Research in Family Medicine in Slovenia

Marija Petek Šter, Igor Švab, Davorina Petek

Abstract

The primary level of health care represents an entry point into the health system, and the quality and economic sustainability of the healthcare system largely depend on it. Research is the driving force of professional development aimed at providing the best quality of patient care.

Family medicine in Slovenia represents the largest specialty at the primary level of health care, which has achieved great success in the field of research in recent decades.

The overview shows the characteristics of family medicine research, its inclusion into the educational process and practical work at different levels, pointing out the challenges that await family medicine as a scientific and research discipline in the future.

Department of Family Medicine, Faculty of medicine, University of Ljubljana, Ljubljana, Slovenia

Correspondence:
Marija Petek Šter,
e: marija.petek-ster@mf.uni-lj.si

Key words:
family medicine; research; Slovenia; institute

Received: 3. 2. 2018
Accepted: 7. 3. 2018

Cite as: Petek Šter M, Švab I, Petek D. [Research in Family Medicine in Slovenia]. Zdrav Vestn. 2018;87(11–12):547–56.

DOI: 10.6016/ZdravVestn.2718

1 Introduction

For decades the World Health Organization has underlined the importance of strong primary health care for better population health, reducing inequalities and improving access to health care and lower costs (1,2).

The recognition of "specialty" for family medicine is based on the definition of family medicine and is in line with the following main features: point of first contact for all health needs, long-term person-centred health care, comprehensive treatment of all health needs and coordinated care within a broad team of colleagues, and family and community orientation (3).

As a relatively young profession, family medicine has long argued that besides its clinical work, there is also a research field that is essential for the advancement of the profession. Research capacity building (RCB) of a profession represents the process of the development of an individual and an institution, which leads to the strengthening of skills and greater capacity for applied research (4). Appropriate research potential is necessary to obtain information regarding the planning and decision-making of health services at the primary level. Measuring this development includes process and outcome indicators - steps and mechanisms for achieving goals and final goals as a result (5). Traditional and easily measurable results of a strengthening

research capacity are published scientific articles, conference contributions, and successful project funding. However, research has a broader fundamental goal, covering the direct effect on the health care of patients, families and communities.

The article presents the development of research in family medicine. The first part briefly presents the analyses and theoretical starting points on strengthening research capacities in family medicine (FM) in general. What follows is a presentation of research and the organization of research in Slovenia; starting with the presentation of the development in family medicine, the key successes of academic family medicine, and future challenges.

1.1 Strengthening research capacities - literature review

Professional literature has presented several models to demonstrate the development of research capacities in family medicine, for example, Farmer's model describing the systemic approach with the wide involvement of FM practitioners with different research skills and knowledge, taking into account local resources, needs and different research interests, clinical background, or educational needs. As an important stimulating factor the author points to fewer obstacles (paid research time, support from other researchers…), the link between researchers of the research institution and doctors in practice, and lastly, feedback and mentoring (6).

According to Jowett's data, participation in research among family medical doctors is more frequent than expected. Doctors who are involved in pedagogical work at any level are more likely to test themselves as researchers, while motivating factors are also contact with research partners, specific time allotted for research, large group practices, whereas obstacles are, as in the Farmer model, lack of time, support, and money for research (7).

Hickner's contribution is also interesting and it summarizes the experience of successful heads of departments of family medicine in the process of strengthening research capacities. The beginnings with small research projects followed by larger and more complex projects proved as successful in strengthening research capacities, followed by the search for research questions doctors would find interesting, gradual acquisition of experience (e.g. active participation in international congresses with posters, writing review papers…), mentorship tailored to the research problem and the candidate also for an individual, narrower research field, seeking financial support with smaller financial supporters, actively seeking connections with other family medicine departments or other specialists, supporting and financing their own institution, allotting research time and research co-workers (8).

Cooke and colleagues present the development of research potential in three interrelated levels: individual, organizational, and environmental. The individual level involves strengthening the research potential of individuals with doctoral and postdoctoral studies, developing the skills for project development and management, obtaining research grants, mentorship and networking. The organizational level consists of the formalization of research institutions, research area focus, and harmonization of new programs with existing ones. The environmental level represents political support for research, legal basis, cooperation with research agencies and other research partners, organizational infrastructure, and, lastly, adapting to re-

search needs and capabilities of the environment (9).

