

SHORT THESIS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY (PHD)

**EVALUATION OF THE HUNGARIAN PRIMARY
CARE SYSTEM**

*Findings of the Hungarian-arm of European QUALICOPC Study and analysis of the
structure*

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Supervisor: Imre Rurik, MD, PhD, DSc



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The Examination takes place at the Meeting Room of Department of Public Health and Epidemiology, Faculty of Medicine, University of Debrecen

Debrecen, 14/06/2023 11:00 a.m.

Head of the **Defense Committee**: Margit Balázs, PhD, DSc

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The PhD Defense takes place at the Lecture Hall of Bldg. A, Department of Internal Medicine, Faculty of Medicine, University of Debrecen

Debrecen, 14/06/2023 13:00 p.m.

1. INTRODUCTION

In the historic age there were people who had much wider knowledge about different symptoms, illnesses and had experience in treatments using herbs. Everybody knows the name of Hippocrates although he taught his followers the empirical way that he experienced. The first medical education in Europe started possibly in Bologna (Italy) in the 12th Century. Later on, a systematic education was introduced in almost every country in the continent. The specialisation within medicine started at the end of the 19th Century; firstly the “manual” specialties became the pioneers, later these were followed by the diagnostics (X-ray, laboratory). Doctors in the early 20th Century were mainly generalist and many of them worked in communities, in cities or in rural settings. In the last decades of this century more and more doctors specialised and educated in their respective fields and therefore specific education for generalists became urgent.

1.1. Definition of primary care - international context

The recognition of family medicine as an independent specialty started in the seventies and it was followed by establishing the education of family medicine and residency programs.

The *Declaration of Alma Ata* was a milestone in the recognition of primary care, where experts from many countries of the World declared the importance of primary healthcare in population health and described their expectations toward the improvement of this system worldwide. There were wide gaps between countries how these expectations were fulfilled in the recent decades.

Primary care's (PC) traditional tasks and relationships are longitudinal and comprehensive care for the individual, using the resources in the family network and its context, mobilising sources of community support, advocacy both for and against governance as the personal and particular circumstances require. Many studies proved that in countries where primary care system is stronger, the healthcare system performs better. There is a big variation in the organisation of primary healthcare in Europe and analyses of the relationship between primary care service provision and outcomes are crucial.

1.2. The European Definition

The European definition describes eleven essential characteristics of the discipline and translates them into six core competencies.

- ”1. *Primary care management* (first contact, open and unlimited access, care for all health problems; efficient use of resources through co-ordinating care, working with other professionals in the primary care setting, managing the interface between generalist and specialist care, and taking an advocacy role for the patient when needed, i.e. protecting patients from harm which may ensue through unnecessary screening, testing and treatment)
2. *Person-centred care* (orientated to the individual, his/her family, establishing a relationship over time, effective communication, longitudinal continuity of care)
3. *Specific problem-solving competency* (specific decision making determined by the incidence and prevalence, need to manage simultaneously in individual patients both acute and chronic health problems in all stages, a wide spectrum of complaints and diseases, co- and multi-morbidity)
4. *Comprehensive approach* (managing illness presenting in an undifferentiated way, managing risk and uncertainty, health promotion and prevention as well as cure, care, and palliation)
5. *Community orientation* (responsibility for the health of the community)
6. *Holistic approach* (health problems in their biomedical as well as psychological, social, cultural and existential dimensions)”

2. LITERATURE REVIEW

2.1. Recent challenges in primary care worldwide

Primary care in Europe is facing high expectations from the society, including people and governments as well. Primary care can

- help health systems become more responsive to changing health needs of different generations and people living among different social circumstances,
- offer more integrated health care delivery,
- increase the efficiency of the health care system overall.

Decision-makers are expected to search for models to redesign the respective primary care systems in line with these goals.

Health sector reforms in many European countries have been driven by common challenges related to changing health threats and morbidity, workforce developments and growing possibilities of technology. All of them are strongly related to the financial constraints even in the richest countries.

2.1.1. Changing demands of the population

These have often originated from the ageing of the populations in most European countries, including Hungary. There is a growing prevalence of non-communicable diseases in the older and also in the middle-aged generation, resulted a higher rate of multi-morbidity and the increase of more complex demand in services as well. Health care providers have been traditionally designed to manage acute episodes of one illness; they need more integrated provision of services.

2.1.2. Lack of manpower

The shortages of health workforce become universal. Migration of trained nurses and doctors could only partially to improve this phenomenon.

2.1.3. Development in technology

Over the past decades computers and information and computer technology (ICT) applications have drastically changed the work in healthcare. The varieties of the Point of Care (PoC) devices have also increased. Patient's empowerment, new electronic resources and the Internet may reduce the information asymmetry between professional and patient. In

general, patients were move from relatively passive recipients of care to more active and well-informed care consumers.

The role of hospitals has also been changed. Due to the technological innovation, hospital stays become shorter providing more complex services.

2.1.4. Financial constrains

Increasing health costs and demand of the population are the main reasons why governments have targeted to focus on primary care worldwide.

2.2. Historicpoints of the Hungary primarycare

2.2.1. The 20thCentury

Hungary has a great tradition in medicine. Before the 2nd World War Hungary acquired almost as high level within medicine as others countries in the Western part of Europe, although wide differences were between regions and institutions. Doctors were paid by the patients and insurance companies. After the Second World War, Hungary was occupied by the Soviet Union. At that time, major changes took place in our healthcare system, the Soviet-type (Semashko) healthcare system were implemented. Medical professionals were rather underpaid, the reigning power placed much more emphasis on the financial and moral recognition of the working class. Access to the healthcare system became free for all citizens. At the time, primary care was called the “district doctor” system. The staff were employed by local (urban) municipalities or health centers (polyclinics or hospitals), and in some institutions by the state itself. Doctors worked in geographically well-defined areas and patients did not have the opportunity to choose a family doctor. Similar to primary care, patients in secondary health care could only receive health care in designated locations.

