different studies and that some of the studies were conducted some time ago. On the other hand, additional analysis of the study population at the OAEOC showed that 38% of all walk-in patients who attended the emergency outpatient clinic during the entire 24-7 period had attempted to contact their RGP before attending the general emergency outpatient clinic (data not shown). In the Danish study, more respondents from all groups of non-native origin (Western, Middle Eastern and other non-Western countries) had considered contacting a primary caregiver before attending the emergency clinic compared with patients of Danish origin [14]. This is similar to our results except that our study included fewer immigrants of Western origin who had contacted a RGP. In contrast, in an Australian study, compared with Australian-born people, immigrants from a non-English-speaking background were less likely, and immigrants from an English-speaking background were more likely, to contact

a general practitioner [166]. This study also found that immigrants were far more likely than natives to report that they had attended the emergency clinic because of a lack of GP affiliation. In addition, a study from London reported that labour immigrants were less likely to have GP affiliation and to have made prior contact with GPs before attending the accident and emergency/walk-in centre [47].

The interesting finding that more immigrant patients than Norwegians tried to contact their RGP prior to the emergency outpatient clinic encounter was in contrast to our expectations. Although immigrants do not seem to by-pass their RGP, language barriers, expectations of urgency level and cultural differences may cause problems in communication with the staff at the RGP office, either on the phone or face-to-face. Having difficulties in explaining your health condition may result in an under-estimation of urgency level by the office staff, which might lead to not qualifying for an immediate appointment in an already busy time schedule.

Systematic barriers reported in **Paper III** involved study participants not being able to get through by phone to the RGP office or being told or recommended to visit the general emergency outpatient clinic instead of getting an immediate appointment at the RGP office. These barriers are recognized in other studies that explore patients' motives behind low-acuity visits and self-referrals to EDs [47, 167, 168]. In our study, 23% of the Norwegians and 22% of the immigrants answered that they had been told by the RGP office staff when calling for an appointment to try the OAEOC instead. Kellermann et al. have described ED usage as a "bellwether for how an overall health-care system is functioning" [169]. Correspondingly, differences in emergency service utilization also result from differences in the respective health-care systems. Difficulties in obtaining an immediate appointment with an RGP may be an important reason for seeking treatment at the general emergency outpatient clinic. To facilitate continuity of health care provided by RGPs and to reduce dependence on visits to emergency services in Oslo, our findings indicate that arrangements should be made to improve daytime access to the RGP office.

13.4.3 Personal preferences

According to personal preferences, the findings in **Papers II and III** demonstrate that the walk-in patients' motives for self-referral to the general emergency outpatient clinic were mainly driven by experience of the personal perceived urgency level of their health condition and convenience due to fast access to immediate health care.

Self-experienced urgency level assessments

In **Paper II**, we found a discrepancy between the assessments of the level of urgency by walk-in patients and those by doctors for consultations at a general emergency outpatient clinic. Almost two-thirds of the walk-in patients seen at the emergency clinic were assessed by doctors as presenting with a non-urgent medical problem that could have waited for medical attention until the next day, while only about one-quarter of the patients shared this assessment of their consultation. Being an immigrant from Eastern Europe, Asia and Turkey, or Africa was more often associated with an assessment of a significantly higher level of urgency for their consultation compared with Norwegians. An understanding of the way immigrants navigate in a “foreign” land, with a new language, new and unfamiliar laws and rules, as well as a new health-care system, is important for acknowledging the reasons behind their assessments of urgency and use of emergency care facilities. Health status and socioeconomic status are also important factors influencing the use of emergency services by patients with non-urgent requirements [98]. Adults and caregivers may seek emergency care more often for mild acute illnesses considered non-urgent because of poor health literacy skills [170]. For instance, a medical condition with fever and diarrhoea in an African context may indicate a potentially severe disease such as malaria or dysentery, but in Norway, these symptoms are more commonly caused by a relatively harmless viral gastro-enteritis. A qualitative approach involving in-depth interviews with focusing personal preferences and choices made according to the patients' perceived urgency level could have contributed to advance our understanding of health-care utilization in an emergency setting perspective.

We decided to include both first- and second-generation immigrants as one group in our analysis. As a result, we may have overlooked important differences between these two

categories. However, because many second-generation immigrants were minors, the questionnaire was completed by their accompanying caregiver and thus reflected the caregiver's reasons for attendance and perception of urgency level.

Inconsistency in the wording of the urgency level assessment text in the questionnaire may have caused skewness towards more non-urgent assessments conducted by the patients. In the patient version, the statement was: "could perhaps have waited until tomorrow", while in the doctors' version it was: "could have waited until tomorrow". The introduction of "perhaps" in the patients' version might have prompted them to be more confident to assess the urgency level as non-urgent compared with the more uncompromising statement in the doctors' version. For the doctors, the assessment may be directed towards less use of non-urgent assessment. How much this information bias influenced the concordance analysis is difficult to predict. However, we can assume that the overall trend in the study according to concordance in urgency level assessments is applicable to the real situation.

The 376 people who left before consultation in the study reported in **Paper II** may have been different from those who completed the survey. It is likely that these patients considered their urgency level as lower since they decided to leave the emergency clinic before an examination by the doctor, or they might have managed to make an appointment with their RGP while waiting. This might introduce a bias in the distribution of urgency levels in our study in favour of more patients assessing the urgency level as high.

An international literature review shows considerable variability in the proportion of non-urgent ED visits, ranging from 5% to 90%, with a median of 32% [7]. Another review reveals that the prevalence of inappropriate ED use varied from 20% to 40% and was associated with age and income [6]. The National Centre for Emergency Primary Health Care in Norway has set up an enterprise called the Watchtowers, which consists of a representative sample of seven casualty clinics covering 18 Norwegian municipalities. Data from 2007 showed that 76.6% of all contacts were classified as non-urgent [171]. This is slightly higher than our results in **Paper II**, where doctors assessed 64% of the

walk-in patients as having non-urgent reasons for their consultation at the emergency outpatient clinic. The results from the Watchtower project and our study reveal discrepancy in the non-urgent rates compared to the PhD thesis by Ellensen evaluating the urgency distribution to all Norwegian emergency medical communication centres (EMCCs) [172, 173]. The EMCC operators use the Norwegian Index for Emergency Medical Assistance as an emergency medical criteria-based dispatch guideline when they receive and handle emergency medical 113 calls from the public, health line calls from prehospital emergency primary health care and coordinate and dispatch the ambulance fleet. The acute contact rate was 21 per 1000 inhabitants per year and the urgency distribution showed 37% acute, 34% urgent and 27% non-urgent contacts. Compared to our results and the Watchtower project, these differences show that the population as a whole know what level to address when experiencing a severe degree of medical emergency. However, the distribution of urgency levels at an EMCC is not representative to an EPHC population.

In our study we used the same urgency assessment levels as found in a validated survey by the Norwegian Knowledge Centre for the Health Services [132]. In 2009 the urgency triage procedure at the general emergency clinic was based on use of experienced and trained nurses assessing the patients' urgency level without any use of validated objective triage criteria, but only on their own clinical experience. The patients were classified as red (immediate response by health-care provider); yellow (response within one hour) and green priority (can wait). Three years after our study was conducted, the general emergency clinic introduced the Manchester Triage System (MTS) to manage and prioritize patient flow safely. The MTS is one of the most commonly used triage systems in Europe to ensure that patients who need immediate medical attention are timely treated, particularly in case of overcrowding [174]. The level of urgency is divided into five categories: red (immediate response by health-care provider), orange (response within 10 minutes), yellow (response within 60 minutes), green (response within two hours) and blue (response within four hours). In order to explain and interpret health-seeking behaviour, our study aimed to evaluate the patients' self-perceived level of urgency and not the urgency level based on objective criteria. In retrospective, alternatively to the use of three predefined levels in the questionnaire, we could have used

a Likert Scale with more options or a Visual Analogue Scale (VAS) to measure the urgency level [175]. Introducing a broader degree of options could have helped the patients to nuance their self-perceived urgency level.

Durand et al. state that selection bias seems to occur in urgency studies because of the number of patients excluded [7]. Authors systematically exclude patients requiring immediate treatment and those with communication difficulties, resulting in a higher proportion of non-urgent ED visits than if calculated on the entire patient population visiting the ED. If we consider the patients in our study arriving by emergency services (ambulance, police, and emergency outreach teams) to have an appropriate and urgent health-care enquiry, the proportion of non-urgent enquiries is reduced to approximately 40% for the entire patient population at the general emergency outpatient clinic (data not shown). In our study, 27% of all patients assessed their need for help as being within “less than one hour”, varying from 18% among Norwegians, 16%–24% of those of Western origin (Nordic countries, Western Europe, North America and Oceania), 49% of Eastern Europeans, and 36%–55% of patients of non-Western origin (Asia including Turkey, and Africa and Latin America). The same trend is reported in a study from an ER in Copenhagen, where patients of Danish origin (24%), Western origin (27%), Middle Eastern regions (63%), and other non-Western origin (52%) responded that they needed acute help (“less than one hour”) [14]. In another paper based on these same data, caregivers were asked about the relevance of the patient’s contact with the health system in general and the ED in particular [142]. Sixty-four percent of the contacts were considered relevant in an ED context, whereas 17 % were categorized as irrelevant by the caregivers. Immigrant patients from of Western origin (OR=1.9), Middle Eastern (OR=2.04) and other non-Western origin (OR=2.73) were more associated with not presenting a relevant visit, assessed by the caregivers, compared to the Danish patients. In addition, significantly more respondents from Middle Eastern and other non-Western origin were not satisfied with the ED contact compared to the natives. However, the concept of relevance was not further defined and might therefore be interpreted differently between the caregivers causing a potential interrater variability bias.

An important finding in our study is the low concordance of assessment of the level of urgency between patients and doctors. This finding is also clearly confirmed in two Australian studies and one from Saudi Arabia. The studies in Australia were conducted in both rural and urban areas and found no correlation between patients' perception of urgency and triage category [176, 177]. However, neither study considered the diversity of the population according to immigrant background and region of origin.

In Saudi Arabia, approximately two-thirds of Canadian Triage and Acuity Scale (CTAS) V patients and one-third (31.8%) of CTAS IV patients believed that their condition was more urgent than their triage nurse rating [178]. To our knowledge, no other studies in 2009 had analysed the differences between various immigrant groups in concordance of assessments of level of urgency by walk-in patients and their doctors. A study from Italy reported that the consistency of level of urgency and priority assessed by nurses at entry and exit triage made by physicians was similar for all citizenship groups, with a Kendall tau coefficient of 0.78–0.88 [40]. However, neither of these studies considered the patients' own perceived urgency level, as in our study, but explored urgency level assessments based on objective triage criteria.

There is no international consensus concerning a definition of a non-urgent emergency health-care visit [7]. In **Paper II**, we defined a non-urgent reason for consultation as one that could have waited for medical attention until the next day.

Studies have shown a consistent discrepancy in perspectives on urgency between health-care professionals and their patients [8, 179]. Assessments made by health-care professionals are mainly based on urgency of the medical problems, while assessments by patients are based on perceptions of medical factors, feelings (e.g., pain, anxiety), accessibility to health-care resources, and practical concerns surrounding the medical problem. In **Paper II**, the perceptions of the level of urgency by patients were assessments based on admission to the general emergency outpatient clinic (pre-consultation). The assessments by doctors were based on information given in the patient history, by clinical examination, and supplementary diagnostic tests before discharge (post-consultation). This may partly explain the low concordance between the

assessments of level of urgency by patients and doctors in the present study. The patients and physicians may have had a higher degree of concordance if the assessments had been made at the same point in the evaluation. This was difficult to achieve due to the preconditioned information received by doctors before the encounter (i.e., laboratory tests, ECG or reports given by the nurses). However, our results emphasize that all groups of walk-in patients, including immigrants, subgroups of immigrants and Norwegians, overestimate their urgency level compared with the overall evaluation of the doctors. From the perspective of the patients, they do not necessarily consider their medical problem to be urgent, but at the same time, they urgently wish to have clarification of their medical problem. For them, in choosing between their RGP or attending an emergency health-care clinic, the general emergency outpatient clinic may be the most suitable place and the most efficient provider to fulfil their goals. The emergency care facility can deliver a full range of medical services, regardless of the presenting complaint, and it is accessible 24-7 [180]. These numerous advantages do not exist in RGP offices, where appointment availability can be sparse and opening hours are restricted.

A somewhat surprising finding was that a number of patients (11%) admitted to hospital considered their urgency level to be “non-urgent”, and that the doctors assessed 17% of the patients admitted to hospital as having a “non-urgent” urgency level. An explanation for this finding could be that the general emergency outpatient clinic in Oslo takes care of many people with low social support, e.g., drug-addicted individuals with no permanent place to stay and elderly people with inadequate health-care support at home. Even though the medical conditions are not deemed urgent, they are admitted to hospital largely because of psychosocial problems. In general, 17% of the walk-in patients were admitted to hospital/decision unit or referred to a specialist. The majority of the patients (69%) received their treatment on site. There was no significant difference in the proportions of referrals to secondary health care between Norwegians and participants with immigrant background, perhaps reflecting an indication of equity and fair management in the health-care services provided by the general emergency outpatient clinic. This finding is consistent with a German study published in 2017 aiming to identify explanatory factors that lead to hospital admission based on a self-constructed

index measuring appropriateness of emergency service use [181]. This study found no association of ethnicity as predictor for admission to hospital when adjusted for the potential effect of sex, age, ethnicity (differentiated between Germans and non-Germans) and the perceived urgency level by both the patient and the physician. Not surprisingly, however, the strongest association with hospital admission was found for the physician's assessment of urgency level, while the urgency levels according to the patients' own assessment were not significant. Unfortunately they did not conduct concordance analysis of the urgency level assessments between patient and physician.

Convenience reasons for emergency clinic visits versus a RGP appointment

Our findings in **Paper III** reflect the results of a qualitative study exploring patients' motives behind non-urgent visits to the ED in Germany and other international quantitative studies in terms of the most frequent reasons for attending emergency services: not having a regular health-care provider, difficulty accessing primary health care because of restricted opening hours, long waiting periods, and convenience of access to medical care 24-7 [6, 8, 27, 158, 167, 168, 178]. In Norway, studies conducted in Arendal (2007) and Bergen (2003) on the reasons for attending the EPHC found similar results [133, 134]. Nevertheless, neither of these studies considered the diversity of the population based on immigrant background.

The patients' reasons for attending the emergency outpatient clinic without attempting to contact their RGP reflect a health-seeking behaviour driven by convenience. A bad experience with previous attempts at contacting their RGP and the general opinion of fast access to immediate health care at the emergency outpatient clinic may lead patients to choose the emergency outpatient clinic for convenience in a busy daily life setting. In our study, a higher percentage of immigrants (36%) compared with Norwegians (26%) reported difficulty in making an immediate appointment with their RGP. This is consistent with our findings in **Paper II** indicating that certain immigrant groups often perceive a higher level of urgency for their health condition compared with Norwegians and thus seek help at the emergency outpatient clinic to profit from prompt examination and treatment instead of awaiting a scheduled appointment with their RGP. The declining

of a patient's need for an immediate appointment at the same day may not necessarily mean that the RGP-office recognizes the problem as non-urgent. A plausible explanation can be a lack of prearranged drop-in appointments the same day and/or a fully booked schedule. An uprising among RGPs in the county of Trøndelag in Norway has recently been launched in order to enhance the quality of the system and to address the challenges for the future RGP-scheme [182]. During the last decade and particularly after the Care Coordination reform was launched in 2012, the system has become increasingly overloaded by an excessive workload without any corresponding allocation of resources. Patients who previously were followed-up in the specialist health services have now been transferred to a permanent medical follow-up program by their RGPs. The transfer of patient-responsibility to the municipalities has led to an increased workload of severely ill patients in the home services, contributing to more work and responsibility for the RGP. The time-schedule is filled with follow-up consultations and coordination meetings with other health-care institutions in the municipality. Insurance companies and schools instruct the RGP to issue medical certificates for documentation of disease and illness, and the Norwegian Labour and Welfare Administration (NAV) are in need of frequent medical documentation of patients receiving welfare benefits. This may contribute to a reduction in pre-arranged drop-in appointments for immediate help patients during the daytime and less contact with the patients. The excessive overload of work may be some of the reasons why patients who are affiliated with the RGP scheme have problems getting in contact with the RGP and explore problems arranging with an immediate appointment. The uprising called "The Regular General Practitioner Scheme version 2.0" has expanded and has many supporters among RGPs in Norway. The organization claims that the RGP scheme needs a change in order to survive the future. Policymakers must allocate more funding resources into primary health care and at the same time ensure recruitment of new RGPs into the scheme. The number of list patients needs to be reduced so the RGP has enough time for patients and patient-related work and are able to keep an impact on his/her working day.

Making an appointment with their RGP in the daytime can be inconvenient for employees with regular working hours. However, this personal preference was not a major reason for attending the emergency outpatient clinic in Norwegians (5%) or immigrants (6%). We

found that 10% of Norwegians and 8% of immigrants preferred to attend the emergency service based on their expectation that the RGP could not provide the help they needed at that time or due to an acute trauma. According to standard procedures, the trauma clinic takes care of injuries and trauma, but eye injuries in particular are seen at the general emergency outpatient clinic. There were 24 acute eye injuries during the study period (18 natives, 6 immigrants). Access to a full range of medical services and a highly equipped setting in contrast to an RGP office may prompt patients to believe that they receive better help at the emergency outpatient clinic. Advocating the patients' interest, there is however a well known procedure of individuals with minor injuries and trauma in Oslo, to by-pass their RGP, regardless of the time of day and proceed directly to the trauma clinic at the OAEOC for medical treatment.

In the questionnaire, some of the participants chose to freely express their opinions and feelings under the category "other". Their statements did not reveal any new perspectives in personal preferences or systematic barriers concerning possible contact reasons than already expressed in the survey. The free text field was primarily seen as an available option to express their feelings and attitudes towards long waiting times at the emergency clinic, the organization of the Norwegian health-care system in general and expression of opinions regarding their RGP.

13.4.4 Summary of discussion

Despite new knowledge added through the years of fulfilling this thesis, this study provides new knowledge on various groups of immigrants' self-reported affiliation to the RGP list-patient scheme in an urban city in Norway, a country where the RGP system is a mainstay in the Norwegian health care organization. It also adds additional knowledge to the discrepancy found in the register data studies by Sandvik et al. and Goth et al. regarding utilization of EPHC on national and local level with focusing on walk-in patients where the choice of treatment between EPHC versus a RGP is an issue of relevance regarding maintenance of continuity in health care. The present thesis is, however, influenced by some limitations regarding external validity and preconditioned restrictions related to choice of study method. The results describe the situation in the

urban city of Oslo and are not applicable to a rural EPHC/OOH-setting in Norway. The representativeness of the study participants is considered more similar to the walk-in patient population in internationally EDs in cities with a diverse population. Despite this, our study may have implications for the health-care organization of the primary health-care system on a national and local level. The results depict that groups of immigrants experience barriers to access the RGP list-patient system and therefore the system may contribute to inequality for continuity in health care. An important step policymakers could make is supporting establishment of supplementary primary health-care centres for immigrants who do not qualify for registration with the RGP scheme. The need for such a center would preferably be in larger cities with a diverse population consisting of many short-term labour immigrants.

The present study also demonstrates a discrepancy between assessments of the level of urgency by walk-in patients and doctors concerning the patients need for medical assistance. Almost two-thirds of the encounters could have waited for medical attention until next day, and Immigrants from Eastern Europe, Asia and Turkey, and Africa more often assessed a significantly higher level of urgency. Recently, in November 2017 a survey study of immigrants' motives and expectations for contacting OOH primary care at a GP cooperative in the Netherland between 2009 and 2014 were published [183]. The study including almost 11.500 patients found that the main motives for contacting a GP cooperative for non-western and western immigrants were an urgent need for contact with a GP. The patients' own perceived urgency level were unfortunately not registered, but the results showed that non-Western immigrants more often perceived an urgent need for a GP and that both non-Western and Western immigrants experienced problems accessing their own GP during office hours compared to native Dutch. The overall conclusion in this study implies a recommendation for stimulation of education about the purpose of a GP cooperative, and examination and improvement of accessibility of daytime primary care familiar with the implications stated in our papers.

13.5 Implications for policy and societal relevance

Our findings have implications for the organization of the primary health-care system in Oslo. The increased utilization of public emergency services by patients with non-urgent health-care enquiries decreases access for patients with genuine emergency cases, reduces the quality of care (prolonged waiting times, delayed diagnostics and treatments, delayed care of seriously ill patients), and leads to higher expenses for the health-care system [6, 7, 9, 19]. To establish continuity in health care, it is important that patients attend their RGP for non-urgent health problems. Thus, general initiatives should be taken to improve access to primary health-care services run by RGPs and to enable appointments to be made at short notice. In order to reduce the workload experienced among the RGPs, policymakers should allocate more funding resources into primary health care and at the same time ensure recruitment of new RGPs into the scheme. Improving health literacy skills in the general population, with particular emphasis on some immigrant groups, can potentially affect health-care-seeking behaviour and reduce non-urgent reasons for visits to the emergency outpatient clinic. Patient education interventions have shown reductions in ED use [112]. Health systems also need to become more immigrant friendly by overcoming language and cultural barriers with the use of more professional interpretation methods, and by enhancing cultural competence in the medical education of health workers [184, 185]. Providing accessible RGP services to immigrants who come to Norway on short-term labour contracts may improve primary health-care services for these patients. Increased immigration, particularly by labour immigrants from Sweden, Poland and other East European countries, means that new perspectives are needed on how to organize the health-care service to ensure equitable access and conditions for continuity of health care. From this perspective, policymakers should work towards entitlement to the same diverse-sensitive health-care service for all immigrants as for the rest of the population to secure equity in health-care access by allowing undocumented immigrants and short-term labour immigrants into the RGP scheme. In the meantime, the temporary establishment of supplementary primary health-care centres for immigrants who do not qualify for registration with the RGP scheme or the development of a system

that can provide continuity of care for persons who would not otherwise qualify should be considered.

13.6 Future perspectives and studies

The focus on immigrant health care and health-care utilization has become more prominent as the share of immigrants in European populations has grown. These issues were important themes at the WONCA Europe 2016 conference in Copenhagen and the 6th European Conference on Migrant and Ethnic Minority Health (EUPHA) in Oslo 2016 [186]. In an editorial in the *Scandinavian Journal of Primary Health Care* 2016, Diaz et al. state that there is a need for a shift in migrant health care away from an agenda of conflicts and problems towards one focused on solutions [186]. From a comprehensive perspective, in future research, we need to move from description to greater intervention. According to Diaz et al., future perspectives should concentrate on analytical studies and explanatory models that demand more comparative and longitudinal studies and health-care intervention studies adapted to immigrants' health needs [187]. Nevertheless, there is still a lack of sufficient data on immigrant health, particularly on the health of refugees and undocumented immigrants [56, 188].

Learning to navigate a health-care system in a new country and understand how it is organized may be a barrier to adequate health care for immigrants [189]. Gaining such knowledge can be challenging as formal language is often used in official information, making it difficult to understand [61, 190]. Improved health literacy skills in the population in general and reducing language barriers can potentially affect health-care-seeking behaviour and reduce non-urgent reasons for visits to emergency health-care clinics. Further research should emphasize description of the groups of immigrants in Oslo that possess low health literacy skills related to knowledge about how to navigate and access the health-care system. Research on health literacy skills in a group of Somali women in Oslo has already been conducted, but to gain more knowledge in the diverse immigrant population, a study based on the European Health Literacy Survey (HLS-EU) would help identify which groups to focus on in intervention programmes [106, 111]. In addition, further research is needed to explore the reasons for the differences in

assessment of the level of urgency between Norwegians and subgroups of immigrants. Qualitative studies exploring the issue related to culture-dependent differences in health-care-seeking behaviour could provide information to use in subsequent intervention studies. Educational interventions focusing on increasing immigrants' health literacy and language skills, and for the health-care system to develop information available in multiple languages for a diverse immigrant population are important steps to take followed by effect studies in longitudinal research programmes.

The present survey is relevant in describing emergency health-care utilization of walk-in patients. However, we have no information regarding immigrant background about those excluded for participation. In the light of higher urgency level assessments among immigrants, it would have been relevant to explore how they were represented among those admitted to the OAEOC by pre-hospital ambulance services.

Language barriers may not only affect the way immigrants navigate the health-care system, but also represent a challenge in the communication between the patient and the health-care provider. The present study from 2009 provides information on how doctors rated the scale of language barriers and how they solved any language problems during consultations. In 2011, the Norwegian Directorate of Health launched an instruction book for health-care providers describing guidelines on how to use interpreters in communicating with patients with limited Norwegian language skills [191]. To secure equity in health care, the guidelines strongly emphasize the use of professional interpreters with documented qualifications and recommend holding back the use of family members and other unqualified persons. Exploring the use of interpreters and instruments that mitigate language barriers in an emergency health-care setting, thereby evaluating the procedures after introduction of the 2011 guidelines, will be of interest.

14. Conclusions

The findings from this PhD thesis indicate that immigrants and Norwegian-born with immigrant parents in Oslo utilize the OAEOC's walk-in services more than would be predicted by their representation within the general population in the city. Increased representation was seen mostly at the general emergency outpatient clinic, whereas the proportion of immigrants at the trauma clinic was similar to the general population. Personal preferences and system barriers are two different perspectives that explain reasons for attending emergency primary health care by walk-in patients at the general emergency outpatient clinic.

Personal preferences for both immigrants and Norwegians relate to problems in obtaining an emergency appointment with their regular RGP and fast access to immediate health care provided by the emergency clinic. They are also associated with the patients' self-assessed level of urgency. The study demonstrates a clear discrepancy between assessments of the level of urgency by walk-in patients and those by doctors for the health condition encountered. Different subgroups of immigrants more often assess a significantly higher level of urgency compared with Norwegians.

System barriers are manifested as a lack of access to a RGP because of being registered with a RGP in another district or municipal, which was seen among Norwegians, or not being registered with a RGP among immigrants. In addition, some of the walk-in patients who contacted their RGP prior to a visit were told by the RGP office to contact the general emergency outpatient clinic. In general, first-generation immigrants, particularly among labour immigrants from Sweden and Poland, report a lower rate of registration with the RGP scheme than Norwegians. In contrast, second-generation immigrants' affiliation rates are similar to those of Norwegians. To ensure equity in access and to encourage continuity of health care, knowledge about personal perspectives and system barriers is important when organizing health-care services in large cities such as Oslo.

15. References

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Appendix A – Questionnaires (Norwegian, English, Urdu)

Løpenummer:

(brukes til å holde orden på papirene. Kan ikke brukes til å identifisere pasienten)



LIKEVERDIGE HELSETJENESTER

- Pasienten har fått skjema**

- Pasienten har **IKKE** fått skjema fordi**
 - Pasient til legevakt i Ambulanse
 - Pasient med Hastegrad 1 (**RØD TRIAGE**)
 - Pasient med rus-/psykiatri lidelse hvorpå pasienten ikke er i stand til å redegjøre for seg
 - Pasient til avtalt kontroll på legevakt

 - Pasient ønsker i utgangspunktet IKKE å delta i undersøkelsen

- Mann Kvinne Alder: Etnisitet:

Forsiden fylles ut ved innskriving for **alle** pasienter, rives av og legges på eget oppsamlingssted. Pasientene oppfordres til å lese Forespørsel om deltagelse i undersøkelsen og å svare på spørsmålene.