2 Research in family medicine in Europe

Some European countries have a long and successful tradition of family medicine research, even though family medicine is considered a young profession in many of them. The beginnings of family medicine research can be found in the UK, Scandinavian countries, and the Netherlands (10).

Even back in the 1970s, family medicine researchers felt the need to connect. In 1974 a network of family medicine researchers was established, known today as the European General Practice Research Network (EGPRN). Currently this network of researchers, whose aim is to expand research activities, includes more than 30 countries from all parts of Europe, together with Turkey and Israel (11).

Within EGPRN an umbrella document "Research agenda for General Practice / Family medicine and Primary Health Care in Europe" in the field of family medicine research was adopted and published in 2009. It is a guide for doctors and researchers in the field of family medicine. Slovenian researchers also took part in its development. The document summarizes research areas related to key competences and characteristics of the profession according to the European definition of family medicine, suggests less frequently researched areas and types / methods of research that could best contribute to the quality of health care and improve the health of the population (12).

2.1 Areas of research in family medicine

The authors of the European Research Agenda proposed the following seven areas as a focus of family medicine research (12):

1. Development and evaluation of care-oriented models or strategies, based on a bio-psycho-social approach.
2. Comparative studies in populations with different cultural, social or geographic circumstances and health care systems.
3. Longitudinal cohort studies to assess predictions and factors of health and disease.
4. Interventional and randomized controlled trials that take into account broad issues such as multi-morbidity, quality of life, and social and environmental impacts on health.
5. Research focusing on diagnostic strategies and reasoning.
6. Research assessing the effectiveness and safety of routine clinical practice.
7. Developing and validating functional and generic instruments for use in research and care in the field of research and treatment.

The document also stresses that the focus of research should shift from cross-sectional to longitudinal and comparative studies, with a particular emphasis on a mixed qualitative-quantitative methodology.

3 Development of research in family medicine in Slovenia

In the last 25 years family medicine observed systematically developed research through the education and sup-

port of individual researchers, as well as with an adequate support structure and organization of research.

At the same time, we wished to achieve awareness of the wider medical profession and society that research in family medicine is necessary and that it falls within the strategic priorities of society. During the development phase we followed the European definition of FM, which represents a standard for academic and professional development (3).

3.1 Strengthening individual research skills

Individual training of researchers takes place at a local, national and international level.

3.1.1 Education for research

The establishment of the Department of Family Medicine at the Faculty of Medicine in Ljubljana, and consequently, a gradual increase in the reputation of the profession in the professional and lay public, set the conditions for a successful development of research in the field of family medicine in Slovenia.

The study of research in family medicine takes place at all levels, starting at the undergraduate level with an elective course "Research in Family medicine", which is aimed toward students of medicine Year 5 and 6. The aim of the course is to enable students to learn about and get involved in all phases of research work up to the final result - publication. The results are research publications of students in journals with an external review (13,14).

Each resident must compose a research paper during their residency. The aim of the paper is not only in the research work learning process for the resident, but also establishing a viewpoint that research is the key to improving the quality of patient care. Some research papers are of such high quality that they have been published in prominent indexed journals with an impact factor (15,16).

Postgraduate doctoral studies observe an increase in the number of doctoral students specialized in the field of family medicine. Currently, we have more than 20 doctors with a PhD degree and another 10 PhD students. Lately, we have been supporting an intensified multidisciplinary integration even in the field of doctoral work; e.g., cooperation with experts from different clinical fields - sociologists, psychologists, nursing care professionals and IT specialists.

Researchers' individual development strongly depends on the time they have available for research. Various research projects have been on-going at the Department for many years, where researchers have the possibility of part-time employment and further career development. They can partly still work as clinicians in outpatient clinics and partly spend their time on research.

The quality of mentoring improved with the advancement of researchers and new doctoral students. Mentors are trained in such a way that mentorship begins with less demanding research projects (e.g. residents' papers) in order to qualify for more demanding tasks, such as mentoring a doctoral candidate.