The respect of medicaldoctors, however, remained relatively high in general. The board specification examination in *general medicine* was introduced in 1975. This denomination was replaced by the *family medicine* in 1994.

After the change of the political system (1990), the economic system and legal circumstances have changed significantly as well. There were initiatives for privatization also in the health care system. Family physicians were the first among health care workers, who got a right to establish their own enterprises based on 2 contracts: one with the *National Health Insurance Fund* for financing and other with the local municipalities for provision of primary care within a geographically defined area.

A new primary care system was introduced in 1992. At this time the government declared a priority of primary healthcare.

There after the district doctors were called as *family physicians* (FP). Patients were allowed to choose their FP, and got a right to change doctors, without any legal or financial consequences.

The financing of primary care system was also changed. Instead of fixed budget and salary, the capitation based system was introduced. This opportunity led a high ratio of family physicians to establish their own enterprises in the belief that they could manage their expenses better and in a more rational way. In the middle of nineties family medicine became very popular; many specialist wanted to change for general practice and young doctors started their training in this field. It seemed as a good perspective both professionally and economically because the private enterprise had many advantages over the underpaid employment status.

In September 2021, there were 5895 primary care practices in Hungary theoretically covering all the primary healthcare needs of the population: 1359 of these GPs were paediatricians, primarily working in urban areas, 1497 GPs cared for a mixed population, and the remaining treat adults only. The number of permanently vacant GP districts was 565.

2.2.2. Starting the 21st Century

In 2007, a health reform focusing to the insurance system was planned, initiated and forced by the coalition parties who were in power at the time. This reform was poorly communicated to the public, to health professionals and it was also criticised by the opposition parties. Because of political reasons this initiative failed.

The administrative tasks of GPs increased continuously shortening the time available for consultations and curative procedures.

Unfortunately, there are no existing prevention programmes for expected lifestyle modification of patients which could decrease the burden in primary care.

2.2.3. Primary care workforce

There is an ageing population of doctors; in almost all medical specialties (the average age of GPs is over 58). The situation is similar in the nursing population as well.

3. RESEARCH AIMS

The aim of my research was to present the country-specific findings of the QUALICOPC project and to highlight and investigate the strength and weaknesses of the Hungarian primary care system from the perspectives of the patients and from the healthcare professionals. For this investigation I have used the survey data collected in Hungary as part of a large international study on primary care, the QUALICOPC study. In order to improve our primary care system, I have found it crucial to investigate and analyse the feedback and expectations of the patients on the healthcare system and services of the providers. For the assessment of the quality and efficiency of the primary care services, I have studied and will present also the experiences of patients focusing the tendencies of attending services. I have also analysed the data of the questioners filled out by the GPs about their service profile, opening hours, available equipment, and financial situation, remuneration.

4. METHODOLOGY

The QUALICOPC study was co-funded by the European Commission under the so-called ‘*Seventh Framework Programme*’. Data were collected in 32 European countries (27 EU countries, Iceland, Norway, Turkey, Switzerland, and Macedonia).

Ten dimensions were chosen as indicators to measure primary health care: governance and economic conditions of the PC system; PC workforce development (structure); access to PC services, continuity, coordination and comprehensiveness of PC services (process); quality and efficiency of PC and equity in health (outcome indicators).

The researchers of the QUALICOPC Consortium have developed four questionnaires. A *questionnaire for GPs*, another to describe the infrastructure and technical provision of services (*Practice questionnaire*), filled by fieldworkers and 2 others for PC patients: *Patients values*, and *Patients’ experiences*. Because of the project aims to provide insight into GP care as a whole, the GP questionnaire included questions beyond the scope of the tasks of the GP. The questionnaire about what patients find important is added to weigh against their experiences.

In each country, the response target was 220 GPs and 2200 patients. The questionnaires were translated in the national languages of the countries involved via an official forward- and back-translation procedure. The study was completed in 32 European and 3 overseas countries (Australia, Canada and New Zealand).

4.1. Patients values questionnaire

“Measuring what patients consider important enables the weighting of their experiences. The *Patient Values* questionnaire contains 19 questions (seven of which have three or more sub questions). Most questions are statements with multiple choice answers. A few questions ask the patient to choose from a list what they consider most important and fill in a number. The 12 questions asking about the patient’s background are similar to those in the Patient Experiences questionnaire. Three questions contain statements asking patients about the importance of certain aspects of care (e.g., ‘How important is it that the practice has extensive opening hours?’). Finally, four questions focus on communication between GPs and patients.

4.2. Patient Experiences questionnaire

It is dealing with the experiences of the patients with their GP. Many questions ask to what extent the patient agrees with a statement. The questionnaire is meant to be completed in the GP's waiting room by patients after consultation with their GP. The 18 questions which concentrate on the patient's background concern the patient's socio-economic status, perceived health, reason for visiting the GP, and visits to medical specialists and hospitals. Six questions deal with measuring experiences with 'continuity of care', e.g., the use of medical records. 'Quality of care' as experienced by patients is measured in 13 questions (e.g., about the satisfaction of care needs in connection to the patient's relationship with the GP, aspects of communication, safety, complaint handling and preventive activities). As in the GP questionnaire, the 14 questions about the 'accessibility of care' can be divided into physical and financial access. These questions also include the time the GP has available for the patient, the availability of home visits and waiting times. Three questions pay attention to 'equity in access' and one question to 'equity in treatment'. 'Coordination' is measured with five questions on experiences of coordination in the case of referral and on treatment by a practice nurse. To mirror the questions in the GP questionnaire about autonomy, patients are asked about their involvement in decision making and referrals. 'Comprehensiveness of services' is mirrored in a question about patients' views on the breadth of the clinical task profile of services offered by the GP. Finally, two questions were included specifically related to avoidable hospitalisation.