Løpenummer:

(brukes til å holde orden på papirene. Kan ikke brukes til å identifisere deg)

Forespørsel om deltakelse i prosjektet

”*LIKEVERDIGE HELSETJENESTER*”

Vi som har ansvaret for legevaktene i Oslo og omegn ønsker å vite mer om hvordan ulike pasientgrupper bruker legevaktene, og hvordan legevaktene brukes i forhold til fastlegene. Spesielt er vi opptatt av hvordan innvandrere opplever bruken av legevakten. For å få et helhetlig bilde av dette spør vi nå **alle** pasientene (bortsett fra de som er akutt alvorlig syke) om å besvare noen spørsmål om hvorfor de oppsøker legevakten.

Du inviteres med dette til å være med i denne undersøkelsen.

Frivillig deltagelse

Det er frivillig å delta i undersøkelsen. Dersom du ikke ønsker å være med, trenger du ikke å oppgi noen grunn, og det får ingen konsekvenser for den videre behandlingen du får ved legevakten.

Alle opplysningene du gir vil bli registrert anonymt, slik at ikke noe kan tilbakeføres til deg etter at du har besvart skjemaet.

Det blir ikke mulig å identifisere deg i resultatene av prosjektet når disse publiseres.

Hva innebærer prosjektet for deg

Hvis du er villig til å delta i undersøkelsen, ber vi deg besvare spørsmålene på de neste sidene så godt du kan mens du venter på å få komme inn til legen.

Hvis du følger et sykt barn eller en syk voksen bes du svare på spørsmålene ut fra pasientens perspektiv (erfaringer).

Ferdig utfylt spørreskjema leveres til legen når konsultasjonen er ferdig. Legen fyller ut noen opplysninger om hvordan konsultasjonen har forløpt og leverer det anonyme skjemaet til prosjektledelsen. Universitetet i Oslo står for bearbeidelse og analyse av dataene.

Mulige fordeler og ulemper

Du vil ikke selv ha noen spesielle fordeler av prosjektet, men dine svar vil være med å tilrettelegge fremtidige aktiviteter ved legevaktene slik at de bedre kan møte ulike pasienters behov. Skjemaet besvares mens du likevel sitter og venter på å få komme inn til legen, og det vil ikke forlenge den tiden du er på legevakten.

Ansvarlige for undersøkelsen

Dette er et felles prosjekt mellom Helse Sør-Øst RHF, Oslo kommune og Universitetet i Oslo. Det skjer i samarbeid med Allmennlegevakten Oslo kommune, Skadelegevakten Oslo Universitetssykehus Ullevål, Allmennlegevakten Skedsmo kommune, Skadelegevakten Lillestrøm Ahus, og Akuttmottaket Ahus.

Helse Sør-Øst RHF er formelt ansvarlig for prosjektet.

Du som fyller ut dette skjemaet, er:

- pasient pårørende/familie til et barn (pasient)
 pårørende/familie til en voksen pasient annet:

Er pasienten: Kvinne Mann

Hvor gammel er pasienten: år

Hvor bor pasienten: Oslo Akershus
 Utenfor Oslo/Akershus Uten fast bopel

I hvilket land er **pasienten** født:

I hvilket land er **pasientens mor** født:

I hvilket land er **pasientens far** født:

Morsmål (språket dere snakker i familien):

Har **pasienten** fastlege: Ja (eventuelt samme som mor/far) Nei Vet ikke

I hvilket fylke har **pasienten** fastlege: Oslo Akershus
 Annet fylke Har ikke fastlege

Hvor mange ganger har **pasienten** vært hos fastlege siste 12 måneder:

0 1 2 3 4 eller mer

Hvor mange ganger (unntatt denne) har **pasienten** vært på legevakten de siste 12 måneder:

0 1 2 3 4 eller mer

Med de helseproblemene du/pasienten kommer med til legevakten i dag, hvor meget haster det, etter din mening, med å bli undersøkt av lege?

- Veldig mye. Jeg (pasienten) må ha hjelp i løpet av en time eller kortere
 Ganske mye. Jeg (pasienten) må ha hjelp innen få timer
 Ikke så veldig. Jeg (pasienten) kunne kanskje ha ventet til neste dag

Hva gjør du til daglig? (gjelder pasienten eller hvis pasienten er et barn; den som følger barnet) Sett ett kryss ved det alternativet som er mest aktuelt.

- Yrkesaktiv
 Sykemeldt/på uføretrygd eller attføring
 Pensjonist
 Under utdanning, elev/student
 Hjemmearbeidende
 Arbeidsledig
 Annet: hva

Hvorfor valgte du/dere i dag legevakten fremfor fastlege:

(Velg **en** av de tre boksene **A**, **B** eller **C** nedenfor)

A

Jeg/vi **har prøvd**
å kontakte fastlegen i dag,
men:

Årsak (kryss av på **den** viktigste. Bare **ett** kryss):

- | | |
|--|--------------------------|
| Fastlegekontor var stengt | <input type="checkbox"/> |
| Jeg/vi kom ikke gjennom på telefonen | <input type="checkbox"/> |
| Jeg/vi fikk ikke time raskt nok | <input type="checkbox"/> |
| Fastlegekontoret ba meg/oss oppsøke legevakten | <input type="checkbox"/> |
| Annet; beskriv i den siste boksen nederst på siden | <input type="checkbox"/> |

eller

B

Jeg/vi **har IKKE prøvd**
å kontakte fastlegen i dag,
fordi:

Årsaker (kryss av på **inntil tre** av de viktigste):

- | | |
|---|--------------------------|
| Jeg/pasienten har fastlege i annet distrikt/kommune | <input type="checkbox"/> |
| Jeg/pasienten ble syk utenom vanlig arbeidstid | <input type="checkbox"/> |
| Det er praktisk vanskelig å gå til fastlege på dagtid | <input type="checkbox"/> |
| Dårlig erfaring fra tidligere i å få tak i fastlege | <input type="checkbox"/> |
| Det er raskere å få hjelp på legevakten | <input type="checkbox"/> |
| Jeg/vi tror ikke fastlegen yter den hjelp som trengs nå | <input type="checkbox"/> |
| Jeg vil selv bestemme når jeg skal gå til lege | <input type="checkbox"/> |
| Jeg ringte legevaktssentralen og de ba meg komme hit | <input type="checkbox"/> |
| Jeg/pasienten har ikke fastlege | <input type="checkbox"/> |
| Annet; beskriv i den siste boksen nederst på siden | <input type="checkbox"/> |

eller

C

Jeg/pasienten har **en akutt skade**. Legevakten er det stedet vi best får hjelp for dette. Jeg/vi har derfor oppsøkt legevakten direkte uten å ta kontakt med andre leger.

Annet (skriv inn her hvis det var andre grunner til at du/dere valgte legevakt fremfor fastlege i dag. Men skriv ikke noe som kan identifisere deg/dere):

.....

.....

.....

Takk for at du svarer og ved det er med på å gjøre legevakten bedre.
Lever skjemaet til legen du er inne hos.

Denne siden fylles ut av legen. Spørsmålene handler om hvor alvorlig legen mener at sykdom er, hvordan du/pasienten bør følges opp etter besøket på legevakten og om det var språk- eller kulturelle utfordringer under konsultasjonen.

Fylles ut av behandlende lege etter endt konsultasjonen

Dato: Dagtid (08-15) Kveld (15-23) Natt (23-08)

Din vurdering av alvorlighetsgrad av sykdom/skade ved denne henvendelsen på legevakt:

- Meget alvorlig (behov for hjelp innen en time)
- Alvorlig (behov for hjelp innen få timer)
- Mindre alvorlig (kunne ha ventet til neste dag for vurdering hos fastlege)
- eller**
- Akutt skade (gjelder bare ved skadelegevaktene)

Tiltak ved konsultasjonens slutt:

- Pasienten ferdigbehandlet på legevakt
- Kontroll/operasjon på legevakten
- Videre oppfølging/vurdering hos fastlege
- Innleggelse/henvisning til akutt vurdering på sykehus
- Henvisning til sykehus poliklinikk/spesialist (elektiv eller påfølgende dag)
- Innlagt observasjonsposten (gjelder kun legevakten i Oslo)

Annet:

Opplevde du språkvansker under konsultasjonen?

- | Ikke relevant | Ikke i det hele tatt | I liten grad | I noen grad | I stor grad | I svært stor grad |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Hvis språkvansker, hvordan ble dette løst?

- Profesjonell tolk
- Telefontolk
- Familiemedlem < 16 år tolket
- Familiemedlem ≥ 16 år tolket
- Venn/kollega/pårørende av pasienten tolket
- Arbeidskollega tolket
- Snakket selv et utenlandsk språk med pasienten hvilket?

Annet:

Utfordringer under konsultasjonen som du mener er av kulturell art: (skriv ikke noe som kan identifisere den aktuelle pasienten)

.....
.....

Løpenummer:

(brukes til å holde orden på papirene. Kan ikke brukes til å identifisere pasienten)



LIKEVERDIGE HELSETJENESTER

- Pasienten har fått skjema**

- Pasienten har **IKKE** fått skjema fordi**
 - Pasient til legevakt i Ambulanse
 - Pasient med Hastegrad 1 (**RØD TRIAGE**)
 - Pasient med rus-/psykiatri lidelse hvorpå pasienten ikke er i stand til å redegjøre for seg
 - Pasient til avtalt kontroll på legevakt

 - Pasient ønsker i utgangspunktet **IKKE** å delta i undersøkelsen

- Mann Kvinne Alder: Etnisitet:

Forsiden fylles ut ved innskriving for **alle** pasienter, rives av og legges på eget oppsamlingssted. Pasientene oppfordres til å lese Forespørsel om deltagelse i undersøkelsen og å svare på spørsmålene.

Serial number:

(For keeping the papers in order. Cannot be used to identify you.)

Request for your participation in the project

“EQUAL HEALTH SERVICES”

We who are responsible for the emergency service in metropolitan Oslo want to know more about how the various patient groups use the emergency service (*legevakten*), and how the emergency service is used in relation to the regular GPs. We are especially interested in how immigrants feel about the emergency service after they have used it.

To get as complete a picture as possible, we are now asking that **all** patients (with the exception of those who are acutely ill) answer some questions on why they call/go to the emergency service.

You are hereby invited to participate in this study.

Voluntary participation

Participation is voluntary. If you do not want to take part, you do not need to give a reason, and this will have no consequences for the treatment you receive from the emergency service.

All the information you give will be registered anonymously so that nothing can be traced back to you after you have answered the questionnaire. It will not be possible to use the project results to identify you when they are published.

What does the project mean for you?

If you are willing to take part in the survey, while you are waiting to be seen by a doctor, we will ask you to answer some questions on the next pages as best you can.

If you are with a sick child or a sick adult, we ask that you answer the questions from the patient's perspective (experiences). Give the completed questionnaire to the doctor when the consultation is over. The doctor will fill in some information on how the consultation has gone and will then give the anonymous form to the project management team. The University of Oslo will process the forms and analyse the data.

Possible advantages and disadvantages

Your participation in the project will not give you any special advantages, but your answers will help us plan future activities at the emergency service so that we will be better able to address the various needs that patients have. You will be asked to fill in the questionnaire while you are waiting to see the doctor, so filling it in will not prolong your wait.

Who is in charge of the survey?

This is a joint project involving Helse Sør-Øst RHF (South-Eastern Norway Regional Health Authority), Oslo local authority and the University of Oslo, in cooperation with Allmennlegevakten Oslo kommune (General Emergency Service, City of Oslo), Skadelegevakten Oslo (Injury Emergency Service Oslo), Ullevål University Hospital, Allmennlegevakten Skedsmo kommune (General Emergency Service, Skedsmo), Skadelegevakten Lillestrøm Ahus (Injury Emergency Service, Lillestrøm Ahus), and Akuttmottaket Ahus (Emergency Service Ahus).

The South-Eastern Norway Regional Health Authority has the formal responsibility for the project.

You who are filling in this form are a:

- patient relative/family member of a child (patient)
 relative/family member of an adult patient other:

Is the patient: Female Male

How old is the patient: years old

Where does the patient live: Oslo Akershus
 Outside Oslo/Akershus No fixed address

What country was **the patient born in:**

What country was **the patient's mother born in:**

What country was **the patient's father born in:**

Native language (the language you speak within the family):

Does **the patient have a regular GP:** Yes (perhaps same as mother/father) No Don't know

In what county does **the patient have his/her regular GP:** Oslo Akershus
 Other county Do not have reg. GP

How many times has **the patient had an appointment with the regular GP the last 12 months:**

0 1 2 3 4 or more

How many times (not counting this time) has **the patient been to the emergency service (*legevakten*) the last 12 months:**

0 1 2 3 4 or more

Considering the health problems that have brought you/ the patient to the emergency service today, how urgent is it, in your opinion, to be examined by a doctor?

- Very urgent. I (the patient) must have help within an hour or sooner
 Fairly urgent. I (the patient) must have help within a few hours
 Not so urgent. I (the patient) could perhaps have waited until tomorrow

What is your current status? (Applies for the patient. If the patient is a child, then this applies to the person who is accompanying the child) Tick the box with the alternative that fits your status best.

- Working
 On sick leave/disability benefit/rehabilitation
 Pensioner
 Attending education, pupil/student
 Working at home
 Unemployed
 Other: what

Why did you choose the emergency service instead of your regular GP today:

(Choose **one** of the three boxes **A, B** or **C** below)

A

*Reason (Tick **the most** important. Tick only **one** box):*

I/we have tried
to contact the regular GP today,
but:

- The regular GP office was closed
- I/we could not get through on the phone
- I/we could not book an appointment soon enough
- The regular GP office asked me/us to use the emergency service
- Other; describe in the last box at the bottom of the page

or

B

*Reasons (tick **up to three** of the most important:*

I/we have NOT tried
to contact the regular GP today,
because:

- I/the patient have/has a regular GP in another district/municipality
- I/the patient became ill outside normal working hours
- It is difficult getting to the regular GP in the daytime
- Bad experience from previous attempts at contacting the regular GP
- It is quicker to get help from the emergency service
- I/we do not feel the regular GP provides the help we need now
- I want to decide myself when to go to the doctor
- I called the emergency service switchboard, they told me
to come here
- I/the patient do/does not have a regular GP
- Other; describe in the last box at the bottom of the page

or

C

I/the patient have/has an acute injury. The emergency service is the best place where we can get help for this. I/we have therefore come to the emergency service directly without contacting other doctors.

Other (write in this box if there are other reasons why you have preferred the emergency service to your regular GP. But don't write anything that can identify you):

.....

.....

.....

Thank you for answering the questions and helping to make the emergency service better.
Please give this form to the doctor you are going to see.

This page is to be filled in by the doctor. The questions are about how serious the doctor feels your illness is, how you/the patient should be followed up after your visit to the emergency service and if there were language or other cultural challenges during the consultation.

Fylles ut av behandlende lege etter endt konsultasjonen

Dato: Dagtid (08-15) Kveld (15-23) Natt (23-08)

Din vurdering av alvorlighetsgrad av sykdom/skade ved denne henvendelsen på legevakt:

- Meget alvorlig (behov for hjelp innen en time)
- Alvorlig (behov for hjelp innen få timer)
- Mindre alvorlig (kunne ha ventet til neste dag for vurdering hos fastlege)
- eller**
- Akutt skade (gjelder bare ved skadelegevaktene)

Tiltak ved konsultasjonens slutt:

- Pasienten ferdigbehandlet på legevakt
- Kontroll/operasjon på legevakten
- Videre oppfølging/vurdering hos fastlege
- Innleggelse/henvisning til akutt vurdering på sykehus
- Henvisning til sykehus poliklinikk/spesialist (elektiv eller påfølgende dag)
- Innlagt observasjonsposten (gjelder kun legevakten i Oslo)

Annet:

Opplevde du språkvansker under konsultasjonen?

Ikke relevant	Ikke i det hele tatt	I liten grad	I noen grad	I stor grad	I svært stor grad
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hvis språkvansker, hvordan ble dette løst?

- Profesjonell tolk
- Telefontolk
- Familiemedlem < 16 år tolket
- Familiemedlem ≥ 16 år tolket
- Venn/kollega/pårørende av pasienten tolket
- Arbeidskollega tolket
- Snakket selv et utenlandsk språk med pasienten hvilket?

Annet:

**Utfordringer under konsultasjonen som du mener er av kulturell art:
(skriv ikke noe som kan identifisere den aktuelle pasienten)**

.....
.....

Løpenummer:

(brukes til å holde orden på papirene. Kan ikke brukes til å identifisere pasienten)



LIKEVERDIGE HELSETJENESTER

- Pasienten har fått skjema**

- Pasienten har **IKKE** fått skjema fordi**
 - Pasient til legevakt i Ambulanse
 - Pasient med Hastegrad 1 (**RØD TRIAGE**)
 - Pasient med rus-/psykiatri lidelse hvorpå pasienten ikke er i stand til å redegjøre for seg
 - Pasient til avtalt kontroll på legevakt

 - Pasient ønsker i utgangspunktet IKKE å delta i undersøkelsen

- Mann Kvinne Alder: Etnisitet:

Forsiden fylles ut ved innskriving for **alle** pasienter, rives av og legges på eget oppsamlingssted. Pasientene oppfordres til å lese Forespørsel om deltagelse i undersøkelsen og å svare på spørsmålene.

[urdu]

Løpenummer:

(یہ سیریل نمبر کاغذات کو ترتیب سے رکھنے کیلئے ہے۔ اسے آپ کو پہچاننے کیلئے استعمال نہیں کیا جا سکتا)

"مساوی طبی خدمات"

تحقیقی منصوبے میں شرکت کی دعوت

ہم اوسلو اور اس کے نواح میں ایمرجنسی کلینکوں (legevaktene) کیلئے ذمہ دار ہیں اور ہم اس بارے میں مزید جاننا چاہتے ہیں کہ مریضوں کے مختلف گروپ ان کلینکوں کو کس طرح استعمال کرتے ہیں اور مستقل ڈاکٹروں کی خدمات کے مقابلے میں ان کلینکوں کا استعمال کیسا ہے۔ ہم خاص طور پر یہ معلوم کرنا چاہتے ہیں کہ ناروے میں آباد تارکین وطن ایمرجنسی کلینکوں کے استعمال کے بارے میں کیا تجربات رکھتے ہیں۔ اس سلسلے میں مکمل معلومات حاصل کرنے کیلئے اب ہم **سب** مریضوں سے (سوائے ان کے جو شدید ہنگامی نکالیف کا شکار ہوں) اس بارے میں کچھ سوالات کے جواب دینے کی درخواست کرتے ہیں کہ وہ ایمرجنسی کلینک میں کیوں آئے ہیں۔

آپ کو اس تحریر کے ذریعے اس سروے میں شامل ہونے کی دعوت دی جا رہی ہے۔

آزادانہ شمولیت

اس سروے میں شامل ہونا یا نہ ہونا آپ کی اپنی مرضی پر منحصر ہے۔ اگر آپ شامل نہیں ہونا چاہتے تو آپ کیلئے اس کی کوئی وجہ بتانا ضروری نہیں اور شامل نہ ہونے سے ایمرجنسی کلینک میں آپ کے آئندہ علاج پر کوئی اثر نہیں پڑے گا۔ آپ کی دی ہوئی تمام معلومات کو آپ کے نام کے بغیر درج کیا جائے گا لہذا آپ کے فارم مکمل کرنے کے بعد آپ کے جوابات کی بنا پر آپ کا پتہ چلانا ممکن نہیں ہو گا۔ جب اس پراجیکٹ کے نتائج شائع کیے جائیں گے تو ان میں آپ کو پہچاننا ممکن نہیں ہو گا۔

اس پراجیکٹ میں شامل ہونے پر آپ کو کیا کرنا پڑے گا؟

اگر آپ سروے میں شامل ہونے پر راضی ہوں تو جب تک آپ ڈاکٹر کے پاس اپنی باری آنے کا انتظار کر رہے ہیں، اس دوران براہ مہربانی اگلے صفحات پر دیئے گئے سوالات کا زیادہ سے زیادہ درست جواب دیں۔ اگر آپ کسی بیمار بچے یا بیمار بالغ شخص کے ساتھ آئے ہیں تو مریض کے نقطہ نظر (تجربات کی بنا پر) سے سوالات کے جواب دیں۔

ڈاکٹر سے ملاقات کے اختتام پر مکمل کیا ہوا سوالیہ فارم ڈاکٹر کو دے دیں۔ ڈاکٹر اس بارے میں کچھ تفصیلات درج کرے گا/گی کہ ملاقات و ممانہ کیسا رہا اور پھر وہ نام کے بغیر یہ فارم پراجیکٹ لیڈر کو دے گا/گی۔ معلوماتی مواد پر کارروائی اور اس کا تجزیہ اوسلو یونیورسٹی کرے گی۔

ممکنہ فوائد اور ممکنہ مسائل

اس پراجیکٹ سے خود آپ کو کوئی خاص فائدہ نہیں پہنچے گا لیکن آپ کے جوابات کی روشنی میں مستقبل میں ایمرجنسی کلینکوں کی خدمات کا انتظام اس طرح کیا جا سکے گا کہ مختلف مریضوں کی ضروریات بہتر انداز میں پوری ہوں۔ آپ ڈاکٹر کے یہاں اپنی باری کا انتظار کرنے کے دوران فارم مکمل کریں گے لہذا فارم کی وجہ سے آپ کو ایمرجنسی کلینک میں زیادہ دیر نہیں ٹھہرنا پڑے گا۔

سروے کی ذمہ داری

یہ Helse Sør-Øst RHF (جنوب مشرقی ناروے کی ریجنل ہیلتھ اتھارٹی)، بلدیہ اوسلو اور اوسلو یونیورسٹی کا مشترکہ پراجیکٹ ہے۔ پراجیکٹ کے سلسلے میں Allmennlegevakten Oslo kommune (جنرل ایمرجنسی)، اوسلو یونیورسٹی ہاسپٹل ایبول کا Skadelegevakten (حادثات کیلئے ایمرجنسی کلینک)، Allmennlegevakten Skedsmo kommune اور Lillestrøm Ahus، Skadelegevakten اور Akuttmottaket Ahus (شعبہ ایمرجنسی) آپس میں تعاون کر رہے ہیں۔ پراجیکٹ کی باضابطہ ذمہ داری Helse Sør-Øst RHF پر ہے۔

آپ جو اس فارم کو مکمل کر رہے ہیں کیا آپ:

مریض ہیں بچے (مریض) کے رشتے دار/گھر کے فرد ہیں
کسی بالغ مریض کے رشتے دار/گھر کے فرد ہیں کوئی اور:.....

مریض کی صنف: عورت مرد

مریض کی عمر: سال

مرکز کہاں رہتا ہے: Oslo Akershus
 مستقل جائے رہائش نہیں رکھتا Oslo/Akershus سے باہر

مریض کس ملک میں پیدا ہوا:

مریض کی والدہ کس ملک میں پیدا ہوئی:

مریض کا والد کس ملک میں پیدا ہوا:

مادری زبان (جو زبان آپ کے گھر میں بولی جاتی ہے):

کیا مریض کا کوئی مستقل ڈاکٹر ہے: ہاں (مریض بچے یا اس کے ماں/باپ کا مستقل ڈاکٹر) نہیں پتہ نہیں

مریض کا مستقل ڈاکٹر کس فلکے میں ہے: Oslo Akershus
 کوئی اور فلکے کوئی مستقل ڈاکٹر نہیں ہے

پچھلے 12 ماہ کے دوران مریض کتنی مرتبہ اپنے مستقل ڈاکٹر کے پاس ج چکا ہے:

0 1 2 3 4 مرتبہ یا اس سے زیادہ

پچھلے 12 ماہ کے دوران مریض کتنی مرتبہ legevakten میں جا چکا ہے (آج کو نکال کر)؟

0 1 2 3 4 مرتبہ یا اس سے زیادہ

آپ/مریض آج جن تکالیف کیلئے legevakten آئے ہیں، آپ کے خیال میں آپ کا ڈاکٹر سے جلد معائنہ ہونا کتنا ضروری ہے؟

جلد ملنا بہت ضروری ہے۔ مجھے (مریض کو) ایک گھنٹہ یا اس سے پہلے مدد ملنی چاہیے۔
 جلد ملنا کافی ضروری ہے۔ مجھے (مریض کو) چند گھنٹوں کے اندر اندر مدد ملنی چاہیے۔
 جلد ملنا اتنا ضروری نہیں۔ میں (مریض) شاید کل تک انتظار کر سکتا ہوں۔

آپ کی روزمرہ مصروفیات کیا ہوتی ہیں؟ (یہ سوال مریض سے ہے، یا اگر مریض بچہ ہے تو یہ سوال اس کے ساتھ آنے والے شخص سے ہے) اس جواب کے سامنے کراس (کاٹے کا نشان) لگائیں جو زیادہ مناسب ہے۔

ہر سر روزگار
 بیماری کی رخصت/معذوری کے وظیفے یا بحالی پر
 پنشن یافتہ
 زیر تعلیم، سکول/کالج یا یونیورسٹی کا طالب علم
 گھر پر رہ کر کام کاج
 بیروزگار
 کچھ اور: کیا.....

آج آپ نے مستقل ڈاکٹر سے ملنے کی بجائے legevakten آنے کا فیصلہ کیوں کیا
(نیچے دیئے گئے تین خانوں A، B اور C میں سے ایک منتخب کریں)

A

وجہ (سب سے اہم وجہ پر کراس لگائیں۔ صرف ایک کراس):

- مستقل ڈاکٹر کا کلینک بند تھا
- میرا/ہم آج مستقل ڈاکٹر سے رابطے کی کوشش
- میرا/ہم آرا فون پر رابطہ نہیں ہو سکا
- مجھے/ہمیں ضرورت کے مطابق جلدی وقت نہیں مل سکتا تھا
- مستقل ڈاکٹر کے کلینک سے مجھے/ہمیں legevakten جانے کی ہدایت مل
- کوئی اور وجہ: اس صفحے پر سب سے نچلے خانے میں وضاحت کری
- کر چکے ہیں مگر:

یا

B

وجوہ (زیادہ سے زیادہ تین اہم ترین وجوہ پر کراس لگائیں):

- میرا/مریض کا مستقل ڈاکٹر کسی اور ڈسٹرکٹ/بلدیہ میں ہے
- میں/ہم نے آج مستقل ڈاکٹر سے رابطے کی کوشش نہیں کی
- میں/مریض عام دفتری اوقات کے علاوہ کسی اور وقت بیمار ہوا
- دن کے وقت مستقل ڈاکٹر کے یہاں جانا عملی لحاظ سے مشکل ہے
- مستقل ڈاکٹر سے رابطے کے سلسلے میں سابقہ برے تجربات
- کیونکہ:
- Legevakten میں جلدی مدد مل جاتی ہے
- میرے/ہمارے خیال میں اب جس مدد کی ضرورت ہے، وہ مستقل ڈاکٹر کے یہاں دستیاب نہیں
- میں یہ فیصلہ خود کرنا چاہتا/چاہتی ہوں کہ ڈاکٹر کے پاس کب جاؤں گا/گی
- میں نے legevaktsentralen کو فون کیا تو مجھے یہاں آنے کو کہا گیا
- میرا/مریض کا کوئی مستقل ڈاکٹر نہیں ہے۔
- کوئی اور وجہ: اس صفحے پر سب سے نچلے خانے میں وضاحت کریں

یا

C

- مجھے/مریض کو شدید چوٹ/حادثہ پیش آیا ہے جس کیلئے بہترین مدد legevakten میں مل سکتی ہے۔ اس لیے میں/ہم کسی اور ڈاکٹر سے رابطہ کیے بغیر سیدھے legevakten آ گئے ہیں۔

کوئی اور وجہ: (اگر کسی اور وجہ سے آپ نے آج مستقل ڈاکٹر کی بجائے legevakten آنے کا فیصلہ کیا ہے تو یہاں وجہ/وجوہ لکھیں۔ لیکن ایسی کوئی بات نہ لکھیں جس سے آپ کو پہچانا جا سکتا ہو)

.....