3.2 Local network of researchers

Two research groups are working within the Departments of Family Medicine in Ljubljana and Maribor on the national level. Connecting researchers both on the national and international level is very important, since carrying out major research projects is only possible as a group (17). Research groups

are leading a research strategy in family medicine by designing key research areas led by individual researchers. As researchers we regularly meet at meetings where we plan and monitor the course of our research work and publishing progress of research results. Participation in a research group is an opportunity for younger and less experienced researchers to learn about project work and later project management by participating in projects.

Some major Community Health Centres, such as the Community Health Centre Ljubljana, have their own research units. The Community Health Centre Ljubljana has extensive experience in researching the quality of model practices and successful cooperation in research projects within the framework of Structural Funds, such as, for example, a project of comprehensive patient treatment, which was led by the Government Office for Development and European Cohesion Policy of the Republic of Slovenia with partners (18).

Additionally, smaller health centres employ well-established researchers who formally or informally expand the culture of research among colleagues and are involved in both locally oriented and more broadly-based research projects (19).

In recent years, however, we have seen great potential in inter-professional networking with other research groups in the field of nursing, psychologists, sociologists, IT, and others. A number of applied projects, for example, monitoring and analysis of the project "Model Practices" (20-22) and research projects that included several different research institutions, such as the National Institute of Public Health and Faculty of Computer and Information Science (23-25).

3.3 International networks

Networks working under the auspices of the European Society of General Practice/Family Medicine WONCA (EGPRN - European General Practice Research Network, EuroQuol Quality Group - group for quality research in family medicine, EURACT - European Academy of Teachers in General Practice/Family Medicine…) have a mission of research development and represent an opportunity to learn about the content and methodology of research. Slovene researchers are actively involved in the projects of these networks. Through the network of researchers we are participating in numerous projects such as self-care (26), health care system factors that influence early cancer diagnosis (27), and treatment of hypertension in the oldest-old (28).

Euract manages a number of research and applied projects in the field of education, such as drafting future development strategy (30) and the implementation of a system for the accreditation of teachers in family medicine (31).

As researchers we are also connected with Departments and Institutes of Family Medicine across Europe and beyond. Our closest connections are with the Imperial College London, the University of Antwerp, Maastricht, Gothenburg, Bergen, and many others (17).

With its high level of work and research, Slovenian family medicine is the leader in the Balkans. We are expanding our role in the territory of the former Yugoslavia through educational and research projects, such as the introduction of a specialization in family medicine in Macedonia and Montenegro, which was supported by the World Bank (33). Through these projects some of us are included as external experts in the fur-

ther development and analysis of the profession in the territory of the former Yugoslavia (34).

4 Research support at a national level

The main purpose of research work is to improve the health of the population. Research agencies, financial funds, pharmaceutical companies, and other companies are also aware of this, and are promoting research and applied projects through (co-)financing. National orientation to research in the field of family medicine is:

- *Support for participation in European projects.* As a partner institution, we participated in European projects aimed at reducing alcohol-related harm, such as CHAPAPs, IATPAD, and SOPA, the PHAMEU project that examined the organization of primary health care in Europe, and the project PREDICT aimed at identifying predictive factors of depression (35).
- *Funding of numerous projects through the Slovenian Research Agency (ARRS)*, such as the project on the workload of family medicine doctors (36) and projects related to improving the quality of work in family medicine in the field of management of chronic diseases and treatment of the elderly (37,38).
- *Participation in the Ministry of Health's projects*; the project of Model Practices (39).
- *Participation in projects of the Medical Chamber of Slovenia and the Health Insurance Institute of Slovenia* for identifying system solutions for improving the organization of health care. We have been involved in the development of evidence-based standards and norms for the practice of family medicine (40).
- *Research in the public interest* (e.g. on quality, on the effects of national projects such as the project of Model Practices) (20-22).

5 Slovenian academic family medicine in figures

The Department of Family Medicine in Ljubljana and Maribor has 1 full time professor, 6 associate professors, and 5 assistant professors active currently, plus 17 teaching assistants and more than 400 mentors who, as external staff, participate in the implementation of pedagogical work. In addition to the basic subject "Family Medicine", which has been a part of the curriculum since 1994, the Departments are now cooperating in the implementation of a number of core curriculum subjects (Primary Health Care in Ljubljana and Family Medicine in Maribor, Communication, Contact with the Patient) and electives (Motivational Techniques, Research in Family Medicine, and Medicine in Rural and Remote Areas) (41).