4.3. Practice questionnaire

A 12-question practice questionnaire was developed to record the response rate among patients during the implementation of the survey and to measure practice-related indicators regarding the communication of opening hours, and equity in access (e.g., for handicapped persons).

4.4. GP questionnaire

It contained 60 questions (pre-structured multiple choice answers and options of numerical answers), on background, additional professional activities and time allocation of the GP, characteristics of the practice, workforce development, efficiency, job satisfaction, economic conditions, equity in accesses, continuity of care, accessibility of care, disciplines working in the practice, coordination and cooperation, referral, medical record keeping,

quality and comprehensiveness of services, available equipment, task profiles, use of guidelines and feedback from colleagues or authorities.

The final GP questionnaire contains 60 questions (25 of which have two or more sub questions). The majority of the questions have pre-structured multiple-choice answers. In 13 questions, GPs are also asked to fill in numerical answers (e.g., a percentage or a number of hours). Three questions focus on the background of the GP and four on the characteristics of the practice (e.g., the composition of the practice population).

‘Efficiency’ is measured by seven questions for instance on time allocation of the GP.

Within the theme “workforce development” there are four questions, from additional professional activities of GP and disciplines working in the practice to job satisfaction.

Five questions focus on ‘economic conditions’ (payment of the GP and co-payment for patients).

‘Equity in access’ is reflected in questions about restrictions in access and availability of care for uninsured patients.

To gain insight into the relationship between GPs and the broader contacts of primary care, there are 12 questions about ‘coordination and cooperation’ between GPs and other disciplines.

Eleven questions were about the ‘continuity of care’ provided by the GPs concentrate on disease management and on referrals and information exchange. Special attention is paid to medical record keeping.

‘Quality of care’ is measured with three questions regarding the use of guidelines and feedback from colleagues or authorities.

‘Comprehensiveness of care services’ is reflected in 12 questions, dealing with the available equipment and the GPs’ task profiles (e.g., the range of problems for which the GP is the first point of contact).

Finally, nine questions covering ‘accessibility of care’ can be divided into those about physical access (distance to the practice and opening hours) and those about financial access to care services.

4.5. The Hungarian arm of the QUALICOPC study

In each country, the response target was 220 GPs and 2200 patients, less in the smallest European countries. The study centre of the Hungarian arm of QUALICOPC project was established at the Department of Family and Occupational Medicine, University of Debrecen, in the city of Debrecen, Hungary. In cooperation with the other 3 Hungarian Departments of

Family Medicine (Budapest, Pécs, Szeged) an advertisement was issued in the whole country to recruit participating GPs.

More than 300 GPs applied for participation. During the selection we tried to create a sample regarding territorial distribution of the practice location. While it was unknown at that time, the age of the GPs was not considered.

Following the study protocol, only one GP per practice or health center was eligible to participate, but there were no other instructions. The building where more GPs worked was considered as “health center”.

The English version of the questionnaires were sent to the Principal Investigator of the Hungarian Arm, he translated them into Hungarian and this version was translated back to English by professional interpreters to compare and check the validity.

The 4 questionnaires were printed in the study centre and were transported to the practices by the fieldworkers. They had other tasks as well; to recruit persons, asking to fill the 2 questionnaires for patients, to fill the Practice questionnaire and they distributed the GPs questionnaires to the family physicians who posted back to the study centre after completing them.

The patients were recruited by the trained fieldworkers in the waiting room of the participating GPs. They were mainly medical students employed by a Debrecen based student-company. Our staff provided education for them according to the study protocol. They were instructed to invite 10 patients above 18 years consecutively. One of them filled the Patient’s Values questionnaire and the other nine patients completed the Patient’s Experiences questionnaire about the consultation that had just occurred. If any of the patients refused to answer, they asked another person to reach the expected number. Fieldworkers were also asked to fill the Practice questionnaire, to evaluate the physical and environmental circumstances of practices, including infrastructure.

4.6. Data processing

All of the questionnaires completed were sent by postal way to the QUALICOPC Center in the NIVEL (Netherlands Institute for Health Services Research) to Utrecht. The identical structure of the questionnaire made possible the electronic processing. After finishing, each national (descriptive) dataset was sent back to the national centre for further processing and analysis.

4.7. Ethics

The Hungarian Research Ethical Committee in Medicine (TUKEB) approved the Hungarian arm of the study assigning the number: 20024/2011-EKU (643/PI/11.). The Hungarian professional community was informed about the start of the project.

5. RESULTS

5.1. Patient values questionnaire

Questionnaire was filled by 215 patients (139 male, 75 female) with an average age of 47.2 years old (SD±17.6). Almost all participant 96.7% [94.4-99.1%] and their mothers 95.4% [92.5-98.2%] were born in Hungary. In the same household, 78.6% [73.1-84.1%] of the responders lived with adult family members and 33.5% [27.2-39.8%] of them have lived with children (below 18y).

Their estimated income was around 62% [55.4-68.4%], below 30% [24.1-36.4%] or above 8% [4.3-11.5%] the average national figures. Regarding employment status of the participant, 43% [36.2-45.4%] of them have worked in the civil service, 10% [6.2-14.3%] as self-employed, 23% [17.2-28.4%] retired, 9% [5.0-12.6%] student and 8-8% [4.3-11.5%] were disabled or unemployed.