.....

.....

ان سوالات کے جواب دینے اور اس طرح legevakten کو بہتر بنانے کیلئے ہماری مدد کرنے پر آپ کا شکریہ!
ڈاکٹر کے پاس اپنی باری آنے پر یہ فارم ڈاکٹر کو دے دیں۔

یہ صفحہ ڈاکٹر کے مکمل کرنے کیلئے ہے۔ یہاں اس بارے میں سوالات ہیں کہ ڈاکٹر کی رائے میں آپ کا مرض کتنا شدید ہے، legevakten سے فارغ ہونے کے بعد آپ/مریض کی آئندہ دیکھ بھال کیسے ہونی چاہیئے اور آیا معائنے کے دوران زبان یا کلچر کی وجہ سے کوئی خاص مشکل پیش آئی۔

Fylles ut av behandlede lege etter endt konsultasjonen

Dato: Dagtid (08-15) Kveld (15-23) Natt (23-08)

Din vurdering av alvorlighetsgrad av sykdom/skade ved denne henvendelsen på legevakt:

- Meget alvorlig (behov for hjelp innen en time)
- Alvorlig (behov for hjelp innen få timer)
- Mindre alvorlig (kunne ha ventet til neste dag for vurdering hos fastlege)
- eller**
- Akutt skade (gjelder bare ved skadelegevaktene)

Tiltak ved konsultasjonens slutt:

- Pasienten ferdigbehandlet på legevakt
- Kontroll/operasjon på legevakten
- Videre oppfølging/vurdering hos fastlege
- Innleggelse/henvisning til akutt vurdering på sykehus
- Henvisning til sykehus poliklinikk/spesialist (elektiv eller påfølgende dag)
- Innlagt observasjonsposten (gjelder kun legevakten i Oslo)

Annet:

Opplevde du språkvansker under konsultasjonen?

Ikke relevant	Ikke i det hele tatt	I liten grad	I noen grad	I stor grad	I svært stor grad
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Hvis språkvansker, hvordan ble dette løst?

- Profesjonell tolk
- Telefontolk
- Familiemedlem < 16 år tolket
- Familiemedlem ≥ 16 år tolket
- Venn/kollega/pårørende av pasienten tolket
- Arbeidskollega tolket
- Snakket selv et utenlandsk språk med pasienten hvilket?

Annet:

Utfordringer under konsultasjonen som du mener er av kulturell art: (skriv ikke noe som kan identifisere den aktuelle pasienten)

.....

.....

Appendix B – Patient information



Oslo
kommune

Løpenummer:
(brukes til å holde orden på papirene. Kan ikke brukes til å identifisere deg)

Norwegian

Forespørsel om deltakelse i prosjektet ” LIKEVERDIGE HELSETJENESTER”

Vi som har ansvaret for legevaktene i Oslo og omegn ønsker å vite mer om hvordan ulike pasientgrupper bruker legevaktene, og hvordan legevaktene brukes i forhold til fastlegene. Spesielt er vi opptatt av hvordan innvandrere opplever bruken av legevakten. For å få et helhetlig bilde av dette spør vi nå **alle** pasientene (bortsett fra de som er akutt alvorlig syke) om å besvare noen spørsmål om hvorfor de oppsøker legevakten.

Du inviteres med dette til å være med i denne undersøkelsen.

Frivillig deltagelse

Det er frivillig å delta i undersøkelsen. Dersom du ikke ønsker å være med, trenger du ikke å oppgi noen grunn, og det får ingen konsekvenser for den videre behandlingen du får ved legevakten. Alle opplysningene du gir vil bli registrert anonymt, slik at ikke noe kan tilbakeføres til deg etter at du har besvart skjemaet. Det blir ikke mulig å identifisere deg i resultatene av prosjektet når disse publiseres.

Hva innebærer prosjektet for deg

Hvis du er villig til å delta i undersøkelsen, ber vi deg besvare spørsmålene på de neste sidene så godt du kan mens du venter på å få komme inn til legen. Hvis du følger et sykt barn eller en syk voksen bes du svare på spørsmålene ut fra pasientens perspektiv (erfaringer). Ferdig utfylt spørreskjema leveres til legen når konsultasjonen er ferdig. Legen fyller ut noen opplysninger om hvordan konsultasjonen har forløpt og leverer det anonyme skjemaet til prosjektledelsen. Universitetet i Oslo står for bearbeidelse og analyse av dataene.

Mulige fordeler og ulemper

Du vil ikke selv ha noen spesielle fordeler av prosjektet, men dine svar vil være med å tilrettelegge fremtidige aktiviteter ved legevaktene slik at de bedre kan møte ulike pasienters behov. Skjemaet besvares mens du likevel sitter og venter på å få komme inn til legen, og det vil ikke forlenge den tiden du er på legevakten.

Ansvarlige for undersøkelsen

Dette er et felles prosjekt mellom Helse Sør-Øst RHF, Oslo kommune og Universitetet i Oslo. Det skjer i samarbeid med Allmennlegevakten Oslo kommune, Skadelegevakten Oslo Universitetssykehus Ullevål, Allmennlegevakten Skedsmo kommune, Skadelegevakten Lillestrøm Ahus, og Akuttmottaket Ahus. Helse Sør-Øst RHF er formelt ansvarlig for prosjektet.



Oslo
kommune

English

Serial number:

(For keeping the papers in order. Cannot be used to identify you.)

Request for your participation in the project “EQUAL HEALTH SERVICES”

We who are responsible for the emergency service in metropolitan Oslo want to know more about how the various patient groups use the emergency service (*legevakten*), and how the emergency service is used in relation to the regular GPs. We are especially interested in how immigrants feel about the emergency service after they have used it. To get as complete a picture as possible, we are now asking that **all** patients (with the exception of those who are acutely ill) answer some questions on why they call/go to the emergency service.

You are hereby invited to participate in this study.

Voluntary participation

Participation is voluntary. If you do not want to take part, you do not need to give a reason, and this will have no consequences for the treatment you receive from the emergency service.

All the information you give will be registered anonymously so that nothing can be traced back to you after you have answered the questionnaire. It will not be possible to use the project results to identify you when they are published.

What does the project mean for you?

If you are willing to take part in the survey, while you are waiting to be seen by a doctor, we will ask you to answer some questions on the next pages as best you can.

If you are with a sick child or a sick adult, we ask that you answer the questions from the patient's perspective (experiences). Give the completed questionnaire to the doctor when the consultation is over. The doctor will fill in some information on how the consultation has gone and will then give the anonymous form to the project management team. The University of Oslo will process the forms and analyse the data.

Possible advantages and disadvantages

Your participation in the project will not give you any special advantages, but your answers will help us plan future activities at the emergency service so that we will be better able to address the various needs that patients have. You will be asked to fill in the questionnaire while you are waiting to see the doctor, so filling it in will not prolong your wait.

Who is in charge of the survey?

This is a joint project involving Helse Sør-Øst RHF (South-Eastern Norway Regional Health Authority), Oslo local authority and the University of Oslo, in cooperation with Allmenn-legevakten Oslo kommune (General Emergency Service, City of Oslo), Skadelegevakten Oslo (Injury Emergency Service Oslo), Ullevål University Hospital, Allmennlegevakten Skedsmo kommune (General Emergency Service, Skedsmo), Skadelegevakten Lillestrøm Ahus (Injury Emergency Service, Lillestrøm Ahus), and Akuttmottaket Ahus (Emergency Service Ahus).

The South-Eastern Norway Regional Health Authority has the formal responsibility for the project.



Oslo
kommune

Polish

Numer bieżący:

(stosuje się, aby zachować porządek w dokumentacji. Nie może być użyty do zidentyfikowania Pana/Pani.)

Wstępne zapytanie o udział w projekcie ” JEDNAKOWE DLA WSZYSTKICH USŁUGI SŁUŻBY ZDROWIA”

My, którzy mamy odpowiedzialność za pogotowia w Oslo i okolicy, chcielibyśmy wiedzieć więcej odnośnie tego, jak różne grupy pacjentów korzystają z pogotowia oraz jak wygląda korzystanie z usług pogotowia w stosunku do usług lekarzy pierwszego kontaktu. Szczególnie interesuje nas to, jakie doświadczenia mają imigranci, jeśli chodzi o korzystanie z usług pogotowia.

Aby uzyskać całkowity obraz sytuacji, pytamy się teraz **wszystkich** pacjentów (oprócz tych, którzy nagle i poważnie zachorowali) czy mogliby odpowiedzieć na niektóre pytania na temat tego, dlaczego przychodzą na pogotowie.

Niniejszym zaprasza się Pana/Panią do udziału w tym badaniu.

Dobrowolny udział

Udział w badaniu jest dobrowolny. Jeżeli Pan/Pani nie życzy sobie wzięcia udziału, to Pan/Pani nie musi podawać przyczyny i to nie pociągnie za sobą konsekwencji, jeśli chodzi o dalsze leczenie na pogotowiu. Wszystkie informacje, jakie Pan/Pani poda, będą rejestrowane anonimowo, tak więc nie będzie można odnieść do Pańskiej osoby po wypełnieniu przez Pana/Panią formularza. Będzie niemożliwe zidentyfikowanie Pana/Pani w wynikach projektu, gdy ten będzie publikowany.

Co oznacza ten projekt dla Pana/Pani

Jeżeli Pan/Pani jest skłonny(a) do wzięcia udziału w niniejszym badaniu, to prosimy Pana/Panią o odpowiedź na pytania na następujących stronach tak dobrze jak Pan/Pani potrafi, podczas gdy Pan/Pani czeka, by wejść do lekarza. Jeżeli Pan/Pani towarzyszy choremu dziecku albo chorej dorosłej osobie, to prosi się o odpowiedzenie na pytania z perspektywy pacjenta(doświadczenia).

Wypełniony całkowicie formularz oddaje się lekarzowi po zakończeniu konsultacji. Lekarz doda trochę informacji na temat jak przebiegła konsultacja i przesyła anonimowy formularz do kierownictwa projektu. Uniwersytet w Oslo jest odpowiedzialny za opracowanie i analizę danych.

Możliwe korzyści oraz niedogodności

Pan/Pani nie będzie miał/-a specjalnych korzyści z projektu, ale Pańska odpowiedź przyczyni się do przystosowania przyszłej działalności na pogotowia w taki sposób, że pogotowie będzie mogło lepiej wyjść naprzeciw różnym potrzebom pacjenta. Formularz wypełnia się, podczas gdy Pan/Pani mimo wszystko siedzi i czeka, by wejść do lekarza i to nie przedłuży okresu przebywania na pogotowiu.

Odpowiedzialni za przeprowadzenie badania

Jest to wspólny projekt między Przedsiębiorstwem Usług Zdrowotnych ” Zdrowie Południe-Wschód ”(Helse Sør-Øst RHF), Gminą Oslo oraz Uniwersytetem w Oslo. Dzieje się to we współpracy z Pogotowiem Ogólnym (Allmennlegevakten) Gminy Oslo, Pogotowiem ds Obrażeń (Skadelegevakten) przy Szpitalu Uniwersyteckim Oslo Ullevål, Pogotowiem Ogólnym (Allmennlegevakten) Gminy Skedsmo, Pogotowiem ds Obrażeń (Skadelegevakten) Lillestrøm przy Szpitalu Ahus, og Izbą Nagłych Przyjęć (Akuttmottaket) przy Szpitalu Ahus.

Przedsiębiorstwo Usług Zdrowotnych ” Zdrowie Południe-Wschód ”(Helse Sør-Øst RHF) jest formalnie odpowiedzialne za przeprowadzenie tego projektu.



Oslo
kommune

Somali

Lambarka:

(Warqadaha ayaa lagu calamadiyaa. Adiga lagu calamadin maayo)

Codsi ah ka qaybgalka mashruuca

” ADEEGYADA CAAFIMAADKA EE ISKU MIDKA AH”

Annaga mas’uulka ka ah legevakten(dhakhtarka furan) ee Oslo iyo hareeraheeda ayaa raba in aan ogaano bukaanada kala duwani sida ay u isticmaalaan legevakten, iyo sida isticmaalka legevakten yahay marka loo eego fastlegen(dhakhtarka joogtada ah) . Gaar ahan waxa aan ku sii mashquulsannahay sida ajaanibku u arkaan isticmaalka legevakten.

Si sawir buuxa taa aan uga qaadano markaa bukaan **kasta** waan weydiinaynaa (laga reebo dadka xanuunka halista ahi hayo) in ay su’aalo kooban oo ku saabsan sababta ay legevakten u yimaadeen ka jawaabaan.

Markaa baadhitaanka ayaa lagugu macsuumayaa.

Ka qaybgalka oo ah mid xor loo yahay

Xor baa loo yahay in baadhitaanka laga qaybgalo. Haddii aadan rabin in aad ka qayb gashid, wax sabab ah ma sheegaysid, dhibaataana u keeni mayso baadhitaanada dambe ee legevakten.

Warbixinada oo dhan si aan magacaabid lahayn ayaa loo qaabilayaa, si aan magacaabid lahayna waa lagu diwaan gelinayaa, si aanay waxba kuugu soo noqon marka aad ka jawaabtid foomka.

Suurtogal ma aha in hadhaaw, marka ay natiijadu timaado lagaa soo dhexsaaro.

Mashruucu muxuu kuu xambaarsanyahay

Haddii aad ka qayb gashid mashruuca, waxa aan kaa codsanaynaa in aad su’aalaha xaashadaha dambe ku qoran ka jawaabtid inta aad sugaysid ugelidda dhaktarka.

Haddii aad la socotid ilmo xanuusanaaya ama qof weyn oo xanuusanaaya ka jawaab su’aalaha adiga ku salaynaaya bukaan aragtidiisa(wayoaragnimadiisa).

Foomka, dhakhtarka ayaad u dhiibaysaa marka talobixintu dhamaato. Dhakhtarku waxa uu buuxinayaa warbixin ku saabsan sida talobixintu u dhacday kadibna, u gudbinayaa warqadda oo bilaa magac ah mashruuca madaxa. Universitetet(jaamacadda) i Oslo ayaa diyaarinta iyo tafsiirinta warbixinta ku hawl leh.

Faa’idada iyo dhibta surto galka

Adigu, gaar ahaan wax faa’ido ah ka heli maysid mashruuca laakiin jawaabahaagu, waxa ay keeni karaan in ay wanaajiyaan shaqada legevakten si buukanka dambe si fiican loo kaafiyo baahiyahooda. Foomkan waxa laga jawaabayaa inta aad sugaysid dhakhtarka, dheerayna maayo mudada aad joogtid legevakten.

Mas’uulka baadhitaanka

Kani waa mashruuc u dhaxeeya Helse Sør-Øst RHF, Oslo kommune og Universitetet i Oslo. Waxa ay ku dhacaysaa wadashaqayn lala yeeshay AllmennlegevaktenOslo kommune(dhakhtarka furan), Skadelegevakten Oslo Universitetssykehus Ullevål(dhakhtarka dhaawaca), Allmennlegevakten Skedsmo kommune, Skadelegevakten Lillestrøm Ahus, og Akuttmottaket Ahus.

Helse Sør-Øst RHF ayaa si rasmi ah uga mas’uul mashruuca.

ژماره.....
(نهم ژماره په تهنه به کار دیت یو ریکخستنی و هرهههکان. ناتوانریت به کار بهینریت یو ناسینهوت)

پرسکرین دهر باره ی بهشدرایکردن له پروژیه
"خزمشگوزاری تهنروستی بهکسان"

نیمه ی بهر پرسیاران بهرامبه به نیمیرژینسیهکانی (دکتوری نیشگر) ی نوسلو و دهوروبه ی، دهخوازین زانیاری زیاترمان بهدهست بکهویت دهر باره ی چونهی به کار هینانی گروپی به کار هینه رانی جور او جور یو نیمیرژینسیهکان و، چونهی به کار هینانی (بهتایبهی بایه خ دهمین به نهموونی رومندهکان لهواری Fastlege نیمیرژینسیهکان به بهر اور د کردن لهگهل دکتوره دایمیبهکان) به کار هینانیان یو نیمیرژینسی. بهمه بهستی بهدسته هینانی بیروکهیهکی گشتی دهر باره ی نهمه، نیمه پرسیار له ههمو نهخوشهکان دهکین (بیجگه لهو کسانه ی که توشی نهخوشیهکی کتوپری دژواربون) که وهلامی همدی پرسیار بدنهوه وابهسته به هو ی سهر دانیان یو نیمیرژینسی.

له ری ی نهم نامیهوه داواکارین که بهشدرای بکهیت لهم توژینهو میدا

بهشدرایکردنی له سهر ویستی خو

بهشدرایکردن لهم توژینهو میدا له سهر ویستی خوته. نهگهر نهخوازیت بهشدرای بکهیت، پنوویت ناکات هو ی بهشدرای نهکر دنت روونبکهیهوه و بهشدرای نهکر دنت هیچ ناکامیهکی خراپی نابیت بوسهر نهو چار سهر کردنه ی که له نیمیرژینسیهکه پندددریت. ههمو نهو زانیاری بهمانی که پیمانی ددهیت لهواری وهلامدانهوت یو نهم نیستیماریه، بهشویهیهکی نهاسراو مامله ی لهگهل دکریت، به جوریک که نهوانریت بز انریت که تو نهم زانیاریانهت داوه. تو به هیچ شویهیهکی نانسرنینهوه له ری نهخوامهکانی نهم توژینهوه له دوی بلاو کردنهو میدا.

نهم پروژیه چ بهدودا هانتیهکی یو تو لیده که ویتهوه

نهگهر تو نامدهبیت یو بهشدرایکردن لهم توژینهو میدا، نهوا داوات لیده که به پیی توانا وهلامی پرسیار هکانی بهر هکانی نابنده بهدیهوه، له کاتی چاوه ریکر دنتا یو چونه ژوروهوه یو لای دکتور. نهگهر له گهل نهخوشیهکی مندال یا گهوردا هاتوویت، نهوا داوات لیده که له پروانگه ی (نهم موونی) نهخوشهکهوه وهلامی پرسیار هکان بدیهوه. نیستمار که به پرکراوی ددریت به دکتور که دوی تهوا بوونی سهر دانهکت. دکتور که همدی زانیاری پردهکاتهوه وابهسته به چونهی بهسهر چوونی سهر دانی دکتور که، وه لهوایدا نیستمار که به نهاسراوی دهوات به سهر وکی پروژیه که. زانکوی نوسلو بهر پرسیاره بهرامبه به ریکخستن وشیکر دنهوه ی زانیاریهکان.

زیان و سووده چاوه ریکراوهکان

نهم پروژیه سوودیهکی تایبتمندی یو تو نابیت، بهلام وهلامهکانت کاریگه ی دهبیت یو نامدهکردنی چالاکیهکانی دواروژی نیمیرژینسیهکان، بهشویهیهکی تا نهوان له نابندها بتوانن پیداویستیه جور او جور هکانی نهخوشهکان جیههکیهکن. نهم نیستمار به لهکاتی چاوه ریکر دنتا یو چونه ژوروهوه یو لای دکتور پردهکریتهوه، جا بویه نهو ماوه ی مانهوه بهت له نیمیرژینسیهکه دیر خایهنتر نابیت.

بهر پرسیارهکان بهرامبه نهم پروژیه

(، شار هوانی نوسلو و Helse Sør-Øst RHF نهمه پروژیهکی هاوبهشه له نیوان بهر یوه بهریهتی تهنروستی باشور - روژ ههلات) (شار هوانی نوسلو، نیمیرژینسی Allmennlegevakten زانکوی نوسلو. نهمهش نهجام ددریت بههاوکاری نیمیرژینسی گشتی) (شار هوانی Allmennlegevakten) نوسلو، نهخوشخانه ی زانکوی نولیفول، نیمیرژینسی گشتی (Skadelegevakten) برینداری (ناھوس. Akuttmottaket) لیلله ستر نیوم و ناھوس، بهشی فریاکوئتی (Skadelegevakten) شیدسمو، نیمیرژینسی برینداری (بهشویهیهکی فسمی بهر پرسیاره له پروژیه Helse Sør-Øst RHF

دانشگاه اسلو

بهداری منطقه جنوب و شرق کشور

شهرداری اسلو

شماره ردیف:

(شماره گذاری جهت بایگانی مرتب صورت گرفته و از طریق آن نمیتوان هویت شما را ردیابی نمود)

درخواست شرکت در پروژه

"خدمات درمانی یکسان و برابر"

مقامات مسئول نظارت عملکرد مراکز پزشکی کشیک اسلو و حومه تمایل دارند تا از نظرات گروههای مختلف بیمارانی که از خدمات این مراکز بهره میگیرند و رابطه استفاده از این مراکز را در مقابل پزشکان خانواده، آگاهی بیشتری کسب نمایند. آنها بطور اخص تمایل دارند تا از نظرات و تجربیات مهاجرین در استفاده از این مراکز مطلع گردند. برای اینکه بتوان تصویری کلی و جامع بدست آورد، تمایل داریم سئوالاتی را از کلیه بیمارانی (بغیر از بیماران دچار بیماری جدی و حاد) که به این مراکز مراجعه مینمایند، بنمائیم.

بدینوسیله از شما دعوت می شود تا در این پروژه تحقیقاتی شرکت فرمائید.

شرکت داوطلبانه

شرکت در این تحقیقات داوطلبانه می باشد. نیازی به ارائه دلیل برای عدم شرکت در این پروژه نداشته و عدم شرکت شما هیچگونه عواقبی در ادامه معالجات شما نزد دکتر کشیک نخواهد داشت.

کلیه پاسخهای داده شده بدون نام ثبت خواهد شد بنحویکه نتوان پاسخهای داده شده در این فرم را به شما مرتبط نمود. وقتی نتایج این پروژه منتشر شد، تشخیص هویت شما از آن بهیچوجه ممکن نخواهد بود.

شرکت در این پروژه چه مرحله‌ای را در بر دارد

اگر مایل هستید در این پروژه شرکت کنید، از شما تقاضا داریم در مدتی که منتظر نوبت خود جهت رفتن نزد دکتر می باشید، سئوالات صفحات بعد را تا جایی که برایتان امکان دارد بخوبی پاسخ دهید. اگر فرزند بیمار خود یا شخص بیمار دیگری را همراهی می کنید، سئوالات آمده را از دیدگاه و تجربیات شخص بیمار پاسخ دهید. پرسشنامه پاسخ داده خود را پس از پایان معاینه دکتر به وی تحویل دهید. دکتر مزبور اطلاعاتی را بطور غیر قابل شناسایی در باره مراحل معاینات و معالجات خود در پرسشنامه ذکر نموده و آنرا به مسئولین پروژه تحویل خواهد داد. دانشگاه اسلو مسئولیت تجزیه و تحلیل اطلاعات آمده در پرسشنامه ها را بعهده دارد.

فوائد و اشکالات ممکن

شما شخصا استفاده بخصوصی از شرکت در این پروژه نخواهید برد ولی پاسخ های شما در برنامه ریزی چگونگی فعالیتهای پزشکان کشیک تاثیر گذاشته تا بدین ترتیب آنها بتوانند نیازهای بیماران مختلف را بنحو بهتری برآورده نمایند. شما بهرحال فرم مزبور را در زمان انتظار خود برای ملاقات پزشک تکمیل خواهید نمود و تاخیری در نوبت شما نخواهد گذاشت.