As part of the research group at Faculties of Medicine in Ljubljana and Maribor there are 17 registered researchers who, over the last five years, published 87 original scientific articles in high impact journals, over 1000 other publications, and have 325 pure citations. Many articles and publications were created in cooperation with renowned domestic and foreign researchers in the field of family medicine, other clinical specialties and other fields, such as psychology sociology, IT, and more.

6 Key achievements and challenges of family medicine

6.1 Key achievements of family medicine in the field of research and the reasons for success

Notable key achievements of family medicine in the field of research are:

- Formation of a research group and network of researchers that represents a bridge between researchers linked to academic institutions and practitioners interested in research.
- Connecting on the international level; this offers the possibility of further development and reinforces the place of family medicine as a scientific, academic, and professional discipline both at home and abroad through the participation in international projects and research groups.
- Improved position of the profession, a result of the academic development, has also contributed to a greater interest among young people, who choose family medicine residency for their career goals.
- An increased interest in family medicine results is a higher number of young and capable doctors choosing this specialty; their drive for a research and academic career starts with enrolling in doctoral studies.

6.2 Challenges for further development in the field of research in family medicine

6.2.1 Network of researchers

The implementation of research projects in family medicine generally requires the participation of practicing family doctors, who help collect data. A network of researchers or research clinics is under development. The advantage of a well-functioning network of research clinics lies primarily in the quality of data collection, as network members have advanced training in research work.

The network of researchers connects outpatient clinics of family medicine, which are the main source of "real" data, and at the same time, the place where research is carried out in everyday clinical work. Doctors who, primarily, are not researchers and work in clinical practice are gradually involved in research work and are even progressively involved in increasingly complex research projects. This is a process where outpatient clinics are gradually integrated into networks that are tested on smaller projects and are associated with other research projects. The main obstacle that we encounter in reinforcing the research network is doctors' lack of time for research, a result of heavy day-to-day clinical workload and the lack of rewarding opportunities for work performance. We are not only implying a financial incentive, but also other means of recognition for their contribution. Outpatient clinics need instructions on the implementation of research, since high quality research data collection is becoming increasingly demanding; in the future we can, therefore, expect outpatient clinic competence certification for inclusion in research projects.

6.2.2 Institute for Family Medicine

An Institute is the highest form of organization, which would provide human resources and financial resources for the further successful development of research and the transfer of scientific knowledge into practice. At present, we have well-trained researchers who,

because they are mainly employed in health care institutions and mainly work with patients, lack research time. We also lack permanent staff needed for the implementation and data analysis (for example, administrative staff, statistical analyst, IT specialist…) and support in the form of experts needed for project management (e.g. financial management of projects).

6.2.3 Other challenges

We will be faced with many other challenges linked to demographic change, the development of new technologies, the changing role of the patient, and changes in the health care system. In the future we will be more focused on:

- the research of problems that we encounter in our everyday work in order to find solutions that lead to improved patient treatment - an analysis of one's own work;
- participation in national and international research that boost doctors' skills in the field of research and promote the transfer of novelties into our space;
- active involvement in international networks of researchers and exchange of researchers between research institutions.

7 Conclusion

Since its beginnings in the 1990s, the Slovenian academic family medicine has made remarkable progress and thus contributed to the development of family medicine as a clinical science. In the future, it is necessary to integrate the academic and clinical development into an institution that will function at a national level. We need an Institute for Family Medicine.