Most participants rated their health as good 39.7% [33.2-46.3%] or fair 38.3% [31.8-44.8%]. Significantly fewer people described their health as very good 13.1% [8.6-17.6%] or poor 8.9% [5.1-12.7%]. 43.5% [36.8-50.1] of the respondents have chronic disease.

There were questions, focusing to the expected circumstances, services, including behaviour and consultation's skills of family physicians.

5.2. Patient experiences questionnaire

The nine questionnaires from each practice were filled by altogether 1934 people; 679 of them were male 36% and 1234 of them were female 64%. The average age of the group was 49.6 (SD ±16.7) years.

Almost all participant 97.2% [96.5-97.9%] and their mothers 96.3% [95.4-97.1%] were born in Hungary. In the same household 77.2% [75.3-79.1%] of them have lived with adult family members and 33.4% [31.3-35.5%] of them lived with children under the age of 18.

Regarding the employment status of the participants, 37% [34.9-39.2%] worked in civil service, 8% [6.8-9.2%] as self-employed, 29% [27.0-31.0%] retired, 7% [5.8-8.1%] student and 8-8% [6.8-9.2%] were disabled or unemployed.

52 % [49.8-54.2%] of the participants estimated their income at around the national average while 42.6% [40.4-44.8%] of them estimated it below the national average.

Majority of patients 84.1% [82.4-85.7%] visited their own, registered family physician. They were asked about the presence of chronic or longstanding conditions (high blood pressure, diabetes, depression, asthma, etc.) and to describe their own health in general.

Patients in the lowest educational category visited more often their GPs, females consulted frequently as well, proved by regression analysis. For sex, correlation coefficient: 0.1334505, standard error: 0.0364738, p value: <0.001 and 95% confidence interval: [0.06; 0.20].

Patients were asked about the time spent with travelling between their home and the GP's office. In 71.8% [69.8-73.8%] of the cases, it was less than 20 minutes. Also 21% [19.2-22.8%] of patients made an appointment, 85% [81.5-88.5%] of them got it easily, 29% [24.6-33.5%] of them booked it on the same day, 37% [32.3-41.6%] of them a day before, while 19% [15.2-22.8%] of them had to wait for 2-7 days for their appointment. One third of patients had to wait less than 15 minutes, 29% [27-31%] of them waited 15-30 minutes.

Only 22.8% of patients were examined or treated by a nurse in the GP's office. Patients have a great confidence to their GPs. The statement "*In general, doctors can be trusted*" was strongly agree by 33.5% and simple agree by 61.3% of the people participated in the questionnaire. The statement "*In general, people can be trusted*" was only agreed by 39.4% of them, while 42.6% of the participants disagreed.

5.3. Practice questionnaire

The recruitment of patients was successful, only 25% refusal was recorded. Opening hours were clearly indicated in 91% of surgeries, out-of-hours care was advertised in 88%. Eighty-eight percent of practices were located on the ground floor, 54% of them had elevators in multilevel buildings. Half of the practises offered free parking facilities for handicapped visitors and toilets accessible with wheelchair.

The clean lines of the facilities were evaluated as very clean 45.0% and rather clean 54%. The doors were usually closed in the waiting room, therefore 80% of visitors did not hear what has been said at the reception desk and 94% could not hear or see what was happening in the doctor's office.

5.4. GP questionnaire

Altogether 222 questionnaires were completed by 118 (53%) male and by 104 (47%) female family physicians/general practitioners. Answers are presented mainly according to the order of questionnaire.

The average age of the doctors was 53.4 (± 10.9) years old. Ninety two percent of them were born in Hungary, others come mainly from the neighbouring countries, where high density of Hungarian population live (i.e., Ukraine, Romania).

5.4.1. Location and composition of practices

Most of the practices 31% were in big (inner) cities, 8.6% in suburbs, 20.3% in (small) towns, 28.4% in rural and 11.3% in mixed urban-rural locations. The average of the practice population (number of enrolled patients) was 1857 (± 1912) people. Comparing to the average national level, they rated the ratio of *elderly* people (over 70 years) in the practice as average 46.9%, above average 39.2% or below average 9%. The ratio of *socially disadvantaged* people was estimated as average 38%, above average 42% and below average 18.5%. A quarter of the family physician estimated that *ethnic minority patients* are represented closely to their national representatives, while 52% expected higher and 20% believed lower figures.

Most of the practices considered the *turnover within patients* as average 57% and 37% below average.

5.4.2. Workload

Hungarian GPs are reported 37.7 [31.5-44.2%] working hours weekly, most of them spent 31.5 [25-37.2%] hours with direct patient consultations, home visits, and telephone consultations. The duration of the direct consultation was the longest in the suburban practices 33.2 [10.7-52.5%], while it was the shortest in the inner cities of the big cities 30.0 [19.6-41.3%].

The reported mean of face-to-face consultations was 50.4 [43.9-57%] people per working days. The most face-to-face consultation was in the rural practices 54.5 [41.7-66.3%], while the fewest occurred in suburban ones 43.7 [19.9-64.3%].

Besides these, 11.7 [7.5-15.9%] patients needed telephone consultations, while 0.9 [-0.3-2.1%] patient was contacted by e-mails. Regular patient consultations lasted for 8.2 [4.5-11.7%] minutes. Male doctors spent only 7.3 [2.8-12.4%] minutes with a patient, while female doctors spent 2 minutes more 9.2 [3.9-15.3%].

Responders performed 14.5 [9.8-19%] home visits per week, 5.7 [2.8-8.9%] for elderly patients and 1.9 [0.1-3.6%] institutionalized patients were visited in other settings.