مرجع مسنول این پروژه پژوهشی

، شهرداری اسلو و دانشگاه اسلو می باشد. این پروژه با همکاری Helse Sør-Øst RHF این تحقیقات پژوهشی مشترک از جانب ، مرکز Ullevål مراکز پزشکان عمومی کشیک شهر اسلو، مراکز پزشکان سوانح اسلو، بیمارستان وابسته به دانشگاه اسلو و مرکز اورژانس Ahus وابسته به بیمارستان Lillestrøm، مرکز پزشکان سوانح Skedsmo پزشکان عمومی کشیک شهر انجام می شود. Ahus بیمارستان

مسئولیت رسمی پروژه را دارد. Helse Sør-Øst RHF



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Oslo
kommune

Urdu

Løpenummer:

(یہ سیریل نمبر کاغذات کو ترتیب سے رکھنے کیلئے ہے۔ اسے آپ کو پہچاننے کیلئے استعمال نہیں کیا جا سکتا)

”مساوی طبی خدمات“

تحقیقی منصوبے میں شرکت کی دعوت

کیلئے ذمہ دار ہیں اور ہم اس بارے میں مزید جاننا چاہتے (legevaktene) ہم اوسلو اور اس کے نواح میں ایمرجنسی کلینکوں میں کہ مریضوں کے مختلف گروپ ان کلینکوں کو کس طرح استعمال کرتے ہیں اور مستقل ڈاکٹروں کی خدمات کے مقابلے میں ان کلینکوں کا استعمال کیسا ہے۔ ہم خاص طور پر یہ معلوم کرنا چاہتے ہیں کہ ناروے میں آباد تارکین وطن ایمرجنسی کلینکوں کے استعمال کے بارے میں کیا تجربات رکھتے ہیں۔ اس سلسلے میں مکمل معلومات حاصل کرنے کیلئے اب ہم سب مریضوں سے (سوائے ان کے جو شدید ہنگامی تکالیف کا شکار ہوں) اس بارے میں کچھ سوالات کے جواب دینے کی درخواست کرتے ہیں کہ وہ ایمرجنسی کلینک میں کیوں آئے ہیں۔

آپ کو اس تحریر کے ذریعے اس سروے میں شامل ہونے کی دعوت دی جا رہی ہے۔

آزادانہ شمولیت

اس سروے میں شامل ہونا یا نہ ہونا آپ کی اپنی مرضی پر منحصر ہے۔ اگر آپ شامل نہیں ہونا چاہتے تو آپ کیلئے اس کی کوئی وجہ بتانا ضروری نہیں اور شامل نہ ہونے سے ایمرجنسی کلینک میں آپ کے آئندہ علاج پر کوئی اثر نہیں پڑے گا۔

آپ کی دی ہوئی تمام معلومات کو آپ کے نام کے بغیر درج کیا جائے گا لہذا آپ کے فارم مکمل کرنے کے بعد آپ کے جوابات کی بنا پر آپ کا پتہ چلانا ممکن نہیں ہو گا۔ جب اس پراجیکٹ کے نتائج شائع کیے جائیں گے تو ان میں آپ کو پہچاننا ممکن نہیں ہو گا۔

اس پراجیکٹ میں شامل ہونے پر آپ کو کیا کرنا پڑے گا؟

اگر آپ سروے میں شامل ہونے پر راضی ہوں تو جب تک آپ ڈاکٹر کے پاس اپنی باری آنے کا انتظار کر رہے ہیں، اس دوران براہ مہربانی اگلے صفحات پر دیئے گئے سوالات کا زیادہ سے زیادہ درست جواب دیں۔ اگر آپ کسی بیمار بچے یا بیمار بالغ شخص کے ساتھ آئے ہیں تو مریض کے نقطہ نظر (تجربات کی بنا پر) سے سوالات کے جواب دیں۔ ڈاکٹر سے ملاقات کے اختتام پر مکمل کیا ہوا سوالیہ فارم ڈاکٹر کو دے دیں۔ ڈاکٹر اس بارے میں کچھ تفصیلات درج کرے گا/گی کہ ملاقات و معائنہ کیسا رہا اور پھر وہ نام کے بغیر یہ فارم پراجیکٹ لیڈر کو دے دے گا/گی۔ معلوماتی مواد پر کارروائی اور اس کا تجزیہ اوسلو یونیورسٹی کرے گی۔

ممکنہ فوائد اور ممکنہ مسائل

اس پراجیکٹ سے خود آپ کو کوئی خاص فائدہ نہیں پہنچے گا لیکن آپ کے جوابات کی روشنی میں مستقبل میں ایمرجنسی کلینکوں کی خدمات کا انتظام اس طرح کیا جا سکے گا کہ مختلف مریضوں کی ضروریات بہتر انداز میں پوری ہوں۔ آپ ڈاکٹر کے یہاں اپنی باری کا انتظار کرنے کے دوران فارم مکمل کریں گے لہذا فارم کی وجہ سے آپ کو ایمرجنسی کلینک میں زیادہ دیر نہیں ٹھہرنا پڑے گا۔

سروے کی ذمہ داری

(جنوب مشرقی ناروے کی ریجنل ہیلتھ اتھارٹی)، بلدیہ اوسلو اور اوسلو یونیورسٹی کا مشترکہ Helse Sør-Øst RHF (جنرل ایمرجنسی)، اوسلو یونیورسٹی Allmennlegevakten Oslo kommune پراجیکٹ ہے۔ پراجیکٹ کے سلسلے میں Allmennlegevakten Skedsmo kommune (حادثات کیلئے ایمرجنسی کلینک)، Skadelegevakten (اسپتال البیول کا شعبہ ایمرجنسی) آپس میں تعاون کر رہے ہیں۔ Akuttmottaket Ahus اور Skadelegevakten کا Lillestrøm Ahus پر ہے۔ Helse Sør-Øst RHF پراجیکٹ کی باضابطہ ذمہ داری

Appendix C – Supplementary data

Table 4 Frequency of visits to the OAEOC during the previous 12 months. Incidence rate ratios analysed with Poisson regression across immigrant groups.

	OAEOC VISITS IRR (95% CI)	RGP VISITS IRR (95% CI)
Model for immigrants		
Norwegians (ref)	1	1
First-generation immigrants	1.27 (1.17–1.38)**	1.09 (1.02–1.16)*
Second-generation immigrants	1.49 (1.33–1.67)**	1.31 (1.19–1.44)**
Gender (ref: Female)		
Male	0.92 (0.86–0.98)*	0.79 (0.75–0.83)**
Age (ref: < 20 years)		
20–39	0.78 (0.71–0.85)**	1.18 (1.11–1.27)**
40–59	0.71 (0.63–0.80)**	1.42 (1.30–1.54)**
≥ 60	0.60 (0.49–0.72)**	1.71 (1.57–1.88)**
Work status (ref: employed)		
Social welfare benefits	1.76 (1.59–1.94)**	1.42 (1.31–1.53)**
Other ¹	1.10 (1.01–1.19)*	1.06 (0.99–1.12)

* Indicates a significant difference compared with ref: ($p < 0.05$), ** $p < 0.001$

¹ Other: pensioner, student, homemaker

*Table 5 Frequency of visits to the RGP office during the previous 12 months.
Incidence rate ratios analysed with Poisson regression across selected countries.*

	OAEOC VISITS IRR (95% CI)	RGP VISITS IRR (95% CI)
Model for selected countries		
Norway (ref)	1	1
Sweden	1.37 (1.17–1.60)**	0.78 (0.64–0.99)*
Pakistan	1.46 (1.24–1.72)**	1.34 (1.19–1.52)**
Somalia	1.35 (1.11–1.65)*	1.09 (0.91–1.29)
Poland	0.98 (0.77–1.24)	0.76 (0.60–0.95)*
Gender (ref: Female)		
Male	0.93 (0.86–1.01)	0.79 (0.75–0.84)**
Age (ref: < 20 years)		
20–39	0.79 (0.71–0.86)**	1.21 (1.12–1.30)**
40–59	0.67 (0.58–0.76)**	1.36 (1.24–1.49)**
≥ 60	0.54 (0.45–0.63)**	1.70 (1.55–1.88)**
Work status (ref: employed)		
Social welfare benefits	1.93 (1.72–2.18)**	1.40 (1.27–1.53)**
Other ¹	1.17 (1.06–1.28)*	1.04 (0.97–1.12)

* Indicates a significant difference compared with ref: ($p < 0.05$), ** $p < 0.001$

¹ Other: pensioner, student, homemaker

Papers I - III

RESEARCH ARTICLE

Open Access



Use of emergency care services by immigrants—a survey of walk-in patients who attended the Oslo Accident and Emergency Outpatient Clinic

Sven Eirik Ruud^{1,2*}, Ruth Aga³, Bård Natvig¹ and Per Hjortdahl¹

Abstract

Background: The Oslo Accident and Emergency Outpatient Clinic (OAEOC) experienced a 5–6 % annual increase in patient visits between 2005 and 2011, which was significantly higher than the 2–3 % annual increase among registered Oslo residents. This study explored immigrant walk-in patients' use of both the general emergency and trauma clinics of the OAEOC and their concomitant use of regular general practitioners (RGPs) in Oslo.

Methods: A cross-sectional survey of walk-in patients attending the OAEOC during 2 weeks in September 2009. We analysed demographic data, patients' self-reported affiliation with the RGP scheme, self-reported number of OAEOC and RGP consultations during the preceding 12 months. The first approach used Poisson regression models to study visit frequency. The second approach compared the proportions of first- and second-generation immigrants and those from the four most frequently represented countries (Sweden, Pakistan, Somalia and Poland) among the patient population, with their respective proportions within the general Oslo population.

Results: The analysis included 3864 patients: 1821 attended the Department of Emergency General Practice ("general emergency clinic"); 2043 attended the Section for Orthopaedic Emergency ("trauma clinic"). Both first- and second-generation immigrants reported a significantly higher OAEOC visit frequency compared with Norwegians. Norwegians, representing 73 % of the city population accounted for 65 % of OAEOC visits. In contrast, first- and second-generation immigrants made up 27 % of the city population but accounted for 35 % of OAEOC visits. This proportional increase in use was primarily observed in the general emergency clinic (42 % of visits). Their proportional use of the trauma clinic (29 %) was similar to their proportion in the city. Among first-generation immigrants only 71 % were affiliated with the RGP system, in contrast to 96 % of Norwegians. Similar findings were obtained when immigrants were grouped by nationality. Compared to Norwegians, immigrants from Sweden, Pakistan and Somalia reported using the OAEOC significantly more often. Immigrants from Sweden, Poland and Somalia were over-represented at both clinics. The least frequent RGP affiliation was among immigrants from Sweden (32 %) and Poland (65 %).

Conclusions: In Norway, immigrant subgroups use emergency health care services in different ways. Understanding these patterns of health-seeking behaviour may be important when designing emergency health services.

Keywords: Emergency care utilization, Immigrant, General practice, Health-seeking behaviour, Primary health care, Regular general practitioner

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Background

The Norwegian population has become increasingly multicultural. In 2010, the population of immigrants and Norwegians born to immigrant parents comprised 11 % of the total Norwegian population and 27 % of the population in the capital, Oslo. This demographic change has introduced several challenges to the health care system, including maintaining equity of access and handling new patterns of health care utilization.

According to annual statistics, the Oslo Accident and Emergency Outpatient Clinic (OAEOC) experienced an average 5–6 % annual increase in patient numbers between 2005 and 2011. This is significantly higher than the 2–3 % annual increase among registered Oslo residents [1]. A study in the capital of Denmark, Copenhagen, concluded that immigrants have a higher proportion of non-urgent emergency room visits, presumably due to barriers in access to primary care [2]. This increased use of emergency services by immigrants may reflect cultural differences related to health literacy, poor knowledge about the health care system, inability to make appointments by phone due to language limitations, difficulties accessing a regular general practitioner (RGP) and illegal immigrant status [2–5]. Surveys and registry-based studies in Norway, Spain, Italy, Denmark, Great Britain, Sweden and the USA have reported variable results regarding immigrants' utilization of emergency health care services [4, 6–14].

In 2001, Norway established a list-based patient system through which most inhabitants are assigned an RGP. Only individuals who are registered with the Norwegian National Population Register are eligible for enrolment in the RGP system [15]. Asylum seekers, refugees and their children who have been assigned a temporary identification number can register with a RGP or use a general health care service organized by the municipal authorities. Immigrants with an intention to stay in Norway for at least six months and who have been allocated a residence permit can register with the RGP scheme after they have received a personal identification number. Patients who fall outside the RGP system include undocumented immigrants, rejected asylum seekers and short-term immigrants working in Norway. However, like all citizens, they have the right to receive emergency health care within the health care system.

Throughout most of Norway, RGPs handle patients' primary emergency care needs, but the situation is usually more complex in cities. If individuals become acutely ill during the daytime in Oslo, they are expected to seek help from their RGP during regular hours (08:00–16:00, Monday–Friday). However, if their RGP is unavailable or if they are not assigned to a RGP, individuals frequently use the Department of Emergency General Practice (the DEGP, or general emergency

clinic), which is part of the larger OAEOC, or one of Oslo's few and smaller private emergency care facilities. Outside of regular RGP working hours, individuals are expected to go to the OAEOC for urgent medical care. For minor injuries and trauma, individuals are expected to by-pass their RGP, regardless of the time of day, and proceed directly to the Section for Orthopaedic Emergency (SOE, or trauma clinic) at the OAEOC. Major trauma cases and other emergencies are admitted directly to the Emergency Department at Oslo University Hospital by ambulance or medical referral.

In the present study, we explored how immigrants, immigrant subgroups and native Norwegians use Oslo's major emergency walk-in clinic and their concomitant use of RGPs. We used two analytic approaches. First, we compared subgroups' self-reported use of the OAEOC, their self-reported affiliation with the RGP patient system and their number of RGP visits during the preceding 12 months. Second, we compared the proportions of immigrants in the patient population to their respective proportional representation in the overall population of Oslo.

Methods

Setting and study design

Patients who attended the OAEOC during a 2-week period in September 2009 were surveyed. A 2-week period was chosen due to time restrictions imposed by the OAEOC management. The emergency clinic is located in the centre of Oslo. It is the only government-run emergency outpatient clinic service open on a 24-h basis and is the largest emergency outpatient clinic in the city. It is organized as two separate clinics located within the same building. The general emergency clinic is staffed by general practitioners and operated by the Municipality of Oslo. The trauma clinic is integrated within the Orthopaedic Department of Oslo University Hospital and treats injuries and other minor trauma cases. In 2009, the OAEOC handled about 180,500 patients: 82,000 emergency admissions to the general emergency clinic, 72,000 emergency admissions to the trauma clinic and 26,500 follow-up appointments at the trauma clinic.

Individuals in need of emergency health services either attend as walk-in patients or are brought in by ambulance, the police or an emergency outreach team. All walk-in patients enter the OAEOC through the same entrance. A health secretary directs them to either the trauma clinic or the general emergency clinic depending on their health care needs. At both clinics they are attended by a triage nurse.

Study patients were included irrespective of when they were seen. Patients who fulfilled the inclusion criteria were asked by the triage nurse to participate in the study by

answering a 15-item questionnaire (see Additional file 1). The questionnaire included items related to their and their parents' countries of birth, their age, gender, work status and use of health care services during the preceding 12 months. Some of the questions were based on a study by the National Centre for Emergency Primary Health Care and the Norwegian Knowledge Centre for the Health Services [16]; other questions were written specifically for this survey. The questionnaire and attached information sheets were available in seven languages: Norwegian, English, Polish, Somali, Sorani (Kurdish), Farsi (Persian) and Urdu so that participants were able to select their preferred language version. Translators from the Municipal Interpreting and Translation Service of Oslo were consulted regarding which languages to include and prepared the translations. Each language version was examined and proofread by an independent translator who compared it with the original Norwegian text. Inconsistencies were resolved through discussions with the translators.

The participants, or a caregiver or guardian for patients 15 years or less, were given oral and written information about the study and were informed that their participation was voluntary and that they would remain anonymous. If they agreed, walk-in patients, or their caregivers, completed the questionnaire while waiting for a consultation with the medical doctor. For children, their age, gender and immigrant status were recorded, along with the work and social welfare benefit status of their accompanying family member. The questionnaire took about 2 min to complete. Returning the completed questionnaire to the medical doctor at the end of the consultation was considered implied consent for study participation. Language barriers and illiteracy were overcome by using family members or health personnel as interpreters.

Inclusion criteria

In our study we wanted to examine utilization of emergency care services among walk-in patients where attending a RGP could have been a relevant option. Patients of all ages except patients attending scheduled return visits were included. Patients arriving with severe urgency levels and reduced ability to cooperate were thus not eligible for inclusion. This applied for patients admitted by ambulance, those triaged as "red priority" or who were assumed to need help within a few minutes, or those who were seriously intoxicated or having an acute psychiatric episode.

Study sample

Patients were categorized based on immigration status and country of origin, according to the criteria and definitions used by Statistics Norway [17]. Patients were

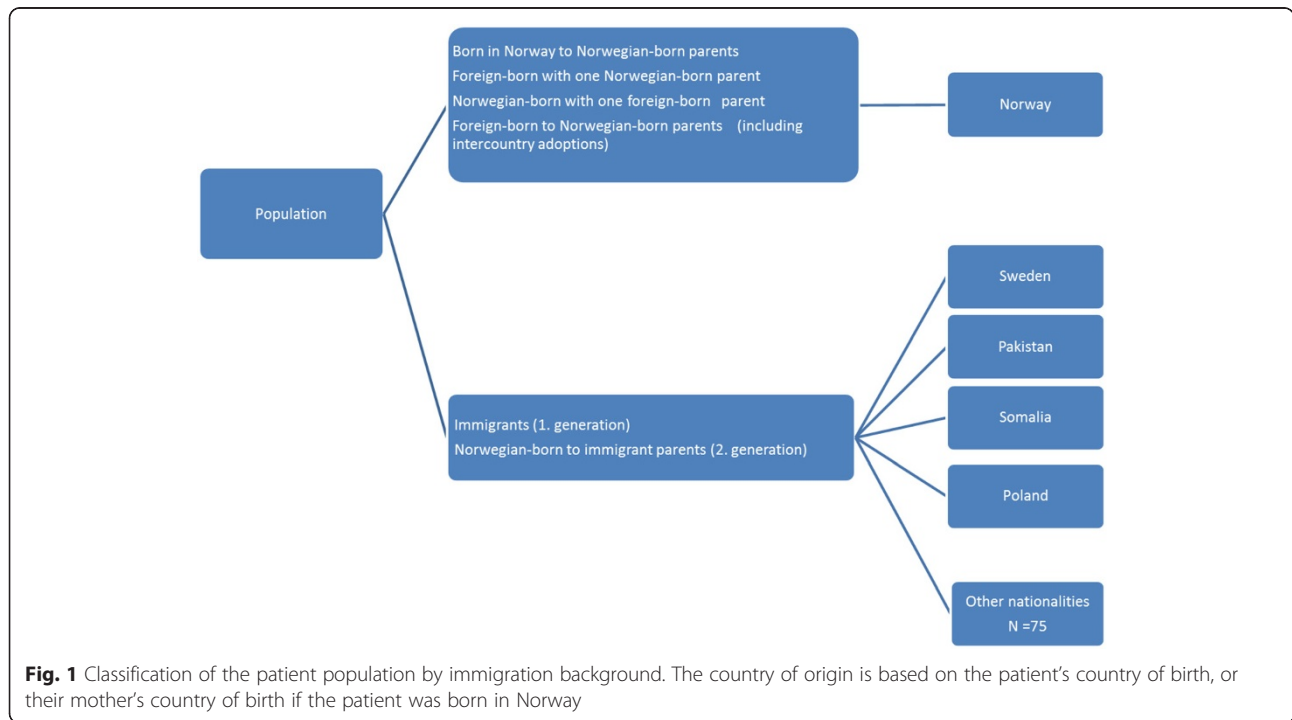
defined as being of non-Norwegian origin if they and both their parents were born abroad or if they were born in Norway but both parents were born abroad. Patients were divided into groups based on their immigration status and country of origin according to their birth country, or their mother's country of birth if the patient was born in Norway (Fig. 1). In the official national statistics, patients with another immigration status, such as foreign-born with one Norwegian parent, Norwegian-born with one foreign-born parent or foreign-born with two Norwegian-born parents (including international adoptees) are classified as "the rest of the population". The participants in our study were grouped as Norwegians, immigrants (first-generation immigrants) and Norwegian-born persons with immigrant parents (second-generation immigrants). "Norwegian" was defined by the common term referring to native Norwegians and persons classified as "the rest of the population". We were not allowed to record participants' personal identification numbers because this information is restricted for privacy and ethical reasons. Therefore, we were unable to classify the proportions of illegal or undocumented immigrants and thus we included all immigrants, regardless of legal status, in one group. The four most frequently represented countries among immigrants and Norwegian-born participants with immigrant parents (Sweden, Pakistan, Somalia and Poland) were selected for further analysis.

Measures

We analysed gender, age, immigration status, work status and country of origin. We also analysed self-reported utilization rates of OAEOC and RGP services during the preceding 12 months. The self-reported affiliation status with the RGP patient system was categorized as "yes", "no" or "do not know".

Analyses

The questionnaires were coded and entered into a database using EpiData Software version 2.2. (EpiData Association) and analysed with SPSS version 22.0 and STATA version 13.3. Descriptive statistics, including proportions and means, were calculated. Pearson's chi-square test was used to identify associations between categorical variables and one-way analysis of variance (ANOVA) was used to identify differences between means. Two different approaches were used to analyse OAEOC utilization patterns. In the first approach, we used Poisson regression analyses adjusted for age and gender to assess participants' OAEOC and RGP visit frequencies. In the second approach, we used Pearson's chi-square and Z-proportion tests to compare the proportions of first- and second-generation immigrants and those from the four most frequently represented



countries among the patient population, with their respective proportions within the general Oslo population. For the gender- and age-stratified proportion analyses, we used bootstrapping to create 95 % confidence intervals (CIs). Significance was identified as the 5 % level ($p < 0.05$).

Ethical approval

The study was voluntary and anonymous, so ethical approval was not required. However, the study was presented to the Norwegian Data Protection Authority, the Oslo University Hospital Information Security and Privacy Office, and the Regional Committees for Medical and Health Research Ethics in Norway and received no further comments or restrictions, given that no personal identification or diagnosis data were collected.

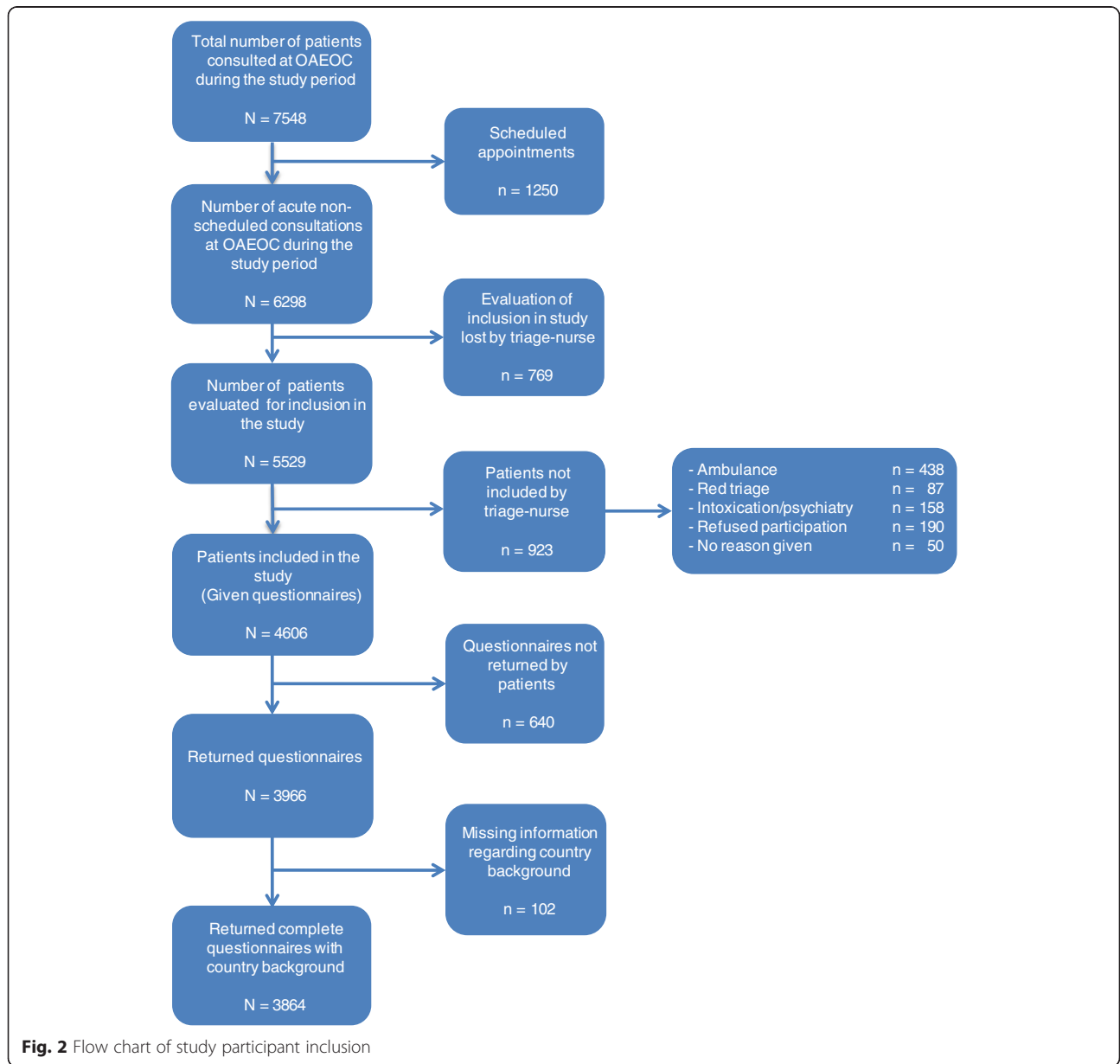
Results

During the study period, 6298 emergency patients were seen at the OAEOC (Fig. 2). Among these, 769 (12 %) were not considered for inclusion for practical reasons such as urgency or time constraints at the emergency clinic. A total of 5529 patients were evaluated for participation by the triage nurse. Among these, 2753 were seen at the general emergency clinic and 2776 at the trauma clinic. Among those evaluated, 923 patients were not included because they were emergency admissions, they indicated that they did not want to participate, or they gave no reason for not participating. Of the 4606 walk-in

patients given a questionnaire by the triage nurse, 3864 (response rate 84 %) returned a complete questionnaire with country background information (1821 from the general emergency clinic and 2043 from the trauma clinic). Immigrants represented 79 nationalities. Of the 1364 participants who had an immigration background, 79.2 % preferred the Norwegian language version of the questionnaire, 10.4 % the English version, 5.1 % Polish, 3.2 % Somali, 1.0 % Urdu, 0.7 % Farsi (Persian) and 0.4 % Sorani (Kurdish).

Characteristics of the OAEOC study participants

A greater proportion of Norwegians utilized the trauma clinic compared to the general emergency clinic, while among first- and second-generation immigrants it was the opposite (Table 1). Within each immigrant group, males were significantly over-represented at the OAEOC, whereas no gender difference was observed in the pattern of OAEOC use by Norwegians. The mean age of the immigrant and Norwegian patients was 26.6 and 29.6 years, respectively. Second-generation immigrants were generally younger, with a mean age of 9.7 years and 86 % were under 20 years of age. The employment rate was 58.9 % for all immigrants and 61.3 % among Norwegians. First-generation immigrants were more likely to receive some form of social welfare benefits (14.8 %) compared with Norwegians (9.2 %). Patients reporting high use (≥ 3 visits) of the OAEOC during the preceding 12 months were higher in both first- and second-generation immigrants



compared with Norwegians. They also had a higher mean number of visits. Among patients registered with the RGP scheme significantly more first-generation immigrants reported ≥ 3 visits with their RGP during the preceding 12 months than the Norwegians did. The proportion of patients who reported being registered with the RGP patient system was 75.1 % for all immigrants compared with 95.5 % for Norwegians. Registration rates differed between first- (71.0 %) and second-generation immigrants (95.7 %). The proportion of patients who did not know whether they were registered with an RGP was significantly higher among first-generation immigrants than among Norwegians.