References

1. World Health Organization. Declaration of Alma-Ata: International Conference on Primary Health Care. 6–12 September 1978; Alma-Ata, USSR. [cited 2019 Jan 28]. Available from: http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf
2. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. Milbank Q. 2005;83(3):457-502.
3. Allen J, Gay B, Crebolder H, Heyrman J, Švab I, Ram P. Evropska definicija družinske medicine. [cited 2017 Dec 18]. Available from: http://www.woncaeurope.org/sites/default/files/documents/Evropska_definicija_druzinske_medicine.pdf
4. Trostle J. Research capacity building in international health: definitions, evaluations and strategies for success. Soc Sci Med. 1992;35(11):1321-4.
5. Crisp BR, Swerissen H, Duckett SJ. Four approaches to capacity building in health: consequences for measurement and accountability. Health Promot Int. 2000;15(2):99-107.
6. Farmer E, Weston K. A conceptual model for capacity building in Australian primary health care research. Aust Fam Physician. 2002;31(12):1139-42.
7. Jowett SM, Macleod J, Wilson S, Hobbs FD. Research in primary care: extent of involvement and perceived determinants among practitioners from one English region. Br J Gen Pract. 2000;50(454):387-9.
8. Hickner J, Kuzel T, Weidner A; ADFM Research Development Committee. Building research capacity in departments of family medicine: pearls from NAPCRG 2013. Ann Fam Med. 2015;13(2):189-90.
9. Cooke J, Ariss S, Smith C, Read J. On-going collaborative priority-setting for research activity: a method of capacity building to reduce the research-practice translational gap. Health Res Policy Syst. 2015;13(1):25.
10. De Maeseneer JM, van Weel C. Research in geneneral practice in Europe: a growing community. Eur J Gen Pract. 2001;7(3):90-1.
11. Buono N, Thulesius H, Petrazzuoli F, Van Merode T, Koskela T, Le Reste JY, et al. 40 years of biannual family medicine research meetings—the European General Practice Research Network (EGPRN). Scand J Prim Health Care. 2013;31(4):185-7.
12. Hummers-Pradier E, Beyer M, Chevallier P, Eilat-Tsanani S, Lionis C, Peremans L, et al. Research Agenda for General Practice : Familiy medicine and Primary Health Care in Europe. [cited 2017 Dec 22]. Available from: https://www.egprn.org/page/research-agenda