In the past 3 working months they reported 4.8 [2.1-7.8%] nights and 1.5 [-0.2-2.9%] weekend day shifts. The number of night shifts was the highest in small towns 7.3 [-0.6-14%] and the lowest in suburbs 0.26 [0-0%]. Most of the weekend shifts was completed in rural areas 1.94 [-1.5-4.7%] and the fewest was in the suburbs 0.16 [0-0%].

The highest part of GPs (86.5%) was working alone, or in shared accommodation with other GPs (11.3%) or medical specialist (4.1%).

GPs were rarely away from their practices. Their vacation lasted for 2.6 [0.6-4.8%] weeks and they attended on conference or educational activities for 1.2 [-0.2-2.9%] weeks, annually. Doctors in the suburbs went on vacation for the longest time 3,11 [-4.8-15.3%] and the colleagues from the rural areas for the shortest time 2.43 [-1.2-7.5%].

Sick leave lasted for 0.45 [-0.4-1.3%] weeks a year and even less scientific activities were reported, 0.2 [-0.4-1.3%] weeks.

5.4.3. Financing

Beside their daily work in family practice, 33% of GPs had no other paid activities, while 7% worked as company doctor (occupational health) and 41% of them performed teaching activities, mainly medical education. Almost all the practicing GPs 95% [92.2-97.9%] were working as self-employed, in a contract-based system with a health insurance fund and local municipalities, or were self-employed without contract and 5% [2.1-7.8%] were a paid employee.

The financing of GPs is based mainly on capitation. Regarding the distribution of financing, only 192 GPs answered. According to their answers the most significant part of the income comes from salary 42.6% [35.7-49.7%] and capitation based financing 39.4% [32.7-46.5%]. Fee for service activities added 5.8% [2.4-9%], performance payment 3.6% [1-6.3%], out of pocket payments were the same 3.6% [1-6.3%], while other sources 7% [3.2-10.3%]. Among the compositions of income, financing from *National Health Insurance Fund* was 89% [84.6-93.5%]

There were additional elements, represented in some extent in the financing. According to the self-reported data of GPs, for the proper diabetes care 19.4% [14.2-24.6%] of GPs get a

financial bonus, while significantly more, 37.8% [31.5-44.2%] for reaching the targeted screening activities. 21.6% [16.2-27%] get additional financing for the proper referral rate, but only 5.9% [2.8-8.9%] for working in remote areas.

5.4.4. Professional competences

GPs mentioned they have informations in some extent about clinical guidelines published by disease specific bodies or organizations chronic heart failure 70% [64.1-76.2%], asthma 65% [58.9-71.4%], diabetes 79% [73.3-84.1%] and COPD 64% [57.5-70.1%]. Many of them are widely known and used by GPs, but significantly more used the guidelines about diabetes than asthma or COPD guidelines. 7 % [3.5-10.1%] of the participants indicated that there are not up to date primary care specific guidelines available.

Feedbacks regarding prescription are usually provided by the insurance fund 73% [67.1-78.8%], less by the health authority. The reasons are usually the prescriptions, while GPs have restricted competency, mainly in case of innovative drugs, with higher price. Prescriptions issued by the specialist have a higher reimbursement rate.

In case of referrals, majority of the time 60 % [53.5-66.4%] the preference of the patients is considered, while 35% [28.9-41.4%] of the GPs prefer to have their own decision without sharing it with the patients.

Regarding the accessibility of X-ray facility, it can be reached in the same building 4% [1.5-6.6%] where the practice is located, 89% [85.1-93.3%] are accessible easily, only 7% [3.8-10.6%] are too far. The nearest GP practice was in the same building 39% [32.8-45.6%], within a distance of 10 km 55% [48.4-61.5%]. The nearest outpatient's clinic was in the same building 10% [6-13.8%], or not far than 10 km 57% [50.7-63.7%]. Half of the nearest hospitals were also within this range.

The questioned practices/centres offered 6.7 [3.5-10.1%] opening hours on weekdays. Consultations in the evening and the access to the practices after opening hours varied between practises, although 32% [25.8-38.1%] of them were still open after 6 pm. In Hungary, out of hours services are available for the population/inhabitants, but the type and involvement of GPs are different. On a rota basis were reported by between 11 and 18% of them, while 14% [9.4-18.5%] of the GPs were always available for their patients, even at weekends. Most of the hospital-based emergency and centre-based non-emergency services

are run by other physicians. Services are organized in a very different way, depending on the local contracts between emergency companies and local municipalities.

Initially appointments were not routinely used in the Hungarian primary care. Nowadays 23% [17.4-28.5%] of GPs provide consultations by appointment and 59% [52.5-65.5%] of them offer a walk-in hour.

The price of the prescriptions become an issue for the Hungarian patients only in the last decade and GPs are aware it. Almost all of them prescribe the cheaper equivalent medicine and 87% [82.5-91.4%] of them provide free samples of medication, if available. Doctors estimated that 13% [8.6-17.5%] of patients frequently, 61% [54.4-67.2%] of them occasionally delayed their visits for financial reasons.

5.4.5. Enrolment into the practice

Almost half 48% [41.6-54.8%] of the new patients, entering the practices provide their medical records or it was sent by the previous GP, while 41% [34.5-47.5%] of them enrolled without handling previous medical records. In Hungary, GPs have to accept the enrolment of all inhabitants in their geographically contracted area. 43% [36.3-49.3%] of them never use any restriction, 34% [27.6-40%] refuse patients from other geographical area and 5% [2.1-7.8%] consider the past medical history of the patients. In Hungary, above certain level of enrolled patients, some financial restriction is applied; that could be the reason why 12% [7.9-16.5%] of GPs consider previously the numbers at the patient's list.