Characteristics of participants from four selected countries compared with Norwegians

Thirty-eight percent of first- and second-generation immigrants originated from Sweden, Pakistan, Somalia or Poland. The pattern of OAEOC use among immigrants from these four countries was compared with Norwegians (Table 2). In contrast to Norwegians, three of the four country-based immigrant groups made greater use of the general emergency clinic, compared with the trauma clinic. Gender differences did not reach statistical significance. Patients originating from Pakistan and Somalia were significantly younger compared with Norwegians. There was marked variance in

Table 1 Characteristics of immigrant groups within the study population compared with Norwegians

	Norwegians	Immigrants		
		First generation	Second generation	Total ^a
Number of patients (%)				
OAEOC	2500 (100)	1004 (100)	360 (100)	1364 (100)
DEGP (general emergency clinic)	1053 (42.2)	576 (57.4)**	192 (53.3)**	768 (56.3)*
SOE (trauma clinic)	1447 (57.8)	428 (42.6)**	168 (46.7)**	596 (43.7)*
Gender (%)				
Female	1245 (50.1)	450 (45.3)*	133 (38.9)**	583 (43.7)**
Male	1241 (49.9)	543 (54.7)*	209 (61.1)**	752 (56.3)**
Age in years, mean (SD)	29.6 ± 20.9	32.6 ± 14.4**	9.7 ± 10.2**	26.6 ± 16.7**
Paediatric/adolescent proportion, 0–19 years (%)	812 (33.0)	104 (10.8)**	292 (85.6)**	396 (30.4)
Work status (%) ^b				
Employed	1485 (61.3)	600 (63.3)	149 (46.1)**	749 (58.9)
Social welfare benefits	222 (9.2)	140 (14.8)**	27 (8.4)	167 (13.1)**
Other ^c	716 (29.6)	208 (21.9)**	147 (45.5)**	355 (27.9)
Self-reported use of OAEOC during the preceding 12 months (%)				
No visits	1355 (55.0)	465 (47.8)**	118 (34.5)**	583 (44.4)**
1–2 visits	828 (33.6)	366 (37.7)**	141 (41.2)**	507 (38.6)**
≥ 3 visits	279 (11.3)	141 (14.5)*	83 (24.3)**	224 (17.0)**
Mean number of visits	0.8 ± 1.2	1.1 ± 1.3**	1.5 ± 1.4**	1.2 ± 1.3**
Self-reported use of RGP during the preceding 12 months (%) ^d				
No visits	522 (22.7)	146 (21.6)	61 (18.9)	207 (20.7)
1–2 visits	997 (43.4)	222 (32.9)**	145 (44.9)	367 (36.8)**
≥ 3 visits	777 (33.8)	307 (45.5)**	117 (36.2)	424 (42.5)**
Mean number of visits	1.9 ± 1.4	2.2 ± 1.5**	2.0 ± 1.4	2.1 ± 1.5**
Self-reported RGP registration status (%)				
Yes	2326 (95.6)	689 (71.0)**	336 (95.7)	1025 (75.1)**
No	69 (2.8)	250 (25.7)**	8 (2.3)	258 (19.5)**
Do not know	37 (1.5)	32 (3.3)**	7 (2.0)	39 (3.0)*

OAEOC (Oslo Accident and Emergency Outpatient Clinic), Missing data: Gender ($n = 43$), Work status ($n = 170$), OAEOC visits ($n = 88$), RGP visits ($n = 57$), RGP status ($n = 110$)

*Indicates a significant difference compared with Norwegians ($p < 0.05$), ** $p < 0.001$

^a Total immigrants (first generation) and Norwegian-born with immigrant parents (second generation)

^b Work status of the relatives accompanying patients < 16 years

^c Other: pensioner, student or homemaker

^d Includes only patients who report having an RGP ($n = 3351$)

the proportion of patients <20 years of age. Patients from Sweden and Poland had higher rates of employment compared with all groups, including Norwegians, in contrast to the Pakistan and Somalia groups among whom rates were significantly lower. The Somali group received social welfare benefits at significantly higher rates. Patients from Sweden, Pakistan and Somalia reported significantly more OAEOC visits during the preceding 12 months than the Norwegians did. Self reported use of RGPs differed between Norwegians and those from the four selected countries inasmuch as patients from Pakistan reported higher use whereas those from Sweden and Poland reported lower use.

Compared with Norwegians, the proportion of those who reported being registered with the RGP system was lower for three of the four immigrant subgroups, those from Pakistan being the exception.

Frequency of visits to the OAEOC and RGP during the previous 12 months

The frequency of OAEOC and RGP use was analysed with Poisson regression models adjusted for age and gender (Table 3). Both first- and second-generation immigrants reported more OAEOC and RGP visits compared with Norwegians ($p < 0.001$). Females reported higher frequencies of use of both OAEOC and RGP compared with

Table 2 Characteristics of the study population from selected countries compared with Norwegians

	Norway	Sweden	Pakistan	Somalia	Poland
Number of patients (%)					
OAEOC	2500 (100)	180 (100)	134 (100)	114 (100)	96 (100)
DEGP (general emergency clinic)	1053 (42.2)	110 (61.1)**	73 (54.5)*	69 (60.5)**	50 (52.1)
SOE (trauma clinic)	1447 (57.8)	70 (38.9)**	61 (45.5)*	45 (39.5)**	46 (47.9)
Gender (%)					
Female	1245 (50.1)	90 (50.0)	64 (48.5)	49 (44.5)	39 (40.6)
Male	1241 (49.9)	90 (50.0)	68 (51.5)	61 (55.5)	57 (59.4)
Age in years, mean (SD)	29.6 ± 20.9	25.9 ± 11.7*	25.3 ± 18.1*	18.7 ± 15.3*	29.1 ± 15.6
Paediatric/adolescent proportion, 0–19 years (%)	812 (33.0)	17 (9.5)**	53 (41.7)*	57 (56.4)**	18 (19.1)*
Work status (%) ^a					
Employed	1485 (61.3)	152 (84.4)**	61 (47.7)*	39 (39.8)**	69 (75.0)*
Social welfare benefits	222 (9.2)	11 (6.1)	12 (9.4)	15 (15.3)*	11 (12.0)
Other ^b	716 (29.6)	17 (9.4)**	55 (43)*	44 (44.9)*	12 (13.0)**
Self-reported use of OAEOC during the preceding 12 months (%)					
No visits	1355 (55.0)	86 (48.3)	53 (40.5)*	37 (34.9)**	49 (52.7)
1–2 visits	828 (33.6)	62 (34.8)	51 (38.9)	45 (42.5)	33 (35.5)
≥ 3 visits	279 (11.3)	30 (16.9)*	27 (20.6)*	24 (22.6)**	11 (11.8)
Mean number of visits	0.8 ± 1.2	1.1 ± 1.3*	1.4 ± 1.4**	1.4 ± 1.3**	0.9 ± 1.1
Self-reported use of RGP during the preceding 12 months (%) ^c					
No visits	522 (22.7)	18 (31.6)	14 (11.7)*	20 (20.6)	23 (37.7)*
1–2 visits	997 (43.4)	28 (49.1)	44 (36.7)	41 (42.3)	23 (37.7)
≥ 3 visits	777 (33.8)	11 (19.3)*	62 (51.7)**	36 (37.1)	15 (24.6)
Mean number of visits	1.9 ± 1.4	1.5 ± 1.3*	2.5 ± 1.4**	2.0 ± 1.4	1.5 ± 1.5*
Self-reported RGP registration status (%)					
Yes	2326 (95.6)	57 (31.8)**	125 (96.9)	98 (90.7)*	61 (64.9)**
No	69 (2.8)	114 (63.7)**	3 (2.3)	8 (7.4)*	25 (26.6)**
Do not know	37 (1.5)	8 (4.5)*	1 (0.8)	2 (1.9)	8 (8.5)**

OAEOC (Oslo Accident and Emergency Outpatient Clinic), Missing data: Gender ($n = 20$), Work status ($n = 103$), OAEOC visits ($n = 54$), RGP visits ($n = 36$), RGP status ($n = 82$)

*Indicates a significant difference compared with Norwegians ($p < 0.05$), ** $p < 0.001$

^a Work status of the relatives accompanying patients < 16 years

^b Other: pensioner, student, homemaker

^c Includes only patients who report having an RGP ($n = 2667$)

males. The number of RGP visits increased with age, while the frequency of OAEOC visits was highest among young patients. With the exception of patients from Poland, the other country-based immigrant groups visited the OAEOC more frequently during the preceding 12 months compared with Norwegians. However, compared to Norwegians, immigrants from both Poland and Sweden had fewer RGP visits whereas those from Pakistan had significantly more.

Characteristics of patients seen at the two clinics

Table 4 indicates that a higher proportion of male patients attended the trauma clinic (59 %) compared with the general emergency clinic (45 %; $p < 0.05$). This relative over-representation of men at the trauma clinic applied

uniformly to Norwegians and all immigrants except for those from Pakistan, and was highest among patients from Somalia (74 %), Poland (70 %) and Sweden (66 %). Females (55 %), with the exception of patients from Pakistan (46 %), were seen most frequently at the general emergency clinic, with the highest proportions among patients from Sweden (60 %) and Norway (58 %). There was no significant difference in mean age between patients at the two clinics: 28.0 years (± 19.5) at the general emergency clinic and 29.0 years (± 19.7) at the trauma clinic.

OAEOC utilization in relation to groups' population representation in Oslo

Table 5 shows the unadjusted proportional representation of immigrant groups at the OAEOC, divided into

Table 3 Frequency of visits to the OAEOC and RGP during the previous 12 months. Incidence rate ratios of different models analysed with Poisson regression across immigrant groups and selected countries

	OAEOC visits		RGP visits	
	Model 1 IRR (95 % CI)	Model 2 IRR (95 % CI)	Model 1 IRR (95 % CI)	Model 2 IRR (95 % CI)
Model for immigrants				
Norwegians (ref)	1	1	1	1
First-generation immigrants	1.29 (1.17–1.42)**	1.34 (1.21–1.49)**	1.16 (1.09–1.23)**	1.12 (1.05–1.19)**
Second-generation immigrants	1.81 (1.58–2.07)**	1.58 (1.36–1.84)**	1.09 (0.99–1.19)	1.34 (1.21–1.46)**
Gender (ref: Female)				
Male		0.90 (0.82–0.98)*		0.79 (0.75–0.83)**
Age (ref: < 20 years)				
20–39		0.79 (0.71–0.88)*		1.17 (1.10–1.26)**
40–59		0.74 (0.64–0.85)**		1.46 (1.35–1.58)**
≥ 60		0.60 (0.49–0.72)**		1.77 (1.62–1.94)**
Model for selected countries				
Norway (ref)	1	1	1	1
Sweden	1.28 (1.04–1.56)*	1.32 (1.07–1.63)*	0.79 (0.63–0.98)*	0.78 (0.63–0.98)*
Pakistan	1.68 (1.35–2.09)**	1.62 (1.29–2.02)**	1.34 (1.18–1.52)**	1.37 (1.21–1.54)**
Somalia	1.73 (1.36–2.20)**	1.55 (1.19–2.01)**	1.05 (0.90–1.23)	1.12 (0.95–1.33)
Poland	1.02 (0.76–1.37)	1.01 (0.75–1.37)	0.78 (0.63–0.98)*	0.80 (0.65–0.99)*
Gender (ref: Female)				
Male		0.90 (0.82–1.00)		0.78 (0.74–0.83)**
Age (ref: < 20 years)				
20–39		0.79 (0.70–0.89)**		1.20 (1.12–1.29)**
40–59		0.69 (0.58–0.80)**		1.40 (1.29–1.53)**
≥ 60		0.58 (0.47–0.72)**		1.76 (1.60–1.93)**

OAEOC (Oslo Accident and Emergency Clinic), RGP (regular general practitioner)

Norwegians used as the reference group. IRR incidence rate ratio

Model 1: Unadjusted, Model 2: Adjusted for age and gender

* Significant result at the $p < 0.05$ level, ** $p < 0.001$

first- and second-generation immigrants and by country of origin, in relation to their respective proportions of Oslo's population. The representation of all immigrants (including first- and second-generation immigrants) seen at the OAEOC (35 %; $p < 0.001$) and the general emergency clinic (42 %; $p < 0.001$) was significantly higher compared with their proportion of Oslo's population (27 %). When grouped by country of origin, those from Sweden, Somalia and Poland were most disproportionately represented at the OAEOC, compared with their proportion among the general city population. However, when immigrants who did not report having an RGP were excluded, only those from Somalia were still over-represented at both clinics (see Additional file 2). In addition, both first- and second-generation immigrants were still over-represented at the general emergency clinic. Figure 3 shows the distribution of patients with immigration background (first- and second-generation immigrants) who attended the general emergency clinic

and the trauma clinic compared with their gender- and age-stratified proportions in the Oslo population according to Statistics Norway (for background data, see Additional file 3). Young and middle-aged females and males were significantly over-represented in the general emergency clinic patient population. Their representative proportions of the trauma clinic patient population were almost identical to those of the general population, except for a significant under-representation of young females (0–19 years). The age- and gender-adjusted proportional representations of patients from the selected countries are presented in an additional table (see Additional file 4). Swedish males and females, aged 20–39 years, were significantly over-represented in the patient population at both the general emergency clinic and the trauma clinic. Both male and female children and adolescents from Somalia (aged 0–19 years) were over-represented at the general emergency clinic while females were under-represented at the trauma

Table 4 Characteristics of participants seen at the DEGP and SOE stratified by gender and mean age

	DEGP (general emergency clinic)			SOE (trauma clinic)		
	N = 1798			N = 2023		
	Female	Male	Mean age	Female	Male	Mean age
	n (%)	n (%)	±SD	n (%)	n (%)	±SD
Norwegians	609 (58.3)	435 (41.7)	29.1 ± 21.1	636 (44.1)**	806 (55.9)**	30.0 ± 20.8
Immigrants	386 (51.2)	368 (48.8)	26.5 ± 16.9	197 (33.9)**	384 (66.1)**	26.8 ± 16.6
First-generation	303 (53.2)	267 (46.8)	32.5 ± 14.0	147 (34.8)**	276 (65.2)**	32.7 ± 14.7
Second-generation	83 (45.1)	101 (54.9)	8.0 ± 9.8	50 (31.6)*	108 (68.4)*	11.6 ± 10.3*
Total number of participants	995 (55.3)	803 (44.7)	28.0 ± 19.5	833 (41.2)**	1190 (58.8)**	29.0 ± 19.7
Selected countries ^a						
Sweden	66 (60.0)	44 (40.0)	24.5 ± 7.9	24 (34.3)**	46 (65.7)**	28.3 ± 15.8*
Pakistan	33 (45.8)	39 (54.2)	27.4 ± 20.5	31 (51.7)	29 (48.3)	22.8 ± 14.5
Somalia	38 (56.7)	29 (43.3)	18.0 ± 15.6	11 (25.6)*	32 (74.4)*	19.9 ± 14.9
Poland	25 (50.0)	25 (50.0)	28.5 ± 17.2	14 (30.4)	32 (69.6)	21.3 ± 10.5

Missing data: Gender (DEGP n = 23), (SOE n = 20)

*Indicates a significant difference in gender distribution between the clinics (p < 0.05), ** p < 0.001

^a Including both immigrants and Norwegian-born with immigrant parents

clinic. The proportion of patients from Pakistan was equally distributed in the patient population at both clinics compared with their proportion in the Oslo population, except for Pakistani males aged 40–49 years, who were over-represented at the general emergency clinic. Polish males aged 20–39 years were over-represented at the trauma clinic while young and middle-aged Polish females, 0–39 years, were over-represented at the general emergency clinic compared with their predicted proportion of the general population.

Discussion

Study findings

Our data indicate that immigrants in Oslo, including both first-generation and second-generation immigrants, use the city's walk-in emergency services more often than

would be predicted by their representation within the general population. This conclusion is supported by the patients' self-reported use of the emergency facilities during the previous 12 months. Utilization was higher at the general emergency clinic, whereas the proportion of immigrants at the trauma clinic was similar to the group's representation in the general population of Oslo. Males were more frequently patients at the trauma clinic and females at the general emergency clinic. The OAEOC patient sample was generally younger than the general population. Approximately one-third of the patients were <20 years old. Of interest are also the different affiliation rates with the RGP scheme. First-generation immigrants reported a lower rate of registration with the RGP scheme than Norwegians, while second-generation immigrants' rates were similar to those of Norwegians.

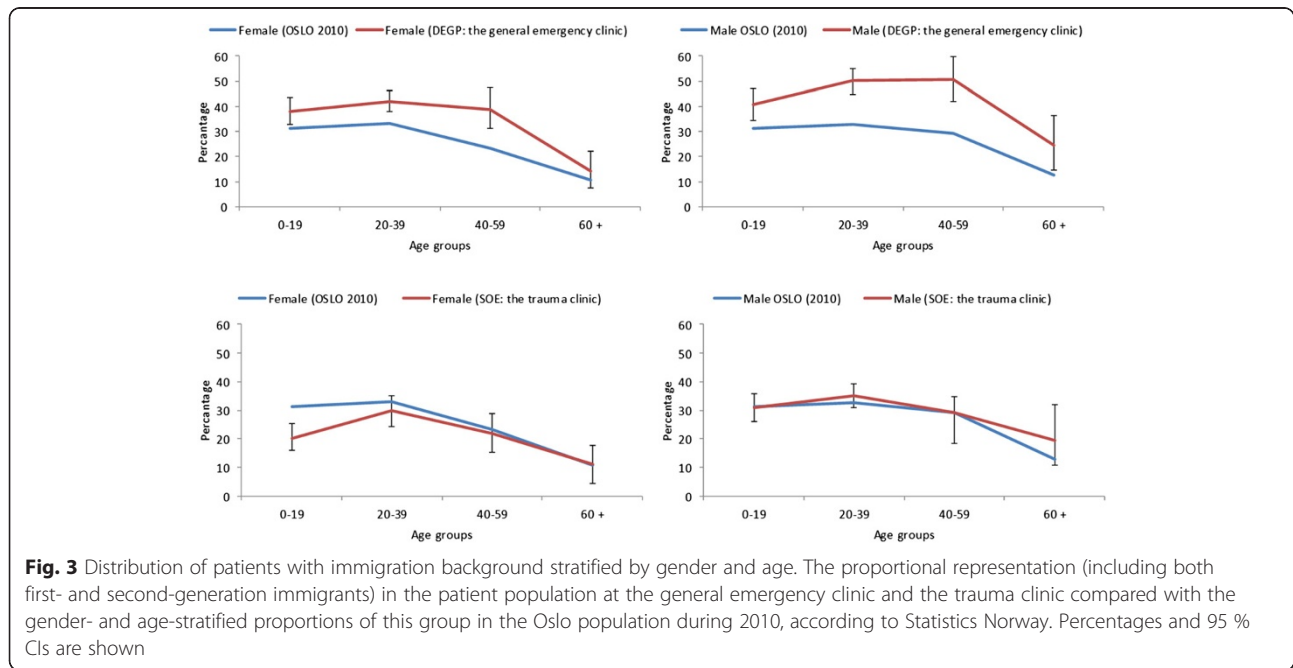
Table 5 Proportional representation of patient groups compared with that in the general population of Oslo (2010)

	OSLO (ref)	OAEOC	DEGP	SOE
	% (N = 586,860)	% (N = 3864)	% (n = 1821)	% (n = 2043)
Norwegians	72.7	64.7**	57.8**	70.8
Immigrants	27.3	35.3**	42.2**	29.2
First generation	20.9	26.0**	31.7**	21.0
Second generation	6.5	9.3**	10.5**	8.2*
Selected countries ^a				
Sweden	1.8	4.7**	6.1**	3.5**
Pakistan	3.6	3.5	4.1	3.0
Somalia	1.3	3.0**	3.8**	2.3*
Poland	1.5	2.5**	2.8**	2.3*

OAEOC (Oslo Accident and Emergency Clinic), DEGP (general emergency clinic), SOE (trauma clinic)

*Indicates a significant difference compared with their proportion in the general population of Oslo (p < 0.05), ** p < 0.001

^a Including both first- and second-generation immigrants



The second-generation immigrants living in Norway are mostly descendants of immigrants who arrived during the last decades and represent a relatively young population (mean age 9.7 years). They are generally integrated into the Norwegian health care system by having taken part in the obligatory Norwegian maternity and child health care services. Immigrants from Sweden and Poland, mainly labour immigrants, reported the lowest affiliation rates with the RGP scheme. Increased immigration, particularly by labour immigrants, entails that new perspectives are needed on how to organize the health care service to ensure access equity.

Increased utilization of emergency services by immigrants may reflect cultural differences in health literacy, knowledge about the health care system, difficulties in accessing an RGP and language barriers [3–6]. If immigrants walk into the emergency clinic instead of using the telephone to arrange an appointment with their RGP, this may explain their higher utilization of the OAEOC.

The four immigrant nationalities specifically examined in this study have some distinct features. Patients from Sweden and Poland are mostly labour immigrants. The group from Pakistan has predominantly immigrated to Norway since the late 1960s and in recent years for the purpose of reunion with their families. Somalis have come to Norway seeking protection as asylum seekers or refugees since the late 1990s. One major difference between these nationalities is the rate at which they are employed. The labour immigrants from Sweden and Poland have high employment rates, whereas the immigrants from Pakistan and Somalia report low employment rates. In general, labour immigrants come to

Norway on short-term work permits and many are not eligible to register with the RGP scheme [15]. Workers at temporary staff recruitment agencies on short-term contracts do not qualify for registration with the Norwegian National Population Register. This may explain the low self-reported RGP affiliation rates among labour immigrants and may contribute to higher workloads in emergency health care clinics.

After adjusting the analysis to include only patients reporting an affiliation with the RGP system, we found that the proportions of patients from Sweden and Poland who attended the OAEOC were similar to their representations in the general Oslo population. The lack of an RGP registration among labour immigrants is thus an important contributing factor to increased workload for the OAEOC. Undocumented and illegal immigrants are not allowed to register with an RGP and this group of patients contributes to the low self-reported RGP affiliation among first-generation immigrants. Although there are no official statistics on the proportion of the total immigrant population that undocumented and illegal immigrants represent, estimates in 2009 indicated a population of 12,000–18,000 throughout Norway and we can assume that many live in Oslo [18].

Besides attending the OAEOC, undocumented and illegal immigrants have few public alternatives for receiving acute health care. Only one daytime GP office sees patients who are not registered with a RGP. Charity organizations are open two afternoons and evenings per week (a total of 7 h per week). Apart from this, undocumented and illegal immigrant patients must attend the OAEOC or one of the few, expensive private health care

clinics in Oslo. These private clinics treat predominantly socio-economically advantaged individuals and those with private health insurance. Doctors at private clinics do not receive financial compensation from the Norwegian Health Economics Administration and there are no official statistics on how many private clinics exist or how many patients they treat.

Immigrants were over-represented at the general emergency clinic and reported higher utilization of both the OAEOC and their RGPs than did the Norwegian population, which may reflect poorer general health, negative evaluation of their own health status or different cultural understandings of health and illness [19–21]. A meta-analysis reported substantial evidence for the harmful health effects of perceived prejudice and discrimination (referred to as “minority stress”) across a range of mental health and physical health outcomes including depression, psychological distress, anxiety, hypertension and potential risk factors for disease such as obesity and substance abuse [22]. These factors may all lead to different health-seeking behaviours. In the eastern area of Oslo, where up to 40 % of the population belongs to minority ethnic groups, the life expectancy is 10 years lower than for those living in the western area of the city [23]. Studies in Norway have also reported increased morbidity among immigrants including cardio-vascular disease, diabetes mellitus and mental health problems, indicating a greater disease burden, which may explain part of the increased utilization of emergency care services [24–26].

Males from Poland and Sweden are often engaged in manual labour and are therefore exposed to more work-related injuries and accidents, possibly explaining their over-representation at the trauma clinic [27, 28]. In addition, males are generally more involved in violence and crime [29]. Studies have also shown that immigrant women of non-Western origins are less physically active and have lower levels of engagement in sports activities, which may explain their under-representation at the trauma clinic [30, 31].

Comparison with previous research

Our finding of a proportional increase in the utilization of emergency health care services among immigrants is consistent with reports from several other countries [5, 9–12]. In contrast, a 2010 review of the European literature by Norredam et al. of emergency room utilization among immigrants compared with non-immigrants showed varying degrees of higher, equal and lower utilization [13].

Our results differ slightly from those obtained using a registry-based study of immigrants’ use of emergency primary health care in Norway during 2008 [6], which concluded that immigrants generally used emergency services less than did native Norwegians, although they

also found substantial variation between immigrant groups. In their study, immigrant workers from Germany and Poland used emergency care considerably less frequently than did native Norwegians, whereas asylum seekers from Somalia and Iraq used these services more often. One likely explanation for the discrepancy between our studies is that the first study covered all of Norway, with many different forms of emergency primary care services, while ours focused on these services in a single, uniform facility in Oslo.

A study conducted by Statistics Norway during 2005–2006 based on self-reported visits found that the mean number of emergency primary health care consultations per year was 0.6 among the immigrant population compared with 0.4 among Norwegians [32]; in the present study, the self-reported numbers of visits were respectively 1.2 and 0.8. These numbers are higher than those reported by a Norwegian registry-based study, which found a mean of 0.17 visits to emergency primary health care by Norwegians and 0.11 and 0.21 visits by immigrants from high- and low-income countries, respectively [33]. This registry-based survey reported that a significantly lower proportion of immigrants used their GP compared with Norwegians. However, during the daytime, immigrants were more likely to be frequent GP users (> 7 visits) compared with native Norwegians, although there were differences between immigrant groups [34]. Older immigrants, labour immigrants and immigrants from high-income countries used GPs less often, whereas refugees and immigrants from middle-income countries were over-represented among frequent attenders. We found that labour immigrants with a low rate of registration with the RGP system were over-represented at the OAEOC compared with their representation within the population, which agrees with the findings of other studies [4, 10].

Strengths and limitations of our study

This study was based on patients’ self-reports on a 24-h basis over 2 weeks in September 2009. This period was representative of a normal work schedule for both the general emergency clinic and the trauma clinic insofar as there were no medical epidemics and not many tourists during this time. We consider the 2-week sampling period sufficient to generate a representative sample of the patient population because there were a large number of visits during this period. Nevertheless, the relatively short observation period may have created a risk of sampling bias. In contrast to registry-based studies that require personal identification numbers, our individual survey approach included patients who were not registered in the Norwegian National Population Register, such as undocumented immigrants, rejected asylum seekers and labour immigrants on a short-term stay in

Norway. Although we were unable to either identify or analyse this group separately, we consider this approach a strength of our study. Because there are no official registers for undocumented or illegal immigrants, we do not know the numbers or percentages of the patient population that they comprised. Asking the patients their status in a questionnaire such as ours would probably not be reliable since illegal respondents would be naturally reluctant to report their status.

The response rate of distributed questionnaires was 84 % and relative high compared with similar studies [3, 10, 35]. However, 769 patients were not considered for inclusion by the triage nurse due to the periodic extreme hectic times at the emergency clinic. To our knowledge, these patients lost for evaluation of inclusion were predominantly acutely ill and brought in by ambulance, police or outreach teams and would not have qualified for inclusion anyway. Given that the main purpose of the study was to explore the utilization of emergency clinics by walk-in patients, it is unlikely that these missing patients unduly affected the overall results.

This study had several limitations. First, it did not cover the entire patient population that utilized the emergency services but focused only on walk-in patients with non-urgent or semi-urgent health conditions for which attending an RGP would have been a reasonable option. For this reason, the data may be relevant only to the health care utilization of walk-in patients. Second, since the study covered only walk-in patients, we have no information about the immigration status of those excluded. It would have been relevant to explore how immigrants were represented in the categories of patients admitted to the OAEOC by ambulance and emergency outreach teams, or their representation among those experiencing intoxication or psychiatric episodes. Third, we have no information about emergency health care utilization among people not using the OAEOC. Assuming that some are frequent visitors to the OAEOC while others rarely use the facility, the results may be relevant only for exploring the utilization patterns among the patient population at the emergency outpatient clinic. Recall bias may have affected patients' self-reported patterns of utilization of both emergency services and RGPs. Over-reporting may also be more common in immigrants [6].

Alternative explanations

Based on our survey analyses, we conclude that immigrants are over-represented at the general emergency clinic because of their high proportion among the emergency patient population compared with their representation within the general Oslo population. Alternatively, it can be argued that this apparent over-representation reflects under-representation of Norwegians at the OAEOC

due to their use of private emergency health clinics. Our impression from general practice in Oslo is that this is not the case, but this alternative hypothesis is difficult to investigate scientifically due to lack of epidemiological data from the private clinics.