13. Dolinšek E, Fink N, Petek Šter M. Orodja za merjenje multimorbidnosti : pregledni prispevek. Med Razgl. 2016;55:273-82.
14. Omejec J, Stepišnik A, Selič P, Petek Šter M. Razlogi za študij medicine in dentalne medicine pri študentih prvega letnika Medicinske fakultete v Ljubljani. Zdrav Vestn. 2017;86(7-8):286-94.
15. Petek D, Rotar Pavlic D, Svab I, Lolić D. Attitudes of Roma toward smoking: qualitative study in Slovenia. Croat Med J. 2006;47(2):344-7.
16. Petek D, Gajšek T, Petek Šter M. Work-family balance by women GP specialist trainees in Slovenia: a qualitative study. BMC Med Educ. 2016;16:31.
17. Klemenc-Ketiš Z, Kersnik J. Importance of international networking in academic family medicine. Acta Med Acad. 2014;43(1):63-8.
18. CPC plus. Uspešno zaključen prvi mednarodni projekt Zdravstvenega doma Ljubljana (ZDL). [cited 2018 Jan 28]. Available from: https://www.zd-lj.si/cpc/index.php?option=com_content&view=article
19. Petek Šter M, Pivk L. Ne-nujni obiski v predbolnišnični nujni medicinski pomoči. In: Skela-Savič B, Hvlaič Touzery S, eds. 7. mednarodna znanstvena konferenca Znanje, vrednote, prepričanja in dokazi za razvoj kakovostne zdravstvene obravnave: mesto in vloga zdravstvene nege: zbornik predavanj z recenzijo. 12.-13. junij 2014; [Bled, Slovenija]. Jesenice: Fakulteta za zdravstvo Jesenice; 2014.
20. Petek D, Mlakar M. Quality of care for patients with diabetes mellitus type 2 in 'model practices' in Slovenia - first results. Zdr Varst. 2016;55(3):179-84.
21. Poplas-Susič T, Švab I, Klančar D, Petek D, Vodopivec-Jamšek V, Bulc M, et al. Screening and Registering Patients with Asthma and Copd in Slovenian Primary Care: first Results. Zdr Varst. 2015;54(3):161-7.
22. Petek Šter M, Šter B. Pomen izobraževanja diplomiranih medicinskih sester v referenčnih ambulantah: primer arterijske hipertenzije. Obzornik zdravstvene nege. 2015;49(1):52-9.
23. Iljaž R, Brodnik A, Zrimec T, Cukjati I. E-healthcare for Diabetes Mellitus Type 2 Patients - A Randomised Controlled Trial in Slovenia. Zdr Varst. 2017;56(3):150-7.
24. Building consensus about eHealth in Slovene primary health care: Delphi study. BMC Med Inform Decis Mak. 2011(11):25.
25. Petek Šter M, Švab I, Šter B. Prediction of intended career choice in family medicine using artificial neural networks. Eur J Gen Pract. 2015;21(1):63-9.
26. Weltermann BM, Gerasimovska-Kitanovska B, Thielmann A, Chambe J, Lingner H, Pirrotta E, et al. Self-Care Practices for Common Colds by Primary Care Patients: Study Protocol of a European Multicenter Survey-The COCO Study. Evid Based Complement Alternat Med. 2015;2015:272189.
27. Harris M, Frey P, Esteva M, Gašparović Babić S, Marzo-Castillejo M, Petek D, et al. How the probability of presentation to a primary care clinician correlates with cancer survival rates: a European survey using vignettes. Scand J Prim Health Care. 2017;35(1):27-34.
28. Streit S, Verschoor M, Rodondi N, Bonfim D, Burman RA, Collins C, et al. Variation in GP decisions on antihypertensive treatment in oldest-old and frail individuals across 29 countries. BMC Geriatr. 2017;17(1):93.
29. Streit S, Gussekloo J, Burman RA, Collins C, Kitanovska BG, Gintere S, et al. Burden of cardiovascular disease across 29 countries and GPs' decision to treat hypertension in oldest-old. Scand J Prim Health Care. 2018;36(1):89-98.
30. Zarbailov N, Wilm S, Tandeter H, Carelli F, Brekke M. Strengthening general practice/family medicine in Europe-advice from professionals from 30 European countries. BMC Fam Pract. 2017;18(1):80.
31. The electronic portfolio of evidence of teaching performance. [cited 2018 Jan 28]. Available from: http://euract-appraisal.woncaeurope.org/
32. Švab I, Allen J, Žebiene E, Petek Šter M, Windak A. Training experts in family medicine teaching. Eur J Gen Pract. 2016;22(1):58-63.
33. Cvejanov Kezunović L, Drecun M, Švab I. Primary care reform in Montenegro. Zdr Varst. 2013;53(4):247-54.
34. Klančar D, Švab I. Primary care principles and community health centers in the countries of former Yugoslavia. Health Policy. 2014;118(2):166-72.
35. Pašić K, ed. Desetletje družinske medicine. Kronika razvoja družinske medicine v Sloveniji v letih 2005-2015. Ljubljana: Združenje zdravnikov družinske medicine SZD; 2016.
36. Švab I, Petek Šter M, Kersnik J, Živčec Kalan G, Car J. Presečna študija o delu zdravnikov splošne medicine v Sloveniji. Zdr Varst. 2005;44:183-92.
37. Gorup EC, Šter MP. Number of medications or number of diseases: what influences underprescribing? Eur J Clin Pharmacol. 2017;73(12):1673-9.
38. Petek Šter M. Kakovost vodenja bolnikov z arterijsko hipertenzijo v ambulantah splošne medicine v Sloveniji. [[doktorska disertacija]]. Ljubljana: Medicinska fakulteta; 2005.
39. Referenčne ambulante družinske medicine. [cited 2018 Jan 28]. Available from: http://www.referencna-ambulanta.si
40. Živčec Kalan G, Petek Šter M, Kersnik J. Elementi obremenitve zdravnikov družinske medicine z delom. Zdrav Vestn. 2012;81(6):461-9.
41. Ribarič S, ed. Enovit magistrski študij program druge bolonjske stopnje medicine. Predstavitveni zbornik. [cited 2018 Jan 28]. Available from: http://www.mf.uni-lj.si/media-library/2017/11/edc64e85c4b293aefd-3edf5b86aae00b.pdf