Forty one percent of family physicians always accept non-insured patients, but 24% of them only in case of emergency.

5.4.6. Cooperation with other specialists, referral

The previous experience of GPs is the determining factor in case of referrals by 58% [51.6-64.6%], other points of view which are always considered: travel distance for the patients 42% [35.4-48.4%], patient's own preference 37% [30.6-43.3%], expected waiting time 39% [32.8-45.6%], comparative information on the specialist getting from other patients 22% [16.6-27.5%] and cost for the patients 46% [39.4-52.5%].

Employing a practice nurse is compulsory in Hungary, while 5% [2.1-7.8%] of GPs worked actually without practice nurse. Other health care professionals were employed in much less extent, receptionist 28% [22-33.8%], midwife 0.5% [-0.4-1.3%], and laboratory

assistant 2.2% [0.3-4.2%]. In the same centres where the questioned GPs worked, other professionals were also available: home care nurse 7.7% [4.2-11.2%], psychiatric nurse 1.8% [0.1-3.6%], dentist 4.5% [1.8-7.2%], pharmacists 2% [0.1-3.6%], social workers 4.1% [1.5-6.6%], and practice manager 1% [-0.3-2.1%].

Practice nurses have high competence in some fields. They independently give immunization/vaccination in 70% [63.8-75.9%] of practices, provide advices regarding health promotion, lifestyle, smoking cessation in 83% [77.9-87.8%], check routinely chronically ill patients 80% [74.9-85.4%] and perform minor procedures like ear syringing or wound treatment in 83% [77.9-87.8%].

Referral letters (including details on provisional diagnosis and test results) are written by 48% [41.6-54.8%] of GPs for all, by 41% [34.5-47.5%] for most and by 10% [6-13.8%] for the minority of patient. After consultation with specialist, treatment or diagnosis of the patients is told always 40% [33.6-46.5%], usually 25% [19.5-30.9%], seldom or never 25% [19.5-30.9%].

After a patient has been discharged, 81% [75.9-86.2%] of doctors receive summary/discharge report within 1-4 days, 5% [2.1-7.8%] of them within 4-5 days and the other 13% [8.6-17.5%] complained that they never or rarely get it.

Hungarian GPs are involved in the management of many chronic conditions (diabetes, hypertension, myocardial infarction, musculoskeletal problems, mental disorders and even palliative care) while services when procedures or interventions needed are usually provided by surgical specialists (urologist, ENT etc.).

The blood pressure of the patients is generally measured 79.3% [73.9-84.6%] as part of a routine test regardless the reason of the appointment. Smoking cessation, diet, physical activity and alcohol problems are the most frequent topics of life-style consultations; these are discussed with the patients in about 90% [86.2-94.0%] of the time. Family physicians are routinely involved in antenatal care 51% [44.3-57.5%], in immunisation 29% [22.9-34.8%], and paediatric surveillance of children, influenza vaccination 96% [93.4-98.5%] and palliative care 87% [82.5-91.4%].

Occupational health problems are rarely discussed with family physicians including work accidents. If doctors diagnose frequent respiratory problems, repeated cases of food poisoning among people living in a certain district, these are usually reported to the relevant authority.

5.4.7. Burn out

Job related stress was reported by 27% [21.2-32.9%] of GPs and 48.2% [41.6-54.8%] of them felt that they are overloaded with unnecessary administrative tasks. Half 54% [47.5-60.6%] of them considered their job as still interesting, while only 13% [8.6-17.5%] of them believed that GPs have well respected jobs and even less 2.2% [0.3-4.2%] have found a good balance between effort and reward.

6. DISCUSSION

6.1. Comparison with other participating countries

The QUALICOPC Study gave an excellent option for each participating countries to evaluate their own system and explore their country-specific problems. The huge amount of data requires a wide space to be presented. Most of them were included in the PhD Theses of the key-researcher of the NIVEL.

Published papers from some of the participating countries were focused only to a limited part of data, which may important for the relevant country. Patient's experiences differed between private and public sectors. Patients visiting the private sector experienced better continuity of care with more difficulty in accessing out-of-hours care. Factors related to primary health care delivery were ranked as most valued by patients surveyed Greece. There is a need for an increased focus on patient-centered approaches and to prioritize quality improvement activities. The public and private primary care service differ in some countries. It is a cause and effect of social inaequality. Primary care providers were mostly dissatisfied with their system and working conditions in Austria and Poland. The infrastructures of practices were also compared. Accesibility for handicapped patients could be important. Regarding this option, Hungary was ranked around the median level among countries.

Although only one practice within a health center was surveyed, it was found that GP mono- and multi-disciplinary co-location is related to positive outcomes at a GP level, such as a broader provision of technical procedures, increased collaboration among different providers and wider coordination with secondary care. However, GP co-location, particularly in a multidisciplinary setting, is related to less positive patient experiences, especially in countries with health systems characterised by a weak primary care structure.

Patients had more positive experiences when their PC physician provided a broader range of services. A stronger national PC structure and higher overall health care expenditures are related to more favourable patient experiences for continuity and comprehensiveness. The study also revealed inequities: patients with a migration background reported less positive experiences. People with lower incomes more often postponed PC visits for financial reasons. GPs in former communist countries and Turkey have increased their involvement in the provision of services. Developments in Western Europe were less evident.

In countries where high proportion of the populations has migrant origin, experiences of both GPs and patients were compared. Patient experiences did not vary with GPs' migration status. Although experience of discrimination was uncommon, first-generation migrant patients experienced more discrimination. Primary care should provide non-discriminatory care, through GP awareness of unconscious bias and training to address this. Key messages there were large differences in percentage of migrant GPs between countries. Migrant GPs' practices had an above average proportion of people from ethnic minorities. In general, patients' experienced discrimination from GPs and practice staff was low, but first-generation migrant patients more often experienced discrimination, when they visited a native GP.