Relevance of the findings and recommendations for further research

Our findings have implications for the organization of the primary health care system for immigrants who come to Oslo on work permits. Initiatives that encourage immigrants to use RGPs for their regular health care needs could relieve some of the pressure on the city's emergency health care services. However, it is difficult for immigrants on short-term work permits to join the RGP scheme. Providing accessible RGP services to immigrants who come to Norway on short-term visits may improve primary health care services for these patients.

Another unresolved issue is the higher utilization of health care services among immigrants in general and among specific groups. Further research is needed to understand the issues related to health disparities or culturally dependent differences in health-seeking behaviour.

Conclusions

In Oslo, immigrant subgroups use emergency health care services differently. Increased use was seen mostly at the general emergency clinic, whereas the proportion of immigrants at the trauma clinic was similar to the general population. Labour immigrants from Sweden and Poland used emergency health care services more frequently than Norwegians did, and had low registration rates in the RGP system. Immigrants overall reported higher rates of utilization of both emergency health care services and RGPs. These different patterns of health-seeking behaviour are important when planning and designing emergency and primary health care services for immigrants in large cities such as Oslo.

Additional files

Additional file 1: English version of the questionnaire used in the study. The questionnaire has three parts: I. Request and information for participation in the study; II. 15-item questionnaire completed by patients; and III. 7-item registration form for medical doctors. Part III is in Norwegian. (PDF 209 kb)

Additional file 2: Proportional representation of patient groups compared with that in the general population of Oslo when patients who did not report an RGP assignment are excluded. The unadjusted proportional representation of immigrant groups at the OAEOC, divided into first- and second-generation immigrants and by country of origin, in relation to their respective proportions within the Oslo population. (PDF 172 kb)

Additional file 3: Proportional representation of patient groups compared with their proportion in the general population of Oslo. The proportional representation (including both first- and second-generation

immigrants) in the patient population at the general emergency clinic and the trauma clinic compared with the gender- and age-stratified proportions of this group in the population of Oslo. (PDF 178 kb)

Additional file 4: Proportional representation of patient groups based on selected countries compared with their proportion in the general population of Oslo. The proportional representation (including patients from Sweden, Pakistan, Somalia and Poland) in the patient population at the general emergency clinic and the trauma clinic compared with the gender- and age-stratified proportions of this group in the population of Oslo. (PDF 179 kb)

Abbreviations

CI: Confidence interval; DEGP: Department of Emergency General Practice (general emergency clinic); IRR: Incidence rate ratio; OAEOC: Oslo Accident and Emergency Outpatient Clinic; RGP: Regular general practitioner; SD: Standard deviation; SOE: Section for Orthopaedic Emergency (trauma clinic).

Competing interests

The study was funded through co-operation between the South-Eastern Norway Regional Health Authority, the Municipality of Oslo and the University of Oslo, Faculty of Medicine. This project also received grants from the Norwegian Research Fund for General Practice. The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

Authors' contributions

SER and PH conceived and designed the study. SER and RA were responsible for organizing data collection. SER, BN and PH analysed the data and drafted the manuscript. All authors participated in data interpretation manuscript revisions, and all authors approved the final version.

Acknowledgements

Ibrahimu Mdala PhD provided invaluable assistance with the study's statistical analyses. We thank the doctors and nurses at the Oslo Accident and Emergency Outpatient Clinic for contributing their time and energy during the data collection process. We acknowledge Online English for language editing.

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Received: 15 December 2014 Accepted: 5 October 2015

Published online: 07 October 2015

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RESEARCH ARTICLE

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Is it a matter of urgency? A survey of assessments by walk-in patients and doctors of the urgency level of their encounters at a general emergency outpatient clinic in Oslo, Norway

Sven Eirik Ruud^{1,2*} , Per Hjortdahl¹ and Bård Natvig¹

Abstract

Background: Emergency room (ER) use is increasing in several countries. Variability in the proportion of non-urgent ER visits was found to range from 5 to 90 % (median 32 %). Non-urgent emergency visits are considered an inappropriate and inefficient use of the health-care system because they may lead to higher expenses, crowding, treatment delays, and loss of continuity of health care provided by a general practitioner. Urgency levels of doctor–walk-in patient encounters were assessed based on their region of origin in a diverse Norwegian population.

Methods: An anonymous, multilingual questionnaire was distributed to all walk-in patients at a general emergency outpatient clinic in Oslo during two weeks in September 2009. We analysed demographic data, patient–doctor assessments of the level of urgency, and the results of the consultation. We used descriptive statistics to obtain frequencies with 95 % confidence interval (CI) for assessed levels of urgency and outcomes. Concordance between the patients' and doctors' assessments was analysed using a Kendall tau-b test. We used binary logistic regression modelling to quantify associations of explanatory variables and outcomes according to urgency level assessments.

Results: The analysis included 1821 walk-in patients. Twenty-four per cent of the patients considered their emergency consultation to be non-urgent, while the doctors considered 64 % of encounters to be non-urgent. The concordance between the assessments by the patient and by their doctor was positive but low, with a Kendall tau-b coefficient of 0.202 ($p < 0.001$). Adjusted logistic regression analysis showed that patients from Eastern Europe (odds ratio (OR) = 3.04; 95 % CI 1.60–5.78), Asia and Turkey (OR = 4.08; 95 % CI 2.43–6.84), and Africa (OR = 8.47; 95 % CI 3.87–18.5) reported significantly higher urgency levels compared with Norwegians. The doctors reported no significant difference in assessment of urgency based on the patient's region of origin, except for Africans (OR = 0.64; 95 % CI 0.43–0.96).

Conclusion: This study reveals discrepancies between assessments by walk-in patients and doctors of the urgency level of their encounters at a general emergency clinic. The patients' self-assessed perception of the urgency level was related to their region of origin.

Keywords: Emergency medicine, Primary care, General practitioner, Immigrants, Level of urgency, Health literacy

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Background

Emergency room (ER) use is increasing in several countries [1, 2]. An important factor contributing to the increased use is that of consultations for non-urgent medical problems that could have been handled more appropriately by ordinary primary health-care services [3]. An international literature review reports considerable variability in the proportion of non-urgent ER visits with values ranging from 5 to 90 %, with a median of 32 % [4]. Non-urgent ER consultations are considered an inappropriate and inefficient use of the health-care system because they may lead to higher expenses, crowding, and treatment delays for severely ill patients [2, 5]. Studies report that immigrants tend to use ERs and out-of-hours services for non-urgent reasons [6–9]. Not only do patients using the emergency health-care facilities for non-urgent medical problems create a burden on the emergency health-care services, they may also lose the continuity of health care provided by a regular general practitioner (RGP) [10–12].

In most rural parts of Norway, RGPs handle the primary emergency care needs of patients during the daytime and participate in out-of-hours emergency primary health-care services. In Oslo, patients may find it convenient to use the general emergency clinic, which is part of the larger Oslo Accident and Emergency Outpatient Clinic (OAEOC), and easily accessed 24 h a day, seven days a week. The OAEOC is divided into a general emergency clinic and a trauma clinic, and acts as a gatekeeper to secondary care through a process of referral.

Health status and socio-economic status are important factors influencing the rates of ER use by patients with non-urgent reasons for consultations [13]. Adults and caregivers may seek ER care more often for mild acute illnesses considered as non-urgent because of poor health literacy skills [14, 15]. Cultural differences according to health understanding, poor knowledge about the health-care system, and an inability to make appointments by telephone because of limited language skills, constitute barriers to accessing primary care [7, 16]. Illegal immigrant status may contribute to the increased use of ER services. In Norway, citizens who are registered in the National Population Register and asylum seekers including their families are entitled to register with a RGP [17]. Most immigrants in Oslo are registered or asylum seekers and they have a legal right to choose to attend either their RGP during office hour or the emergency clinic when in need for an immediate consultation. A RGP is a general practitioner who has entered into an agreement with the local authorities to act as a primary health-care provider for those citizens who are registered on their list. Undocumented immigrants, rejected asylum seekers, and short-term labour immigrants fall outside the RGP system, but they have the

right to receive emergency health care. For them the emergency clinic may be the only relevant source of health care service to attend.

The purpose of the study was to provide data about how patients and doctors assess the urgency level of the emergency encounter to better understand the reasons for emergency clinic utilization. This knowledge may provide potential useful policy implications in way of developing educational intervention programs to increase health literacy and to secure equity health care service for specific vulnerable groups. The primary aim of this study was to explore how patients and their doctors perceived the level of urgency for obtaining medical assistance and to determine the concordance between their assessments in the diverse population of walk-in patients attending a general emergency outpatient clinic in Oslo, Norway. The secondary aim was to explore whether there were any differences in the assessments of the level of urgency by Norwegians, immigrants, and subgroups of immigrants based on their region of origin. Finally, we explored whether there were any associations between the level of urgency for the consultation as perceived by patients and the result of the consultation.

Methods

Setting and study design

The present study is based on data obtained from a survey conducted by means of a questionnaire distributed to walk-in patients at the general emergency clinic at the OAEOC during two weeks in September 2009. The general emergency clinic is operated by the Municipality of Oslo. In 2009, the clinic handled approximately 80,000 emergency contacts. Immigrants and Norwegian-born citizens with immigrant parents comprised 42 % of the emergency walk-in contacts [18].

The general emergency clinic directly handles patients in need of emergency health care, without referrals. Patients arrive either alone or together with their relatives (walk-in patients), or are brought in by emergency services (ambulance, police, and emergency outreach teams). At the clinic, the walk-in patients are seen by a specialist nurse for registration and triage before waiting for their turn to be seen by a doctor. Patients brought in by emergency services enter the general emergency clinic via a separate entrance, and they are treated according to the level of urgency of their condition.

Patients were registered for the study on a 24-h basis. After triage, all walk-in patients were invited to participate in the study. They were then asked to answer a 15-item questionnaire while in the waiting room. Patients not able to sit in the waiting room were offered a bed in an examination room where they filled in the questionnaire, either themselves or together with a relative or guardian. The questionnaire included items related to

their country of birth, age, gender, the countries of their parents' birth, and their assessment of the urgency level for their visit (see Additional file 1). Children younger than 16 years and elderly patients were assisted by relatives or on-site health-care personnel when answering the questions. The questionnaire consisted of two parts: one for the patient and one for the doctor. The patients returned their completed part of the questionnaire to the doctor, who completed the appropriate part at the end of the consultation. The doctors registered the time of day and their objective assessment of the level of urgency for the consultation.

To accommodate the multiple nationalities of the patients, the questionnaire and attached information sheets were available in seven languages: Norwegian, English, Polish, Somali, Sorani (Kurdish), Farsi (Persian), and Urdu. The Municipal Interpreting and Translation Service of Oslo was consulted regarding the languages selected, and prepared the translations of the original questionnaire. Each language edition was examined and proofread by an independent translator, who then compared it to the original text in Norwegian. Inconsistencies were resolved in consultation with the translators.

Inclusion

Walk-in patients of all ages except patients attending scheduled return visits were included. Patients brought in by emergency services or who were intoxicated or having an acute psychiatric episode were considered not eligible for inclusion. The included patients were categorized by their immigration status and country of birth, according to the criteria and the definitions provided by Statistics Norway [19]. Patients were defined as being of non-Norwegian origin if they and both of their parents were born abroad (first-generation immigrants) or if they were born in Norway, but both parents were born abroad (second-generation immigrants). Other constellations were classified as Norwegians. Patients were divided into groups of region of origin based on their birth country, or their mother's country of birth if the patient was born in Norway.

Analyses

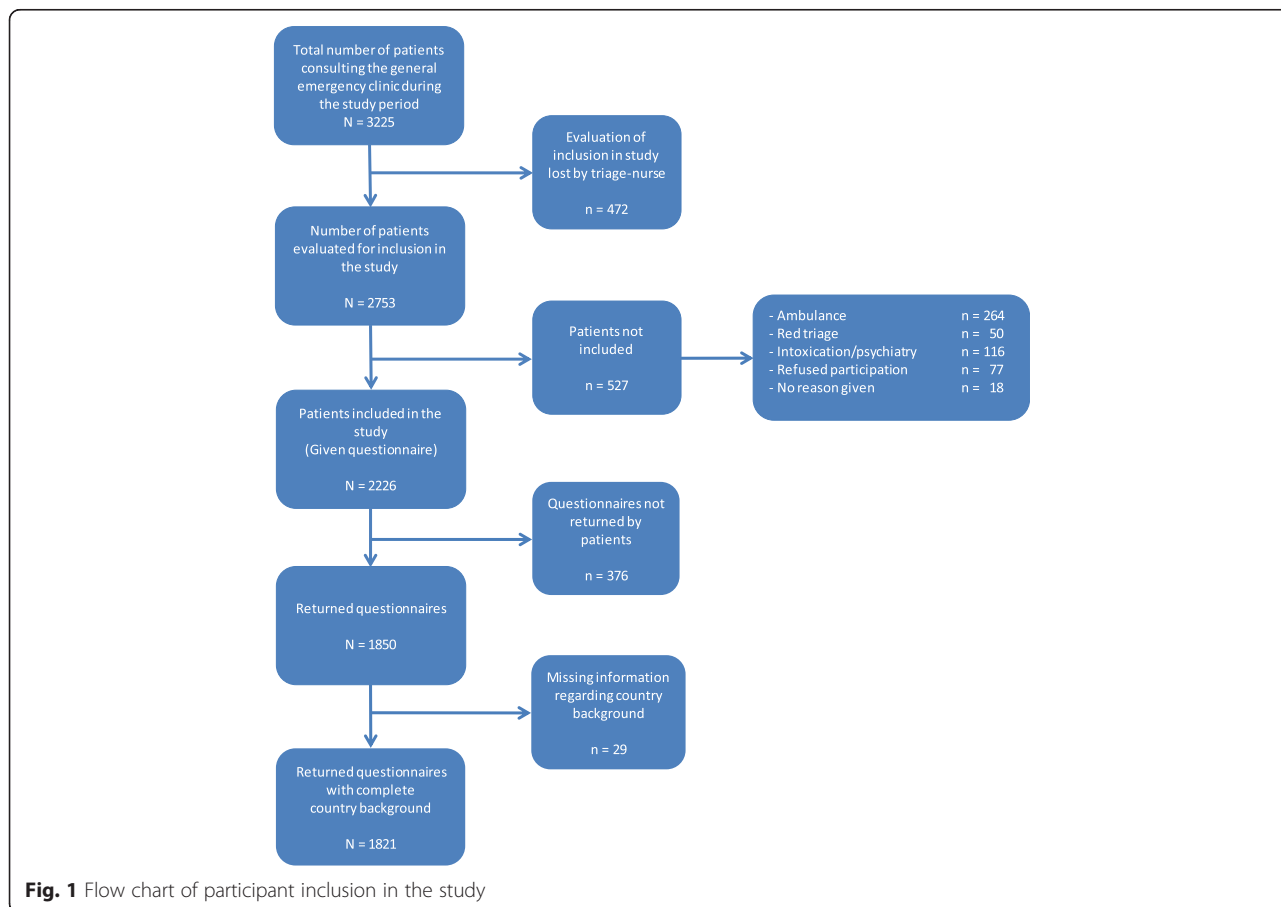
The patient and the doctor categorized the urgency level related to their encounter according to three pre-defined levels. I: 'very urgent. I/(The patient) must have help within an hour or sooner', II: 'fairly urgent. I/(The patient) must have help within a few hours', and III: 'Not so urgent. I/(The patient) could perhaps have waited until tomorrow'. Descriptive statistics and a Z-proportion test were used to obtain frequencies with 95 % confidence intervals for nominal and ordinal categorical variables. To explore the difference in how patients perceived the level of urgency in light of the doctors' overall evaluation, we

estimated the agreement (concordance) between their assessments using a Kendall tau-b correlation coefficient. We used binary logistic regression modelling to quantify associations of explanatory variables and outcomes according to the urgency level assessments. The dependent variable assessments by both patients and doctors was dichotomized into 'immediate' (categories I and II) and 'non-urgent' (category III). The independent variable was region of origin, adjusted for gender, age, self-reported RGP status, and time of consultation. Data were analysed using IBM SPSS Statistics for Windows (version 22.0) and Stata (version 13.3). Statistical significance was set at 5 % ($p < 0.05$).

Results

Of the 3225 patients who attended the general emergency clinic during the registration period, 525 were admitted by emergency services (ambulance, police, and emergency outreach teams), and therefore not included as walk-in patients. Because of practical constraints such as crowding and time limitations at the emergency department, 472 (15 %) were lost to evaluation for inclusion by triage nurses (Fig. 1). Of the 2226 patients included, 1821 (82 %) returned a complete questionnaire that included their country background; 376 left before consultation with the doctor probably because of long waiting times (sometimes 2–6 h), or forgot to hand in the questionnaire during the consultation. Due to missed information regarding the patient's country of origin, 29 were rejected from the data-analysis. Immigrants constituted 42 % of the study sample (Table 1). Patients with an immigrant background represented 71 nationalities. Among those, 78 % preferred the Norwegian language version of the questionnaire, 11 % the English version, 5 % Polish, 4 % Somali, 1 % Urdu, 1 % Farsi (Persian), and 0.3 % Sorani (Kurdish). Fifty-eight per cent of the Norwegian patients were female and 51 % of the immigrants were female. The mean age of the patients was 29.1 years for Norwegians and 26.5 years for immigrants (Table 1). There was a significant difference in the proportion of patients who reported being registered with the RGP scheme between Norwegians (96 %) and immigrants (77 %). Approximately 50 % of the patients attended the emergency outpatient clinic during normal office hours (08:00 a.m. – 03:59 p.m.). There was no significant difference in the time of consultation between Norwegians and immigrants.

Figure 2 shows the assessments by patients and their doctors of the urgency level for their consultation. The perception of urgency levels by patients were subjective assessments experienced on admission (pre-consultation), while the assessments by doctors were objectively based on information at discharge (post-consultation). Twenty-seven per cent of patients considered that they



needed attention within an hour, while 2 % of the doctors evaluated the level of urgency similarly. Twenty-four per cent of patients considered the reason for the consultation to be non-urgent, while the doctors considered 64 % of the walk-in patients to be presenting non-urgent health-care enquiries. The concordance between the assessments by the patients and their doctors was in general positive, but low, with a Kendall tau-b coefficient = 0.202 ($p < 0.001$).

Table 2 shows the assessments by patients and doctors of the urgency level, and the concordance between their assessments. The proportion of patients perceiving the urgency level as the need to obtain assistance within ‘less than one hour’ was highest among Africans (55 %), Eastern Europeans (50 %), and those from Asia and Turkey (46 %). Among Norwegians and patients from the Nordic countries, the proportion of patients assessing a high level of urgency was lower, at 18 and 16 %, respectively. Almost 40 % of the Nordic patients evaluated their level of urgency as non-urgent. The agreement between the assessment by patients and doctors of the level of urgency for health care was in general positive, but low. The highest concordance was found for Norwegians with a Kendall tau-b coefficient = 0.296

($p < 0.001$). Sub analysis of the concordance of assessments for consultation results found a Kendall tau-b score = 0.143 ($p < 0.001$) for patients whom received their treatment on site, 0.145 ($p = 0.029$) for patients admitted to hospital/decision unit or referred to specialist, and 0.185 ($p = 0.008$) for those referred for follow-up by their RGP (see Additional file 2).

Table 3 shows the results of the binary logistic regression analysis of patients’ and doctors’ assessments of the urgency level, both unadjusted and adjusted for gender, age, self-reported RGP status, and time of consultation. Adjusted analysis showed that patients from Eastern Europe, odds ratio (OR) = 3.04 (95 % CI 1.60–5.78), Asia and Turkey OR = 4.08 (95 % CI 2.43–6.84), and Africa OR = 8.47 (95 % CI 3.87–18.5), all reported a significantly higher perception of the urgency level compared with Norwegians. The doctors reported no significant difference in their assessment of the urgency based on the region of origin of the patients, except for assessing a lower urgency level for Africans with an OR = 0.64 (95 % CI 0.43–0.96) compared to Norwegians. Both patients and doctors reported significantly higher levels of urgency for patients attending the emergency clinic during the night. Assessment by both patients and doctors

Table 1 Characteristics of the patients at the general emergency clinic (n = 1821)

	Norwegians			Immigrants ^a		
	n	%	95 % CI	n	%	95 % CI
Number of patients	1053	57.8	(55.5–60.0)	768	42.2	(39.4–43.9)
Region of origin (immigrants ^a)						
Nordic countries				131	7.2	(6.1–8.5)
Western Europe, North America, and Oceania				51	2.8	(2.1–3.7)
Eastern Europe				121	6.6	(5.6–7.9)
Asia including Turkey				259	14.2	12.7–15.9)
Africa				179	9.8	(8.5–11.3)
Latin America				27	1.5	(1.0–2.2)
Gender						
Female	609	58.3	(55.3–61.3)	386	51.2	(47.6–54.8)
Male	435	41.7	(38.7–44.7)	368	48.8	(45.3–52.4)
Mean age, years (min–max)	29.1 (0–88)			26.5 (0–82)		
Self-reported RGP status						
Registered	1008	95.7	(94.3–96.8)	578	76.6	(73.4–79.4)
Not registered	32	3.0	(2.2–4.3)	165	21.9	(19.1–24.9)
Do not know	13	1.2	(0.7–2.1)	12	1.6	(0.9–2.8)
Time of consultation						
08:00 a.m. – 03:59 p.m.	443	50.1	(46.8–53.4)	345	51.7	(47.9–55.5)
04:00 p.m. – 10:59 p.m.	346	39.1	(36.0–42.4)	272	40.8	(37.1–44.6)
11:00 p.m. – 07:59 a.m.	95	10.7	(8.9–13.0)	50	7.5	(5.7–9.8)

^aIncluding both first- and second-generation immigrants

showed that the age of the patient contributed to the assessment of a significantly higher level of urgency, while gender and RGP registration status did not significantly influence the assessments of urgency. Analysis with a proxy variable of occupational status as an indicator for socioeconomic status, made no significant changes to the associations for assessments of urgency level based on the patients’ region of origin (see Additional file 3).

The majority of the patients (69 %) received their treatment on site, while 17 % were admitted to the hospital or referred to a specialist, and 13 % were referred for follow-up by their RGP (Fig. 3). In addition, 1 % of both Norwegian and immigrant patients were referred to other institutions: nursing homes, rehabilitation units, and social care units. There was no significant difference in the number of referrals between patients

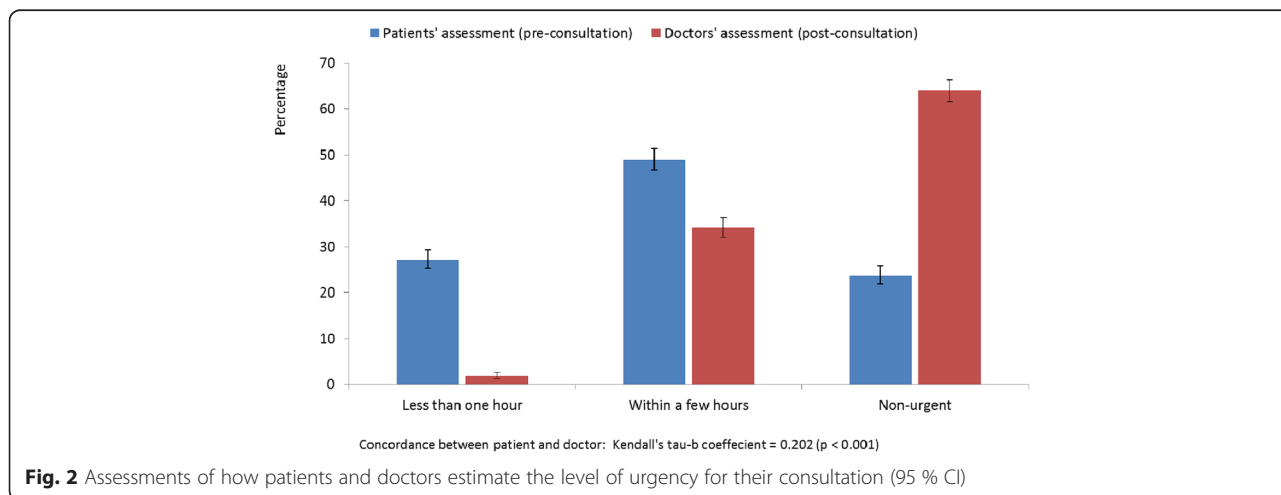


Fig. 2 Assessments of how patients and doctors estimate the level of urgency for their consultation (95 % CI)

Table 2 Patients' and doctors' assessments of urgency level for the consultation and agreement between their assessments

	Norwegians <i>n</i> = 867 %	Immigrants ^a <i>n</i> = 620 %	Nordic countries <i>n</i> = 118 %	Western Europe, North America, Oceania <i>n</i> = 38 %	Eastern Europe <i>n</i> = 101 %	Asia including Turkey <i>n</i> = 196 %	Africa <i>n</i> = 145 %	Latin America <i>n</i> = 22 %
Assessment by patients of urgency level								
Less than one hour	17.5	40.2	16.1	23.7	48.5	43.4	54.5	36.4
Within a few hours	54.0	43.2	44.1	47.4	39.6	46.9	38.6	45.5
Non-urgent	28.5	16.6	39.8	28.9	11.9	9.7	6.9	18.2
Assessment by doctors of urgency level								
Less than one hour	1.6	1.9	0.8	5.3	2.0	2.0	1.4	4.5
Within a few hours	36.8	29.7	28.0	31.6	29.7	35.7	21.4	36.4
Non-urgent	61.6	68.4	71.2	63.2	68.3	62.2	77.2	59.1
Agreement using a Kendall tau-b coefficient	0.296**	0.129**	0.222*	-0.120	0.127	0.195*	0.090	0.196

^aIncluding both first- and second-generation immigrants, ** $p < 0.05$, ** $p < 0.001$
Missing pair of observations: Total; $n = 334$ (18.3 %)

who considered that help was needed in 'less than one hour' and those that felt that it was needed 'within a few hours'. Among patients assessing their level of urgency as non-urgent, a significantly higher proportion of cases were handled on site, and fewer patients were referred to secondary care. There was no significant difference in referrals between Norwegians and immigrants as a group (Fig. 4). Distinguishing the patients according to their region of origin showed no significant differences in referrals compared with Norwegians, except for Africans where a lower proportion were admitted to secondary care: Africans 9 % (95 % CI 6–15), Norwegians 18 % (95 % CI 16–21), $p < 0.008$ (see Additional file 4).

Discussion

Findings of the study

The present study demonstrates a discrepancy between assessments of the level of urgency by walk-in patients and doctors for consultations at a general emergency outpatient clinic. Almost two-thirds of the walk-in patients seen at the emergency clinic were assessed by doctors as presenting with a non-urgent medical problem that could have waited for medical attention until next day, while only about one-quarter of the patients shared this assessment of their consultation. Immigrants from Eastern Europe, Asia and Turkey, and Africa more often assessed a significantly higher level of urgency for their consultation compared with Norwegians. In the present study, we distinguished the assessment of the level of urgency based on the region of origin of the patients, which contributes to further knowledge about emergency

health-care use and health-seeking behaviour in a diverse population of walk-in patients.

There is no agreed-upon international definition regarding non-urgent emergency health-care visits [4]. In the present study, we defined a non-urgent reason for the consultation as one that could have waited for medical attention until the next day'. Studies have shown a consistent discrepancy in perspectives on urgency between health-care professionals and their patients [20, 21]. Assessments made by health-care professionals are mainly based on urgency of the medical problems, while assessments by patients are based on perceptions of medical factors, feelings (e.g., pain, anxiety), accessibility to health-care resources, and practical concerns surrounding the medical problem. In the present study, the perceptions of the level of urgency by patients were assessments experienced on admission to the emergency clinic (pre-consultation). The assessments by doctors were based on information given in the patient history, by clinical examination, and supplementary diagnostic tests before discharge (post-consultation). This may, at least partly, explain the low concordance between the assessments of level of urgency by patients and doctors in the present study. The patients and physicians may have had a higher degree of concordance if the assessments had been done at the same point in the evaluation. This was difficult to achieve due to pre-conditioned information received by the doctor before the encounter (i.e., laboratory tests, ECG or reports given by the nurses). Our results emphasize, however, that all groups of walk-in patients, including immigrants, subgroups of immigrants and natives, overestimate their urgency level correlated to the overall evaluation of the

Table 3 Logistic regression analysis of patients' and doctors' assessment of urgency level (dependent variable: 'immediate' versus 'non-urgent')

	Assessment by patients		Assessment by doctors	
	Unadjusted OR (95 % CI)	Adjusted OR (95 % CI)	Unadjusted OR (95 % CI)	Adjusted OR (95 % CI)
Country/region of origin				
Norway	1	1	1	1
Nordic countries	0.66 (0.45–0.96)*	0.99 (0.60–1.64)	0.64 (0.42–0.97)*	0.81 (0.50–1.32)
Western Europe/North America and Oceania	1.18 (0.62–2.25)	1.16 (0.55–2.42)	0.92 (0.47–1.81)	1.06 (0.53–2.12)
Eastern Europe	3.18 (1.76–5.74)**	3.04 (1.60–5.78)**	0.76 (0.49–1.16)	0.81 (0.51–1.30)
Asia with Turkey	3.68 (2.34–5.77)**	4.08 (2.43–6.84)**	1.04 (0.77–1.41)	1.01 (0.73–1.39)
Africa	4.25 (2.42–7.47)**	8.47 (3.87–18.5)**	0.49 (0.33–0.72)**	0.64 (0.43–0.96)*
Latin America	1.70 (0.64–4.55)	1.82 (0.59–5.55)	1.21 (0.53–2.80)	1.09 (0.45–2.61)
Gender				
Female		1		1
Male		1.14 (0.87–1.49)		0.95 (0.76–1.19)
Age (years)				
0–19		1		1
20–39		0.91 (0.67–1.24)		1.28 (0.97–1.68)
40–59		2.28 (1.42–3.66)**		2.05 (1.46–2.88)**
≥60		2.73 (1.50–4.97)**		2.46 (1.61–3.76)**
Self-reported RGP status				
Registered		1		1
Not registered		0.68 (0.43–1.07)		0.86 (0.57–1.29)
Time of consultation				
08:00 a.m. – 03:59 p.m.		1		1
04:00 p.m. – 10:59 p.m.		1.03 (0.79–1.35)		1.16 (0.92–1.46)
11:00 p.m. – 07:59 a.m.		2.91 (1.61–5.27)**		2.35 (1.61–3.43)**

RGP regular general practitioner

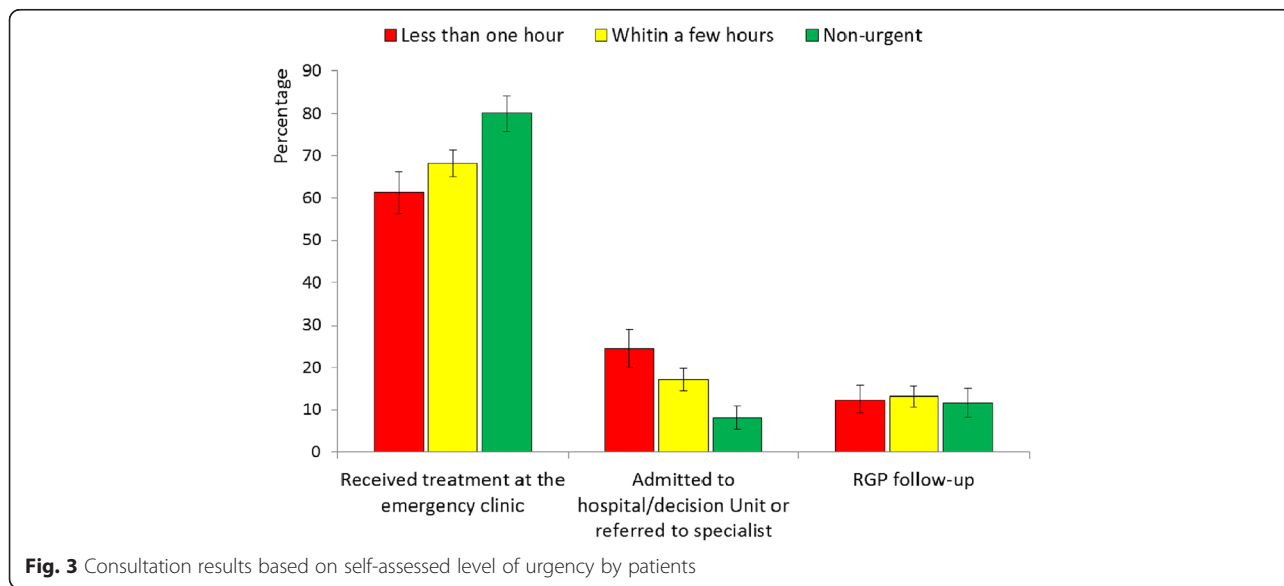
Norwegians used as the reference group. OR (odds ratio)

*Significant result at the $p < 0.05$ level, ** $p < 0.001$

doctors. A somewhat surprising finding was that a substantial proportion of patients (11 %) admitted to hospital considered their urgency level to be “non-urgent”, and that the doctors assessed 17 % of the patients admitted to have a “non-urgent” urgency level. An explanation for this finding could be that the emergency clinic in Oslo takes care of many people with low social support, i.e., drug addicted with no permanently place to stay and elderly with insufficient health care support at home. Even though the medical conditions are not urgent they are admitted to a hospital largely due to psychosocial problems.

From the perspective of the patients, they do not necessarily consider their medical problem to be urgent, but at the same time, they urgently wish to have a clarification of their medical problem. For them, in choosing between their RGP or attending an emergency health-

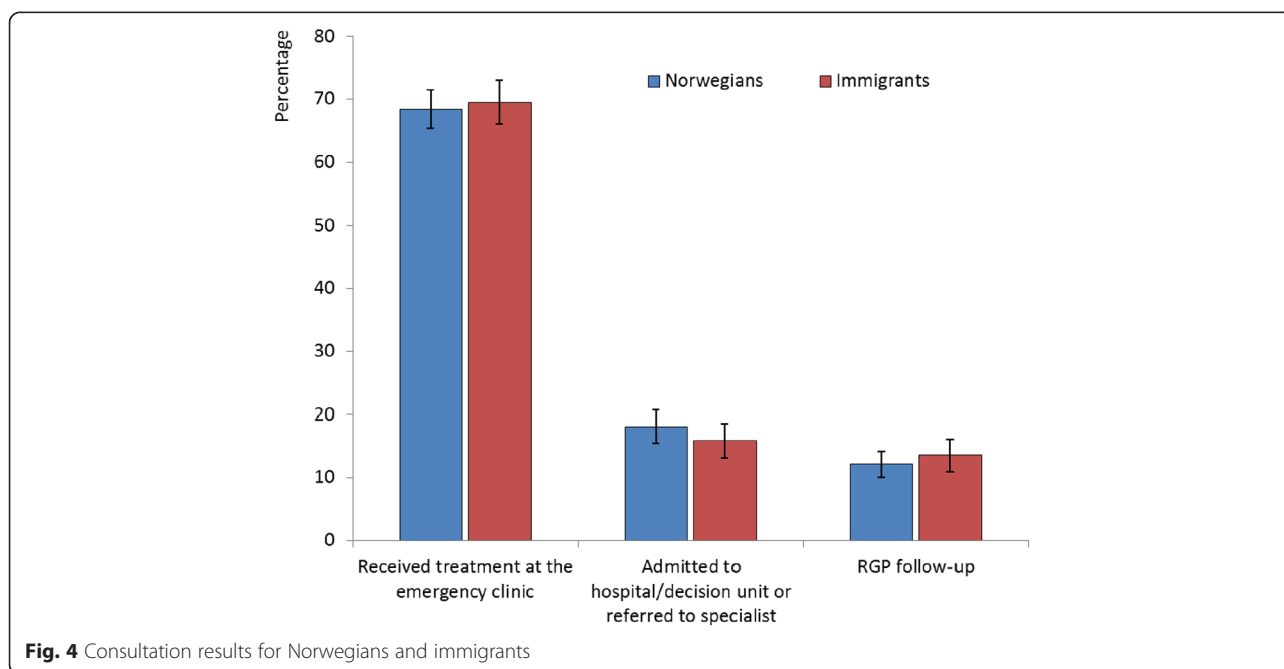
care clinic, the general emergency clinic may be the most suitable place and the most efficient provider to fulfil their medical goals. The emergency care facility can deliver a full range of medical services, regardless of the presenting complaint, and it is accessible 24 h a day and seven days a week [22]. These numerous advantages do not exist in RGP offices, where appointment availability can be sparse and opening hours restricted. One study reports that healthy young adults, who were mostly registered with a GP, used emergency services because of convenience and ease of access rather than dissatisfaction with their GP [23]. Lack of permanent registration with the RGP scheme may force patients to use emergency care services for non-urgent medical problems [8, 24]. A study conducted at the OAEOC reported that 96 % of the Norwegians taking part stated that they were registered with a permanent GP versus



77 % in the immigrant population, with lowest registration rates among labour immigrants, particularly those from Sweden and Poland [18].

Immigrants in the form of refugees and asylum seekers share a number of health risks before, during, and after they migrate [25]. They may have different disease profiles from those of the population resident in the host country. Factors contributing to the assessment of a higher level of urgency may include different cultural understandings of health, negative evaluations of their own health status and illness, harmful health effects of perceived prejudice and discrimination ('minority stress'), and poor health condition

in general [26–29]. The way immigrants navigate in a “foreign” land, with a new language, new laws and rules that are unfamiliar, as well as a new health care system, is important for acknowledging the reasons behind their assessments of urgency. Health status and socio-economic status are also important factors influencing the use of emergency services by patients with non-urgent requirements [13]. Adults and caregivers may seek emergency care more often for mild acute illnesses considered non-urgent because of poor health literacy skills [14]. For instance, a medical condition with fever and diarrhoea in an African context may indicate a potentially severe disease such as



malaria or dysentery, but in Norway, these symptoms are more commonly caused by a relatively harmless viral gastroenteritis. Low health literacy has been associated with decreased use of preventive services, higher use of acute health-care services, poor health status, and worse health outcomes, including increased hospitalization rate and mortality [15].

Findings related to previous research

An international literature review shows considerable variability in the proportion of non-urgent ER visits, ranging from 5 to 90 %, with a median of 32 % [4]. Another review reveals that the prevalence of inappropriate ER use varied from 20 to 40 % and was associated with age and income [3]. In the present study, doctors assessed 64 % of the walk-in patients to have non-urgent reasons for their consultation at an emergency outpatient clinic. Durand et al. [4] state that selection bias seems to occur in urgency studies because of the number of patients excluded. Authors have systematically excluded patients requiring immediate treatment and those with communication difficulties, resulting in a higher proportion of non-urgent ER visits than if calculated on the entire patient population visiting the ER. If we consider the patients in our study arriving by emergency services (ambulance, police, and emergency outreach teams) to have an appropriate and urgent health-care enquiry, the proportion of non-urgent enquiries is reduced to approximately 40 % for the entire patient population at the general emergency clinic. In the present study, 27 % of all patients assessed their need for help as being needed within 'less than one hour,' varying from 18 % among Norwegians, 16–24 % of Western origin (Nordic countries, Western Europe, North America, and Oceania), 49 % of Eastern Europeans, and 36–55 % of patients with non-Western origin (Asia including Turkey, and Africa and Latin America). The same trend is reported in a study from an ER in Copenhagen, where patients of Danish origin (24 %), Western origin (27%), Middle Eastern regions (63 %), and other non-Western origin (52 %) responded that they needed acute help (<1 h) [7]. An important finding of the present study is the low concordance of assessment of the level of urgency between patients and doctors. A study from a rural Australian Emergency Department found no correlation between patient perception of urgency and triage category [30]. In Saudi Arabia, approximately two-thirds (65.3 %) of Canadian Triage and Acuity Scale (CTAS) V patients and one-third (31.8 %) of CTAS IV patients believed their condition was more urgent than their triage nurse rating [31]. To our knowledge, there are no other studies analysing differences in concordance of assessments of level of urgency by walk-in patients and their doctors between various immigrant groups. However,

a study from Italy reports that the consistency of level of urgency and priority made by nurses at entry and exit triage made by physicians was similar for all citizenship groups, with a Kendall tau coefficient of between 0.78 and 0.88 [32].

Strengths and limitations

To our knowledge, no other quantitative studies have analysed the concordance between the assessment of the urgency level for consultations by walk-in patients and by doctors at an emergency clinic. However, a semi-structured interview study has highlighted discrepancies between the perceptions of ER patients and those of health-care professionals [21]. The response rate in our study (82 %) was high compared with similar studies [7, 24]. However, 472 (15 %) of the patients were lost for inclusion and registration by the triage nurses. To our knowledge, these patients were mostly emergency admissions brought in by emergency services, which were not included in any case. Because the aim of the present survey was to evaluate assessments of urgency by walk-in patients, we assumed that the included participants are representative of the entire patient population attending the general emergency outpatient clinic. The 376 persons who left before consultation may have been different from those who completed the survey. Probably these patients considered their urgency level less urgent since they decided to leave the emergency clinic before an examination by the doctor, or they might have managed to make an appointment with their RGP during the waiting time. This might introduce a bias in the distribution of urgency levels in our study in favour of more patients assessing the urgency level to be high.

Our data may seem a little outdated since the survey was conducted back in 2009. There have, however, not been any major changes in health care organization during this period. The proportion of immigrants resident in Oslo has increased from 27 to 33 % from 2009 to 2016, but we do not think this will have any major impact on the results in this study. A limitation of the study is the lack of good data for socioeconomic status such as educational level and household income. However, the model was analysed using occupational status as a proxy variable and indicator for socioeconomic status. This model made no significant changes to the associations for assessments of urgency level based on the patients' region of origin (see Additional file 3). Another limitation applies to the lack of a measure of co-morbidity. The level of co-morbidity could be relevant in interpreting the difference between the doctor's and patient's assessment of urgency in the model. We decided to include both first- and second-generation immigrants as one group in our analyses. As a result, we may have overlooked important differences between these two categories. However, because

many second-generation immigrants are minors, the questionnaire was completed by their accompanying caregiver, and thus reflects the attitudes and perceived level of urgency on the part of the caregiver [18]. It is possible that less-integrated immigrants were more unlikely to answer the questionnaire because of language barriers and illiteracy. Patients for whom a translated questionnaire was not available may have been excluded from the study. Nevertheless, patients presenting to the emergency clinic often arrive with a friend or family member to interpret for them, reflected by the high proportion of use of the Norwegian language version. A limitation of the study is that we were not able to evaluate differences in urgency assessments on country background because of the sample size. Immigrants from different countries in Africa and Asia are diverse, and cultural differences that we were unable to address will exist within these regions.

Relevance of the findings and suggestion for further research

Our findings have implications for the organization of the primary health-care system in Norway. The consequences of increased utilization of emergency services by patients with non-urgent health-care enquiries decrease access for patients with genuine emergency cases, reduce the quality of care (prolonged waiting times, delayed diagnoses and treatments, delayed care of seriously ill patients), and lead to higher expenses for the health-care system [2, 3, 5, 21]. To establish continuity in health care, it is important that patients attend their RGP for non-urgent health problems. Thus, general initiatives should be taken to improve access to primary health-care services run by RGPs and to enable appointments to be made at short notice. Further initiatives must be taken to establish supplementary primary health-care centres for immigrants whom do not qualify for registration with the RGP scheme or to develop a system where each RGP is required to see a certain number of persons who would not otherwise qualify. Improving the health literacy skills in the population in general can potentially affect health-care-seeking behaviour and reduce non-urgent reasons for visits to emergency clinics. An interesting finding of the present study is the different assessment of the level of urgency between Norwegians and subgroups of immigrants. Further research is needed to explore the possible reasons for this difference.

Conclusion

This study reveals a discrepancy between how walk-in patients and doctors define the level of urgency of their encounters at a general emergency outpatient clinic. Approximately two-thirds of walk-in consultations were considered by doctors as non-urgent. The self-assessed

perception of the level of urgency by patients was related to their region of origin.

Additional files

Additional file 1: English version of the questionnaire used in the study. The questionnaire has three parts: I. Request and information for participation in the study; II. Fifteen-item questionnaire completed by patients and III. Seven-item registration form for doctors. Part III is in Norwegian. (PDF 209 kb)

Additional file 2: Concordance for urgency assessment levels between patients and doctors stratified by consultation results. Additional table showing the concordance for urgency assessment levels between patients and doctors stratified by consultation results. A: Received final treatment at the emergency clinic, B: Admitted to hospital/decision unit or referred to specialist and C: RGP follow up.

Additional file 3: Logistic regression analysis for patients' and doctors' assessment of urgency level. Additional table presenting a logistic regression model for patients' and doctors' assessment of urgency level (dependent variable: 'immediate' versus 'non-urgent') using occupational status as a proxy for socioeconomic status. (PDF 181 kb)

Additional file 4: Consultation results for Norwegians and immigrants based on region of origin. Additional table showing the consultation results according to the patients' region of origin. (PDF 117 kb)

Abbreviations

CI, confidence interval; ER, emergency room; OAEOC, The Oslo Accident and Emergency Outpatient Clinic; OR, odds ratio; RGP, regular general practitioner

Acknowledgements

Ibrahimu Mdala, PhD, provided invaluable help with the study's statistical analyses. Particular thanks are also extended to the doctors and nurses at the general emergency clinic at Oslo Accident and Emergency Outpatient Clinic for contributing time and energy during the data collection process. We acknowledge OnLine English for language editing.

Funding

The study was funded in cooperation with the South-Eastern Norway Regional Health Authority, the Municipality of Oslo, and the Faculty of Medicine, University of Oslo. The project also received grants from the Norwegian Research Fund for General Practice. The authors alone are responsible for the content and writing of the paper.

Availability of data and materials

All the data supporting our findings is contained within the manuscript and in the additional files.

Authors' contributions

SER and PH conceived and designed the study. SER was responsible for organizing the data collection. SER, PH, and BN analysed the data and drafted the manuscript. All authors participated in the interpretation of the data, the revision of the manuscript and the approval of the final version.

Competing interests

The authors declare that they have no competing interest.

Consent for publication

Not applicable.

Ethics approval and consent to participate

The study was presented to the Norwegian Data Protection Authority, the Oslo University Hospital Information Security and Privacy Office, and the Regional Committees for Medical and Health Research Ethics in Norway and received no requirements of ethics approval given that no personal identification or diagnosis data were collected. The patients were informed verbally and in written form that participation in the study was voluntary and that their identity would remain anonymous. Returning the questionnaire was considered as consent to participate in the study.

Received: 12 September 2015 Accepted: 8 June 2016

Published online: 04 July 2016

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Reasons for attending a general emergency outpatient clinic versus a regular general practitioner – a survey among immigrant and native walk-in patients in Oslo, Norway

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To cite this article: Sven Eirik Ruud, Per Hjortdahl & Bård Natvig (2017): Reasons for attending a general emergency outpatient clinic versus a regular general practitioner – a survey among immigrant and native walk-in patients in Oslo, Norway, *Scandinavian Journal of Primary Health Care*

To link to this article: <http://dx.doi.org/10.1080/02813432.2017.1288817>



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Reasons for attending a general emergency outpatient clinic versus a regular general practitioner – a survey among immigrant and native walk-in patients in Oslo, Norway

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ABSTRACT

Objective: To explore reasons for attending a general emergency outpatient clinic versus a regular general practitioner (RGP).

Design: Cross-sectional study using a multilingual anonymous questionnaire.

Setting: Native and immigrant walk-in patients attending a general emergency outpatient clinic in Oslo (Monday–Friday, 08:00–23:00) during 2 weeks in September 2009.

Subjects: We included 1022 walk-in patients: 565 native Norwegians (55%) and 457 immigrants (45%).

Main outcome measures: Patients' reasons for attending an emergency outpatient clinic versus their RGP.

Results: Among patients reporting an RGP affiliation, 49% tried to contact their RGP before this emergency encounter: 44% of native Norwegian and 58% of immigrant respondents. Immigrants from Africa [odds ratio (OR) = 2.55 (95% confidence interval [CI]: 1.46–4.46)] and Asia [OR = 2.32 (95% CI: 1.42–3.78)] were more likely to contact their RGP before attending the general emergency outpatient clinic compared with native Norwegians. The most frequent reason for attending the emergency clinic was difficulty making an immediate appointment with their RGP. A frequent reason for not contacting an RGP was lack of access: 21% of the native Norwegians versus 4% of the immigrants claimed their RGP was in another district/municipality, and 31% of the immigrants reported a lack of affiliation with the RGP scheme.

Conclusions and implications: Access to primary care provided by an RGP affects patients' use of emergency health care services. To facilitate continuity of health care, policymakers should emphasize initiatives to improve access to primary health care services.

KEY POINTS

- Access to immediate primary health care provided by a regular general practitioner (RGP) can reduce patients' use of emergency health care services.
- The main reason for attending a general emergency outpatient clinic was difficulty obtaining an immediate appointment with an RGP.
- A frequent reason for native Norwegians attending a general emergency outpatient clinic during the daytime is having an RGP outside Oslo.
- Lack of affiliation with the RGP scheme is a frequent reason for attending a general emergency outpatient clinic among immigrants.

ARTICLE HISTORY

Received 28 June 2016

Accepted 7 November 2016

KEYWORDS


Primary health care; general practitioner; patient acceptance of health care; emigrants and immigrants; emergency medical services; continuity of patient care; general practice; Norway

Introduction

Continuity of health care provided by a regular general practitioner (RGP) or a specialist physician may be associated with prevention of illness and death, and reduced emergency department attendance and emer-

gency hospital admission [1,2]. Norway introduced the RGP scheme (registered list-patient system) in 2001 in an effort to provide comprehensive stability and efficiency in the general practitioner–patient relationship. The present study explored the reasons for attending

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 Supplemental data for this article can be accessed [here](#).

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a general emergency outpatient clinic versus a RGP for an emergency health problem in Oslo among native Norwegian and immigrant walk-in patients.

The use of emergency health care services has been increasing in several high-income countries [3,4]. The number of patients attending emergency services for non-urgent medical needs is an important contributor to this increase [5,6]. International studies have suggested that immigrants use emergency services more for non-urgent health care problems compared with native populations [7–10]. Studies of emergency service use worldwide have shown variable results in terms of immigrants' use of somatic emergency health care services [11,12]. A registry-based study of immigrants' use of emergency primary health care in Norway (2008) concluded that immigrants generally use emergency services less than native Norwegians, although there was substantial variability between immigrant groups [13]. Further studies based on the same registry data reported that, in people with an established relationship with an RGP, a significantly lower proportion of immigrants use their RGP but are more likely to be frequent users of RGP services compared with native Norwegians [14,15]. We have previously shown that immigrants and Norwegian-born citizens with immigrant parents were over-represented in a population of emergency walk-in patients at the general emergency outpatient clinic in Oslo [16]. The immigrants also reported a lower affiliation with the RGP scheme.

RGPs in most rural parts of Norway handle the primary emergency care needs of patients during regular hours (Monday–Friday, 08:00–16:00) and participate in out-of-hours emergency primary health care services. Citizens who are registered in the National Population Register or asylum seekers and their families are entitled to register with the RGP scheme [17]. However, undocumented immigrants, rejected asylum seekers and short-term labour immigrants fall outside the RGP system, although they have the legal right to receive emergency health care. In Oslo, the general emergency outpatient clinic is part of the larger Oslo Accident and Emergency Outpatient Clinic (OAEOC) and is easily accessed 24 h a day, 7 days a week. The OAEOC is divided into a general emergency outpatient clinic (Department of General Practice) and a trauma clinic (Section of Orthopaedic Emergency), and acts as a gatekeeper to secondary care through a process of referral. Persons with an immediate health care need can show up at the general emergency outpatient clinic without any referral or scheduled appointment, register their problem and wait their turn pursuant to a triage code (defined as walk-in patients). By contrast, at most RGP

offices, patients must make a scheduled appointment, preferably on the same or next day. Patients or their families may find it more convenient to use the emergency care facility of the clinic equipped with a full range of medical services and diagnostic tools (i.e. ultrasound machines, x-ray for chest- and abdominal diagnostics and extended laboratory tests) instead of making an appointment with their RGP.

Previous research has shown that health literacy skills, poor knowledge about the health care system and inability to make appointments by telephone because of language barriers can constitute obstacles for immigrants to access an RGP [7,18]. In addition, people who live a short distance from an emergency clinic and those with low socio-economic status tend to use emergency health care services more often [19–22]. A study conducted in Bergen, Norway, found that three of four patients had not tried to contact their RGP before attending an emergency primary health care clinic. However, half of them were willing to wait until the next day to see their RGP [23]. This raises an important issue about the best method for organizing immediate health care in the primary health care setting.

Previous studies in Norway that have evaluated patients' reasons for attending an emergency clinic have not considered the diversity of the population. The present study evaluated differences between immigrants and native walk-in patients in the reasons for attending a general emergency outpatient clinic versus a RGP. The objectives of the study were to evaluate whether walk-in patients had attempted to contact their RGP before attending the general emergency outpatient clinic during regular hours (Monday–Friday, 08:00–23:00); to explore their reasons for attending the general emergency outpatient clinic after having first contacted their RGP; and to explore the reasons why some patients did not contact their RGP before the emergency clinic visit.

Materials and methods

Setting and study design

The study was based on data from a survey distributed to walk-in patients at a general emergency outpatient clinic located in Oslo between the 2nd and 16th of September 2009. The clinic is the only government-run emergency outpatient clinic open 24 h a day, 7 days a week and is located in the centre of the city. It handles 80,000–90,000 emergency contacts per year. The general emergency outpatient clinic is staffed by general practitioners and is operated by the Municipality of Oslo. Immigrants and Norwegian-born

citizens with immigrant parents comprised 42% of the emergency walk-in contacts based on a 24-h approach including both weekdays and weekends [16]. In this sub study, we focused on patients attending the general emergency outpatient clinic during Monday–Friday, 08:00–23:00. Because of periodic long waiting times (sometimes 2–6 h) for walk-in patients at the emergency clinic, a reasonable number of patients during the evening (16:00–23:00) would have tried, or would have had the option, to contact their RGP during office hours before visiting the general emergency outpatient clinic.