According to the effective legislations in Hungary, it is strictly forbidden to register the ethnic or national origin in any medical or official files. In the neighbouring Slovenia, where 6,5% of the PC population are migrants, often experiencing negative attitude from GPs. In Hungary the Roma population is the “majority of minority”, representing 4-11 % of the whole population of the country. The exact ratio is unknown because of the aforementioned regulation. Because of their different lifestyle and perhaps genetic background their expectations could also be different.

6.2. Patient’s experiences and preferences

Easy access to services; wide scope of complains to be able to solve; availability and short waiting time; option for home visit; courteous communication; expected knowledge and good manners of doctors; no barriers to referrals; common decision making about treatment and possible options; not pressured by time during consultations and clear instructions provided here; easy to get prescriptions; updated medical records, including available information by the doctor’s hand about living circumstances; social and cultural background of patients, - there were the highlights of patients’ preferences. With regards patients’ expectations, the emotional and human features of the consultation and the clinical outcomes did matter for most people.

Preferences regarding circumstances, expected cleanliness in the GP’s office, adequate information about where and when to go, convenient and punctual appointments, helpful reception staff, a knowledgeable doctor, clear and easy to understand, huge experience in a reduction in symptoms/problems, respecting patients’ wishes to be involved in treatment decisions, were also mentioned.

There were no apparent differences between expectations of different age groups. The preferences and expectations of Hungarian patients were not always in agreement with their experiences and values. Unfortunately, preventive services are not appropriately implemented in the Hungarian primary care; the reasons of visits to doctors are mostly chronic morbidities or acute complaints. The new regulations perhaps allow allocating time and appropriate rewards for prevention. The educational material has been elaborated before.

Hungarian GPs have traditionally been managing many social issues, including administrative tasks. In the past 60 years they were considered as the only stable points (including decades of Communism), also in the years when “reforms” were initiated in the health care system. In the future, more focus needed to person-centered care, to better involvement of patient in decision-making and appropriate delivery of preventative services. Patients require equity, accessibility of care and good quality of primary care services.

In Hungary and in most of the participating countries the QUALICOPC study proved a high population satisfaction with the primary health care system. The Hungarian population is yet satisfied with the PC system, although performances of other health care levels (mainly hospitals) are rated negatively. Among the evaluated process indicators (access, continuity, comprehensiveness, and coordination), were rated as satisfactory, together with equity among health outcome indicators, while quality and efficiency were deteriorated in the previous years because the influence of other levels of provision (secondary care, hospitals).

6.3. Practice and GP questionnaires

Questions implemented in the questionnaires could have different meaning for GPs working in different national systems, especially the structure of practice, insurance system and remuneration.

In the past 2 decades there was a visible improvement at service level and financial circumstances in the Hungarian primary care although it is far from the “*West European*” expectations.

Available instruments, devices, and professional competences of Hungarian primary care providers are the same as most GPs in other EU member states, although “gate-keeping” is light, without appropriate financial interest. Gate keeping of rural doctors does not differ significantly from urban based practices. There are many drugs, mainly innovative and expensive medications, when prescription is allowed only for specialists.

Hungarian GPs are working usually longer than Dutch colleagues and almost the same as UK-based providers. In the past years, specific socio-demographic and work-related correlates of burnout, occupational stress was described among Hungarian doctors.

6.4. Limitations and strengths

Our studies were focused only on the recent Hungarian characteristics; the patients' answers about their preferences and experiences should be evaluated by taking into consideration specific national traits and the variety of primary care provision.

After translating and launching the questionnaire, there was no opportunity to clarify or explain questions having different meanings among different national circumstances. The answer-options of the questions should be often merged in the tables because of the low ratio of the respective answer option. Some of the data were not presented because of their irrelevance.

Before this study and since then no such a wide range evaluation was performed in Hungary. Due to the method and questionnaire developed for the QUALICOPC project, we were able to provide a comprehensive overview on actual state of the Hungarian primary care, in the framework of the topic questioned. Although some promising initiatives started in the last year, the structure of primary care did not change; our findings remained valid these days.

Nationally and geographically representativity was targeted, data were provided from 3% of all practising GPs. Their mean age was 2 years less than the national average. There were minimal or no significant differences between answers, regarding time spent in practice, by age and sex of the doctors.

6.5. The QUALICOPS findings in actual context

In the last decade there was a model experiment, started in 2013. The Swiss government donated resources for Hungary to support different projects in the economy and also in the healthcare system. A close collaboration was formed between the participating 6 practice-communities (clusters) and new actors were involved (health mediator). The service of family physicians were supported by public health specialist, dietitians and physiotherapist employed by the project. Unfortunately, the project had a limited period, 27 months only; therefore its real outcome could not get appropriate professional awareness, even among health policy makers.

Later on other projects were initiated founded by the EU and the government. Declared goals were to form partnerships between practices GP cluster enforcing the single-handed practices to collaborate closer and to employ other professionals (dietitians, physiotherapist, psychologist etc).

In 2019, other projects were advertised entitled “3 generations”. Although it was less bureaucratic, but they had shorter running period, 18 months only. Many of the ongoing projects had serious difficulties because of the COVID-19 pandemic, making impossible to complete elements which required public participations.

In 2019 and 2020 an EU funded project evaluated the structure and performance of the Hungarian primary care, including education and vocational training.