The general emergency outpatient clinic handles patients in need of emergency health care without the need for a referral. Patients arrive either alone or with their relatives, register their problem and wait their turn pursuant to a triage code (walk-in patients), or are brought in by emergency services (ambulance, police or emergency outreach teams). Walk-in patients are seen by a specialist nurse for registration and triage before waiting to be seen by a doctor. Patients brought in by emergency services enter the general emergency outpatient clinic via a separate entrance, and they are treated according to the level of urgency of their condition.

All walk-in patients were invited to participate in the study after the triage procedure. The triage nurse recruited and registered the patients for participation in the study. They were then asked to answer a 15-item questionnaire while in the waiting room (see Supplementary File 1). To accommodate the multiple nationalities of the patients, the questionnaire and attached information sheets were available in seven languages: Norwegian, English, Polish, Somali, Sorani (Kurdish), Farsi (Persian) and Urdu. The Municipal Interpreting and Translation Service of Oslo advised which language to select and prepared the translations of the original questionnaire. An independent translator examined and proofread each language edition, and then compared it with the original text in Norwegian. Inconsistencies were resolved through discussions with the translators. The questionnaire included items related to the patients' country of birth, age, sex, countries of their parents' birth, self-assessed urgency level, self-reported number of RGP visits during the preceding 12 months and whether they had tried to contact their RGP before attending the general emergency outpatient clinic. Some of the questions were written specifically for this survey, and the rest were based on a study by the National Centre of Emergency Primary Health Care and the Norwegian Knowledge Centre for the Health Services [24]. Children younger than 16 years and elderly patients were assisted by family members

or on-site health care personnel when answering the questions. Language barriers and illiteracy were overcome pragmatically by using family members or available health personnel as interpreters. The questionnaire took about 2 min to complete and was administered during the waiting time. The date and time of the consultation were registered. If they agreed to participate, the patients or their family members returned the completed part of the questionnaire to the doctor at the end of consultation.

Inclusion and definition of study sample

We wanted to explore walk-in patients' reasons for attending the general emergency outpatient clinic when seeing their RGP could have been a relevant option. Thus, walk-in patients of all ages except those attending scheduled return visits during Monday–Friday, 08:00–23:00, were included. Patients brought in by emergency services, who arrived with a severe urgency level, or who were severe intoxicated or having a severe acute psychiatric episode were considered ineligible for inclusion because of their reduced ability to co-operate. Patients with minor injuries and trauma were not included in the present study. According to standard procedures, these patients are expected to by-pass their RGP, regardless of the time of day, and proceed directly to the trauma clinic for further examination. We categorized the included patients according to their immigration status and country of birth using the criteria and the definitions given by Statistics Norway in 2009 [25]. Patients were defined as being of non-Norwegian origin if they and both of their parents were born abroad (first-generation immigrants) or if they were born in Norway but both parents were born abroad (second-generation immigrants). Other constellations were classified as Norwegians. Patients were divided into groups of region of origin based on their birth country or their mother's country of birth if the patient was born in Norway.

Consent

The participants, caregiver or family members for patients aged 15 years or younger were given oral and written information about the study. Consent information was available in seven languages. The patients were informed that their participation was voluntary, that they would remain anonymous and that no personal identification data would be recorded. Returning the completed questionnaire at the end of consultation was considered as consent for study participation.

Analyses

The questionnaires were coded and entered into a database using EpiData Software (version 2.2; EpiData Association, Odense, Denmark) and analyzed using STATA (Version 14.1; StataCorp LLC, TX). Categorical characteristics including statements of the reasons for attending an emergency clinic were analyzed using Pearson's χ^2 2×2 crosstab analyses or Fisher's exact test if the expected values within cells were <5 . We used one-way ANOVA to compare mean age. Binary logistic regression analysis adjusted for sex, age, work status, self-assessed urgency level and number of RGP visits during the preceding 12 months was used to identify associations between immigrant background and attempt to contact a RGP for consultation before the emergency encounter. Significance was set at 5% ($p < .05$).

Results

Patients eligible for inclusion were identified, as shown in Figure 1. Of the 2226 walk-in patients included, 1821 (82%) returned the questionnaire with complete information about their country of origin. Because of practical constraints such as crowding and time limits in the emergency clinic, 472 patients were lost to evaluation at the time of triage and thus not considered for inclusion. Among those evaluated, 527 patients were not included because they had arrived by emergency transport, were unable or unwilling to co-operate or refused to participate. Consultations that occurred during Monday–Friday, 08:00–23:00, included 1022 walk-in patients, 55% of whom were native Norwegians and 45% were immigrants (Table 1). The immigrant patients represented 71 different nationalities according to their listed country of origin. Among the non-Norwegian responders, 78% preferred the Norwegian language version of the questionnaire, 11% the English version, 5% Polish, 4% Somali, 1% Urdu, 1% Farsi (Persian) and 0.3% Sorani (Kurdish). Fifty-eight per cent of the native Norwegian patients and 52% of the immigrants were females (Table 1). The patients' mean ages were 28.1 years for native Norwegians and 26.0 years for immigrants. Immigrants were significantly more likely to receive some form of social welfare benefits (14%) compared with Norwegians (9%) ($p = .02$). They also more often assessed a significantly higher level of urgency for their consultation compared with Norwegians ($p < .001$). A higher percentage of native Norwegians (95%) than immigrants (69%) reported an affiliation with the RGP scheme ($p < .001$) and more immigrants (45%) reported ≥ 3 visits at their

RGP during the preceding 12 months compared to 37% of the Norwegians ($p = .02$).

Among all walk-in patients attending the general emergency outpatient clinic during (Monday–Friday, 08:00–23:00), 49% had tried to contact their RGP before this emergency encounter; this comprised 58% of the immigrants and 44% of the native Norwegians (Table 2). Stratified by age groups there was significantly less Norwegians (37%), age 16–30 years, compared to immigrants (63%) who had tried to contact their RGP ($p < .001$) (Figure 2). The logistic regression analysis for this set of data came out with lowest Akaike information criterion (AIC) values when not introducing interactions in the model. After adjusting for sex, age (continuous), work status, self-assessed urgency level and self-reported number of RGP visits during the preceding 12 months, immigrants were more likely than native Norwegians to have contacted their RGP before attending the general emergency outpatient clinic: odds ratio (OR) = 2.04 (95% confidence interval [CI]: 1.47–2.85) (Table 2). Analysis of the data according to region of origin showed that this was especially true for patients from Africa [OR = 2.55 (95% CI: 1.46–4.46)] and Asia including Turkey [OR = 2.32 (95% CI: 1.42–3.78)]. The same association was found for patients from the Nordic countries [OR = 2.05 (95% CI: 0.96–4.36)], ($p = .06$). Adjusted analysis showed that the risk of contacting an RGP prior to the emergency outpatient clinic visit increased by number of RGP visits during the preceding 12 months; ≥ 3 visits [OR = 1.91 (95% CI: 1.27–2.87)] (data shown in Supplementary File 2).

For both Norwegians (27%) and immigrants (37%), the most frequent reason for self-referral to the emergency clinic despite contacting an RGP was difficulty in obtaining an appointment quickly enough ($p = .03$) (Table 3). In addition, 23% of the Norwegians and 22% of the immigrants said they had been told by the staff at the RGP office when calling for an appointment to try the emergency clinic instead of the RGP.

A frequent reason for not contacting an RGP before the emergency clinic was difficult access to their RGP; 21% of the native Norwegians and 4% of the immigrants stated they had an RGP in another district/municipality ($p < .001$), and 33% of the immigrants reported lack of affiliation with the RGP scheme (Table 4). Both immigrant (12%) and Norwegians (15%) felt it was timelier to seek help from the general emergency outpatient clinic. A higher percentage of immigrants from Asia including Turkey (41%) and Africa (41%) experienced difficulties obtaining an immediate appointment with their RGP compared with Norwegians (27%) (data not shown). Another major

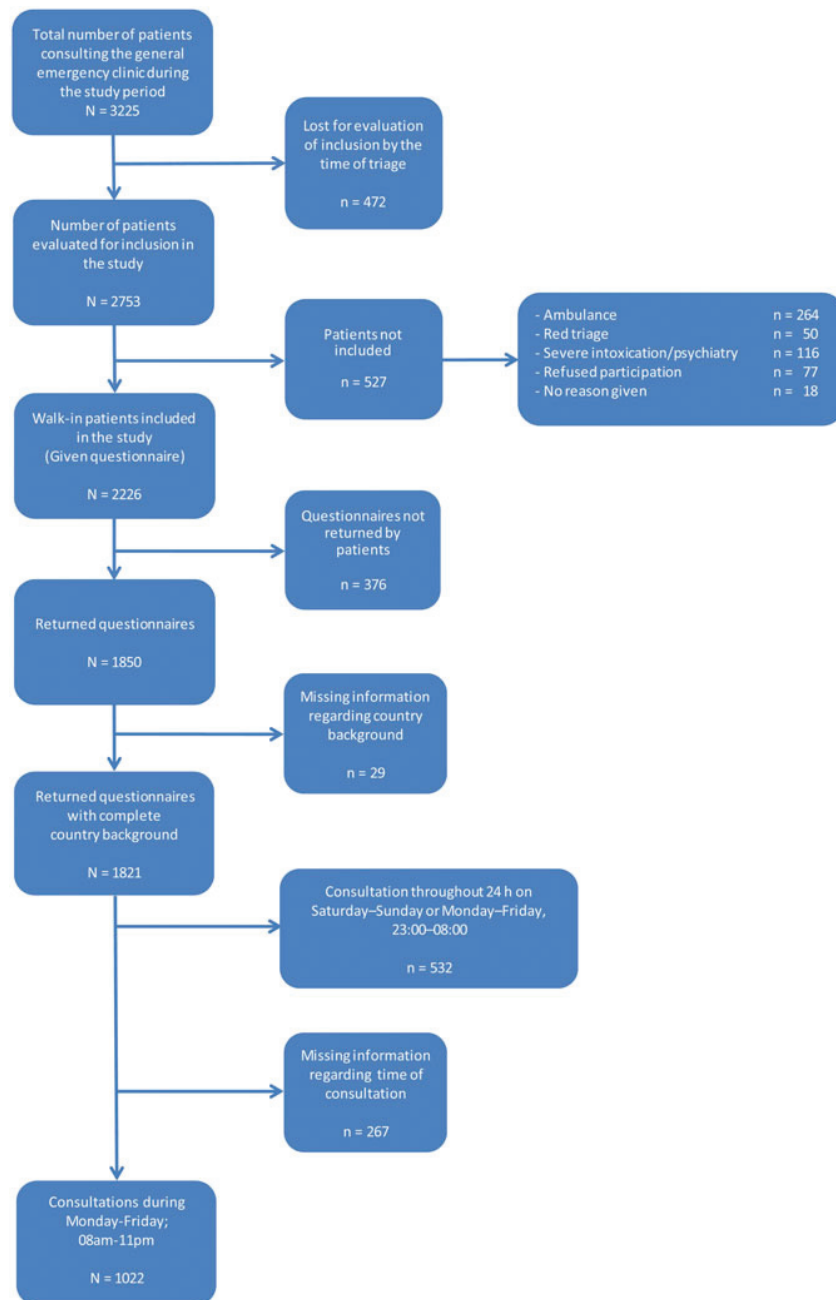


Figure 1. Flow chart of study participant inclusion.

reason for going directly to the emergency clinic was not being registered with an RGP; 60% of the Nordic patients (Sweden, Denmark, Finland and Iceland) reported this to be the main reason (data not shown).

Discussion

Principal findings

Our data show that nearly half of the walk-in patients at the general emergency outpatient clinic

seen during Monday–Friday, 08:00–23:00, had tried to contact their RGP before attending the emergency clinic. Immigrants were more likely than native Norwegians to have tried to contact their RGP before the emergency clinic visit. The reasons for attending the general emergency outpatient clinic versus an RGP can be divided into different perspectives: personal preferences and system barriers. The personal preferences for both native Norwegians and immigrants were difficulty obtaining an emergency appointment at their regular RGP, implicit accepting

Table 1. Characteristics of the patient population attending the general emergency outpatient clinic during Monday–Friday; 08:00–23:00 (N = 1022).

	Norwegians		Immigrants ^a		Total		p Value
	n	(%)	n	(%)	n	(%)	
Number of patients	565	(55.3)	457	(44.7)	1022	(100)	
Region of origin (immigrants ^a)							
Nordic countries			102	(10.0)			
West Europe, North America, Oceania			27	(2.6)			
East Europe			73	(7.1)			
Asia including Turkey			138	(13.5)			
Africa			108	(10.6)			
Latin America			9	(0.9)			
Sex							
Female	325	(57.5)	236	(51.6)	561	(54.9)	.06
Male	236	(41.8)	216	(47.3)	452	(44.2)	.08
Unknown	4	(0.7)	5	(1.1)	9	(0.9)	.52
Mean age, years (min–max)	28.1	(0–87)	26.0	(0–79)	27.2	(0–87)	.06
Work status							
Employed	350	(62.0)	267	(58.4)	617	(60.4)	.25
Social welfare programmes	51	(9.0)	62	(13.6)	113	(11.1)	.02
Other ^b	155	(27.4)	98	(21.4)	253	(24.8)	.03
Unknown	9	(1.6)	30	(6.6)	39	(3.8)	<.001
Self-assessed urgency level							
Less than 1 h	87	(15.4)	162	(35.4)	249	(24.4)	<.001
Within a few hours	291	(51.5)	181	(39.6)	472	(46.2)	<.001
Non-urgent	178	(31.5)	83	(18.2)	261	(25.5)	<.001
Unknown	9	(1.6)	31	(6.8)	40	(3.9)	.001
RGP status							
Patients reporting an RGP affiliation	536	(94.9)	312	(68.3)	848	(83.0)	<.001
Patients reporting no RGP affiliation	29	(5.1)	138	(30.2)	167	(16.3)	<.001
Unknown	0		7	(1.5)	7	(0.7)	<.001
RGP visits during the preceding 12 months ^c							
No visits	114	(21.3)	58	(12.6)	172	(16.7)	.35
1–2 visits	219	(40.9)	103	(22.8)	322	(31.4)	.02
≥3 visits	199	(37.1)	141	(31.1)	340	(33.2)	.02
Unknown	4	(0.7)	10	(2.2)	14	(1.4)	.01

^aIncluding both first- and second-generation immigrants.

^bOther: pensioner, student, homemaker.

^cSelf-reported use only for those reporting an RGP affiliation.

Pearson's χ^2 or Fisher's exact 2×2 test for categorical variables and one-way ANOVA test for mean age.

Nordic countries = all Nordic countries except from Norway.

Table 2. Walk-in patients reporting an RGP affiliation who had attempted to contact their RGP before attending the general emergency outpatient clinic during Monday–Friday; 08:00 am–23:00 pm, analyzed with proportions and logistic regression analysis.

	n	Contacted RGP (%)	Crude OR (95% CI)	Adjusted OR (95% CI)
Model for immigrants ^a				
Norwegians (ref.)	534	237 (44.4)	1	1
Immigrants	304	177 (58.2)	1.75 (1.31–2.32)**	2.04 (1.47–2.85)**
Total number of participants ^b	838	414 (49.4)		
Model for region of origin ^a				
Norwegians (ref.)	534	237 (44.4)	1	1
Nordic countries	31	19 (61.3)	1.98 (0.94–4.17)	2.05 (0.96–4.36)
West Europe, North America, Oceania	19	8 (42.1)	0.91 (0.36–2.30)	1.04 (0.40–2.74)
East Europe	51	23 (45.1)	1.03 (0.58–1.83)	1.29 (0.66–2.50)
Asia including Turkey	111	68 (58.6)	1.98 (1.30–3.01)*	2.32 (1.42–3.78)**
Africa	84	53 (60.9)	2.14 (1.33–3.45)*	2.55 (1.46–4.46)**
Total number of participants ^{b,c}	830	408 (49.2)		

^aIncluding both first- and second-generation immigrants.

^bMissing statement of attempt to contact RGP or not; Norwegians (n = 2) and immigrants (n = 8).

^cLatin America excluded in the presentation because of low number of participants (n = 6).

Logistic regression model; adjusted for sex, age (continuous), work status, self-assessed urgency level and self-reported RGP visits during the preceding 12 months.

*Significant result at the $p < .05$ level.

** $p < .001$.

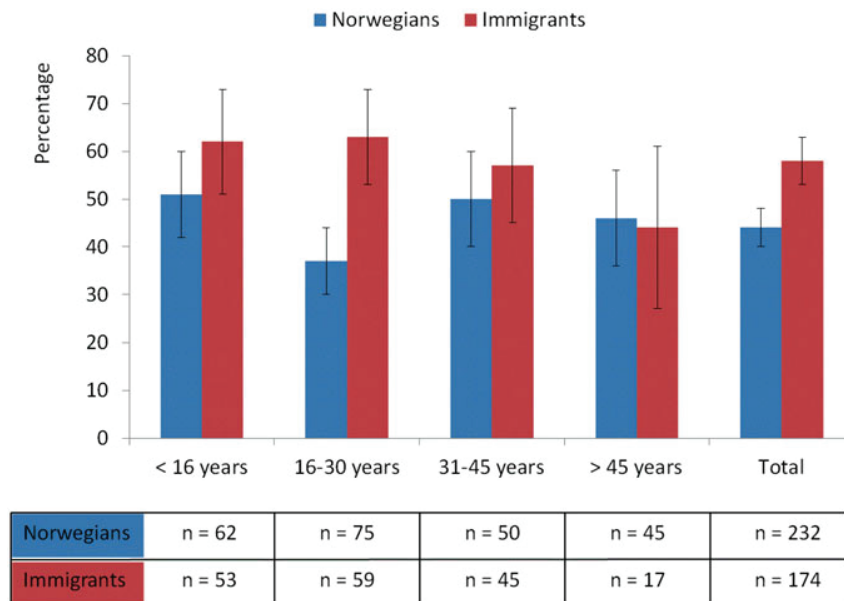


Figure 2. Proportions (95% CI) of walk-in patients reporting an RGP affiliation who had attempted to contact their RGP prior to attending the general emergency outpatient clinic stratified by age groups.

Table 3. Differences in reasons for attending the general emergency outpatient clinic between Norwegians and immigrants despite attempt to contact their RGP. Analyzed with Pearson's χ^2 or Fisher's exact 2×2 crosstabs for patients reporting an RGP affiliation.

Reasons for attending the emergency outpatient clinic	Norwegians n (%)	Immigrants ^a n (%)	p Value
The RGP office was closed	60 (25.3)	41 (23.2)	.61
I/we could not get through on the phone	30 (12.7)	26 (14.7)	.55
I/we could not book an appointment soon enough	62 (26.2)	64 (36.2)	.03
The RGP office asked me/us to use the emergency service	54 (22.8)	38 (21.5)	.75
Other	27 (11.4)	6 (3.4)	<.01
Unknown	4 (1.7)	2 (1.1)	1.00
Total	237 (100)	177 (100)	

^aIncluding both first- and second-generation immigrants.

Table 4. Differences in reasons for attending the general emergency outpatient clinic between Norwegians and immigrants not attempting to contact their RGP. Analyzed independently of self-reported RGP affiliation and with 1–3 possible reasons per patient using Pearson's χ^2 or Fisher's exact 2×2 crosstabs.

Reasons for attending the emergency outpatient clinic	Norwegians n (%)	Immigrants ^a n (%)	p Value
I/the patient have/has a RGP in another district/municipality	96 (21.0)	15 (3.6)	<.001
I/the patient became ill outside normal working hours	64 (14.0)	31 (7.3)	<.01
It is difficult getting to the RGP in the daytime	21 (4.6)	25 (5.9)	.39
Bad experience from previous attempts at contacting the RGP	22 (4.8)	14 (3.3)	.26
It is quicker to get help from the emergency service	66 (14.4)	49 (11.6)	.21
I/we do not feel the RGP provides the help we need now/acute trauma	46 (10.1)	35 (8.3)	.36
I want to decide myself when to go to the doctor	3 (0.7)	15 (3.6)	<.01
I called the emergency service switchboard, they told my to come here	36 (7.9)	21 (5.0)	.08
I/the patient do/does not have a RGP	23 (5.0)	132 (31.3)	<.001
Other	78 (17.1)	67 (15.9)	.64
Unknown	2 (0.4)	18 (4.2)	<.001
Total	457 (100)	422 (100)	

^aIncluding both first- and second-generation immigrants.

the waiting time. They also preferred the fast access to immediate health care at the general emergency outpatient clinic. System barriers were lack of access to an RGP because of having an RGP in another

district (native Norwegians), or not being registered with an RGP (immigrants) in addition to being told by the RGP office to contact the general emergency outpatient clinic.

Strengths and limitations

Several studies have explored reasons for using an emergency clinic versus a general practitioner [5,23,26–29]. The present study adds new information about the role of immigrant background and the use of the emergency health care services versus the regular primary health care services. The response rate (82%) of the questionnaire distributed in our study was relatively high. However, 472 (15%) of the participants were lost to inclusion or registration at the time of triage due to periodic extreme hectic times at the general emergency outpatient clinic. These patients were mainly emergency admissions brought in by emergency services, which should not be included in any case. Because the aim of our study was to explore walk-in patients' reasons for attending an emergency outpatient clinic, we assume that the included participants constitute a relatively representative sample of the population at OAEOC. However, the study population is clearly not representative for emergency primary health care elsewhere in Norway where the immigrants represent a less diverse quantity of the population. Our data was conducted back in 2009 and may seem a little outdated. There have, however, not been any major changes in health care organization during this period. The proportion of immigrants resident in Oslo has increased from 27 to 33% from 2009 to 2016, but we do not think this will have any major impact on the overall findings.

One limitation of the study is that 267 of the questionnaires were missing the time of consultation; these comprised 15% of the original responders, 15.8% of the Norwegians and 13.2% of the immigrants, respectively. They were not included in the analysis. We included patients who attended the general emergency outpatient clinic during Monday–Friday, 08:00–23:00, and excluded those who attended on weekends and nights. An advantage of our choice of time for attendance at the emergency clinic is that we were able to include only walk-in patients who more or less had the option of contacting an RGP for an immediate appointment during business hours.

Lack of good data for socioeconomic status such as education and household income is another limitation of the study. For this reason, we have applied a model using work status as a proxy variable and indicator for socioeconomic status. Another limitation is that we have no information available on length of stay in Norway or reason for migration among the participants which may be important when it comes to entitlements and use of health care services. Differences in help-seeking behaviour and information bias may have

occurred. Previous research has shown that health literacy skills, poor knowledge about the health care system and inability to make appointments by telephone because of language barriers can constitute obstacles for immigrants to access an RGP [7,18]. It is possible that less-integrated immigrants were more reluctant to answer the questionnaire because of the language barrier or illiteracy. Patients for whom a translated questionnaire was not available may have been reluctant to participate in the study. However, patients presenting to the emergency clinic often come with a friend or family member as an interpreter. This may partly be reflected in the high proportion of the Norwegian version of the questionnaire that was administered.

We decided to include both first- and second-generation immigrants as one group in our analysis. As a result, we may have overlooked important differences between these two categories. However, because many second-generation immigrants were minors, the questionnaire was completed by their accompanying caregiver and thus reflected the caregiver's reason for attendance [16].

Comparison with other studies

In our study, 49% of all walk-in patients had tried to contact an RGP before self-referral to the emergency clinic during Monday–Friday, 08:00–23:00. This is a higher rate than those in other reports from Norway (26%), Denmark (33%), the UK (21–32%) and France (32%) [7,23,27,30,31]. These different rates may reflect differences in the inclusion time frame of the different studies and that some of the studies were conducted a long time ago. On the other hand, secondary analysis of all walk-in patients who attended the emergency clinic throughout the entire day (24 h) throughout the week showed that 38% had attempted to contact their RGP before attending the general emergency outpatient clinic. In the Danish study, more respondents from all groups of foreign origin (Western, Middle Eastern and other non-Western countries) had considered contacting a primary caregiver before attending the emergency clinic compared with patients of Danish origin [7]. This is similar to our results except that our study included fewer immigrants of Western origin who had contacted an RGP. By contrast, in an Australian study, compared with Australian-born people, immigrants from a non-English-speaking background were less likely, and immigrants from an English-speaking background were more likely, to contact a general practitioner [29]. This study also found that immigrants were far more

likely than natives to report that they had attended the emergency clinic because of a lack of GP registration. A study from London reported that labour immigrants were less likely to have GP registration and to have made prior contact with GPs before attending the accident and emergency/walk-in centre [30]. Overall, our findings are consistent with these earlier studies and with our previous study in which we reported lower registration rates with the RGP scheme among immigrants, particular labour immigrants, compared with native Norwegians [16].

Our findings reflect those of other international studies in terms of the most frequent reasons for attending emergency services: not having a regular health care provider, difficulty accessing primary health care because of restricted opening hours, long waiting periods and convenience of access to medical care 24 h, 7 days a week [5,23,26–29]. Similar findings were reported in two studies conducted in Arendal (2007) and Bergen (2003) in Norway [23,32]. In our study, a higher percentage of immigrants than native Norwegians reported difficulty making an immediate appointment with their RGP. This is consistent with previous results indicating that immigrants often perceive a significantly higher level of urgency for their consultation compared with native Norwegians [33]. Factors contributing to the assessment of a higher level of urgency may include different cultural understandings of health, negative evaluations of their own health status and illness, harmful health effects of perceived prejudice and discrimination (“minority stress”) and poor health condition in general [34–37].

Conclusions and implications

This study of patients who visited a general emergency outpatient clinic in Oslo found that nearly half of the walk-in patients had tried to contact their RGP to make an immediate appointment before visiting the clinic. Both immigrants and natives experienced a personal preference of difficulty obtaining an immediate appointment, implicit accepting the waiting time with their RGP. System barriers manifested as lack of access to an RGP because of having an RGP in another district (native Norwegians) or not being registered with an RGP (immigrants) were frequent reasons for using the general emergency outpatient clinic. To facilitate continuity of health care provided by RGPs and to reduce dependence on visits to the general emergency outpatient clinic in Oslo, arrangements should be made to improve daytime access to primary health care services. Policymakers should work for entitlement to the same diverse-sensitive health care

service for immigrants as the rest of the population to secure equity in health care access [38,39]. Establishment of supplementary primary health care centres for immigrants who do not qualify for registration with the RGP scheme or the development of a system that can provide continuity of care for persons who would not otherwise qualify should temporarily be considered.

Acknowledgements

Particular thanks are extended to the nurses and doctors at the general emergency outpatient clinic at Oslo Accident and Emergency Outpatient Clinic. We acknowledge OnLine English for language editing.

Ethical approval

The study was presented to the Norwegian Data Protection Authority, the Oslo University Hospital Information Security and Privacy Office and the Regional Committees for Medical and Health Research Ethics in Norway and received no requirements of ethics approval given that no personal identification or diagnosis data were collected. The patients were informed verbally and in written form that participation in the study was voluntary and that their identity would remain anonymous. Returning the questionnaire was considered as consent to participate in the study.



Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

Funding

The study was supported by the Norwegian Research Fund for General Practice, South-Eastern Norway Regional Health Authority, the Municipality of Oslo and the Faculty of Medicine, University of Oslo, Norway.

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