It was described „Hungary had the second highest preventable mortality among member states of the European Union according to the latest report of the statistical office of the European Union (Eurostat) from 2015 (418/100,000). Mortality caused by noncommunicable diseases has been extremely high in Hungary, which can largely be attributed to not perform preventive examinations at the level of primary health care (PHC). If a system built in the future will strengthen the early detection of riskfactors for chronic diseases introduces quality indicators for the management of patients with chronic diseases, the workload at the PHC level will increase significantly. Therefore, PHC service development requires a capacity increase in Hungarian PHC”.

Presently, a typical PHC staff consists of a family physician (who is the owner of the practice) and a nurse, who is an employee of the GP. The most important recommendations to form group practices where multidisciplinary teams can provide an integrated care for the population: „the team members need to be motivated financially as well as through competencies development and better, cooperative, working environment as well as more cooperative system among health care levels. Certain educational and training programmes need to be developed to increase the knowledge, skills and competencies; however, the whole system needs to be supported financially”.

Since the introduction of primary care system and replacing the system of „district doctors”; our neighbours, the former „socialist” countries have similar problems although some tried to solve them with systematic changes of their system.

6.6. Recommendations. How to improve Hungarian primary care?

The previous chapters served as base for recommendations for the future. There is yet a large space for improvement in the structure, conditions, and workforce development. Decision makers have to realise, that it seems impossible to maintain the system in recent form.

Lack of human resources, reduced professional competences, without primary care guidelines and reliable quality indicators, enormous administrative burden are the consequences of the inappropriate health policy of the previous decades. The problems of manpower could be solved with more focus to PC in the undergraduate education and offering an attractive professional carrier with appropriate remuneration of the young medical doctors who wish to be family physicians. The requirements in vocational training could also be improved with more professional education of family physicians and during CME courses as well. It is a governmental task to improve the low health literacy of the general population, beside giving priority to PC in the health care system. Legislations in PC should be based on conceptual planning and consensus of professional bodies.

Within the scope of patients (users of provision) the recent system is still working, although the number of patients' visit is high, mainly because of the administrative tasks and formal referral to secondary care. Based on results of our survey, Hungarian patients use emergency care very often. This problem could be reduced systematic patient education, starting in schools and continuing through mass-media. The only few positive experiences of the recent pandemic, that acceptance of time-schedule (prebooking) and official acceptance of teleconsultations, telemedicine, including e-prescriptions increased in the population, therefore it should be maintained and improved.

The problems of human resources, the turnover of staff, doctors and nurses should be solved. It requires a systematic (under and postgraduate) education of future staff members, establishing attractive working and financial conditions for them. Medical students should be encouraged to choose family medicine as a specialty.

In professional terms, the outcomes of previous evaluations should be analysed, quality insurance, payments based on appropriate performance indicators should be developed. Preventive services should be appropriately implemented in the primary care. Less and rational administrative tasks are needed. The whole system should be supported by appropriate and easy to manage IT system. Clear legislations needed to improve

communication between PC and specialists, which is recently often insufficient. Specific primary care-oriented guidelines should be developed, updating the previous one. The new structures of PC provision should respect the local needs, avoiding uniformization and irrational obligations.

Policy makers are expected to form a clear vision for the future, to forget the flustered regulation experienced in the previous years, to establish a clear communication, to fill with professional content the recently issued regulations and to realize the promises they made. PC system at a higher level could have more benefit for the whole Hungarian population.

7. SUMMARY

The recognition of family medicine as an independent specialty started in the nineteen-seventies and it was followed by establishing the education of family medicine and residency programs. Primary care's (PC) traditional tasks and relationships are longitudinal and comprehensive care for the individual, using the resources in the family network and its context, mobilising sources of community support, advocacy both for and against governance as the personal and particular circumstances require. A major challenge in health services research is to show what configurations of primary health care are associated with better outcomes, in terms of quality, equity and costs.

The QUALICOPC project aims to evaluate PC systems in Europe against criteria of quality, equity, and costs. QUALICOPC looks at what a strong PC system entails and aims to provide an answer to the question: What an effect has the strength of a primary care system on the performance of health care systems?

Data collection focused on three levels: the health care system, the GP practice, and patients. Our studies were focused only on the recent Hungarian characteristics; the patients' answers about their preferences and experiences should be evaluated by taking into consideration specific national traits and the variety of primary care provision. The findings provided a representative overview on actual state of the Hungarian primary care, in the framework of the topic questioned. In Hungary and in most of the participating countries the QUALICOPC study proved a high population satisfaction with the primary health care system. Among the evaluated process indicators (access, continuity, comprehensiveness, and coordination), were rated as satisfactory, together with equity among health outcome indicators, while quality and efficiency were deteriorated in the previous years because the influence of other levels of provision (secondary care, hospitals).

According to the GP questionnaires available instruments, devices, and professional competences of Hungarian primary care providers are the same as most GPs in other EU member states, although "gate-keeping" is light. Financial incentives to improve quality of service provision could be an important tool. In the past years, specific socio-demographic and work-related correlates of burnout, occupational stress was described among Hungarian doctors. There is yet a large space for improvement in the structure, conditions, and workforce development. Decision makers have to realise, that it seems impossible to maintain the system in recent form.

8. KEYWORDS

General practice, Health services, Hungary, Familymedicine, Primarycare, QUALICOPC study

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List of publications related to the dissertation

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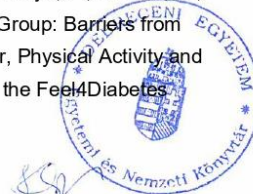


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Total IF of journals (all publications): 35,308

Total IF of journals (publications related to the dissertation): 2,916

The Candidate's publication data submitted to the iDEa Tudóstér have been validated by DEENK on the basis of the Journal Citation Report (Impact Factor) database.

06 April, 2022

