

CASE STUDY AND LESSONS LEARNT

Upgrading the model of care in family medicine: a Slovenian example

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ABSTRACT

Introduction: New models of care in family practice are required given the rapid development of medicine, demographic changes, the expanding number of services, and the inter-professional approach – using more professionals from other fields such as nursing – that should be provided to patients. Therefore, changes were needed to enable family physicians in Slovenia to practice a personalized, comprehensive and holistic approach. The purpose of this article is to describe the new model of care in family practice that was implemented in Slovenia and its initial results.

Methods: In 2011, a project at the level of primary care in Slovenia was launched that introduced an upgraded model of care in family practices, where the family practice's working team was expanded by adding a registered nurse working four hours per day or a 0.5 full-time equivalent. The nurses' tasks were to manage patients with stable chronic diseases and perform preventive activities.

Results: At the end of 2017, out of 968 family practices in Slovenia, 775 adopted the upgraded model of care. Within these practices, 1 252 889 patients were registered, representing 83.5% of all of the 1 500 419 patients

registered in family practices in Slovenia. From 2011 to 2017, 428 191 patients were screened for selected chronic diseases and risk factors. During preventive screenings, 108 546 patients were newly found to have at least one chronic disease and 293 170 patients were identified to have risk factors. 349 402 had already been diagnosed as having at least one chronic disease and were entered into registers as chronic patients.

Conclusion: This project has significant public health potential. It offers objective and regularly updated data on the prevalence and incidence of chronic diseases and the presence of risk factors among the population of Slovenia. These data could present a basis for public health actions and public health policy planning at the national level which could result in an improvement in population health. At the primary health care level, this project offers a better quality of care and constant quality improvement. It also enables the same standards of care across the entire country which is a step towards health care equality. Through this project, primary health care in Slovenia was, and could continue to be, reinforced and obtain a central role in the health care system.

Keywords: PRIMARY HEALTH CARE, INTERDISCIPLINARY HEALTH TEAMS, CHRONIC DISEASE, PATIENT CARE

INTRODUCTION

In 2008, the World Health Organization (WHO) released a report (1) that called on governments to pay greater attention to primary health care and direct their health policy to ensure that primary health care is as effective and affordable as possible (2). Some countries succeeded in implementing this call while facing the challenge that health care was fragmented and non-patient-oriented (3). In Slovenia, the organization and delivery of the health care system followed the views of Andrija Štampar (4), the ideological leader of community-oriented primary care; nonetheless, primary health care continued to lose its important

role in the health care system despite the fact that family medicine, in particular, had developed significantly in recent years (5–8).

Slovenia is a Central European country with approximately two million inhabitants. Its national health care system can be described as a combination of the Beveridge and Bismarck models. Every inhabitant of Slovenia is insured through their employment status, or, if unemployed, through local communities. Compulsory health insurance covers over 80% of all health care costs, and through the purchase of a voluntary insurance top-up payment, the remaining health care costs and additional services provided to the user above the basic level

can be covered. The responsibility of the state is to prepare and establish the network of health care institutions which comprises: public primary health care centres; family physicians and dentists who work as independent contractors; pharmacies; specialist services; and public hospitals.

A traditional family physician's working team in Slovenia consists of a family physician and a nurse with a baccalaureate degree, or nurse assistant. Such a team works either in a health centre with other family physician working teams, in a health centre with other family physician working teams and other specialists, or as an independent contractor (7). Family physicians in Slovenia can choose either to be state employees or independent contractors with the National Insurance Company: the majority are state employees. The financing of family physicians, both state-employed and independent contractors, is done through the National Insurance Company.

European family medicine competencies have been implemented in family practice in Slovenia (9) and offers a person-oriented and comprehensive team approach to patients. However, upgraded models of care in family practice are required in the face of: the rapid development of medicine, such as through new technologies and newly available investigations; demographic changes; the expansion of primary care services, because of reduced hospitalization times, or more time-consuming palliative care and care for multi-morbid patients; increased demands from patients and the growing number of patients per physician; and the need for applying an inter-professional approach – using more professionals from other fields such as nursing – for patients.

The purpose of this article is to describe the upgraded model of care in family practice that was implemented in Slovenia, with support from the Ministry of Health, and its initial results. With the upgrading of the family practice teams, we wanted to: assure a standardized approach to quality assurance and improvement; improve the quality of care; enable an interdisciplinary, standardized, and person-centred approach to patients; and enable a division of workloads among all members of a team according to their competencies.

METHODS

CHANGES TO FAMILY PRACTICE TEAMS

In 2011, a project at the primary care level in Slovenia was launched to introduce an upgraded model of care in family practices, whereby a family practice working team was expanded by a registered nurse working four hours per day or a 0.5 full-time equivalents (10). Registered nurses are defined

as nurses with a bachelor degree and additional postgraduate-specific training who work within an expanded scope of practice that includes screening, checking parameters, education and counselling on medical conditions within specific settings (11). The tasks of registered nurses were defined as managing patients with stable chronic diseases and conducting preventive activities, and the tasks of family physicians were managing patients with newly discovered chronic diseases or diseases in deterioration and patients with acute illnesses.

EXTENSIVE PREVENTIVE ACTIVITIES

A preventive screening for: the most common chronic noncommunicable diseases, including diabetes, chronic obstructive pulmonary disease, asthma, hypertension, depression, coronary heart disease, cardiovascular diseases, and osteoporosis; and risk factors, including smoking, alcohol drinking, body mass index, nutrition habits, social status, and family history, was introduced for people aged 30 years and older, except for those with osteoporosis who were at least 60 years old.

MANAGEMENT OF PATIENTS WITH CHRONIC DISEASES

Registered nurses assumed the management of patients with the following chronic diseases: hypertension, diabetes, asthma, chronic obstructive pulmonary disease, osteoporosis, depression, benign prostatic hyperplasia, and coronary heart disease.

One of their first tasks was the establishment of registers of chronic patients. With the aim of achieving quality patient management, protocols for managing patients who had the selected chronic diseases were developed by inter-professional groups consisting of different professionals, such as family physician specialists, nurses, and specialists in cardiology, pulmonology or diabetes, to whom patients are referred regarding their chronic disease. Protocols present vertical connection and collaboration between different health care levels, from primary to secondary to tertiary (12). These protocols provide guidelines for primary health care teams in terms of clinical care and organizational aspects of practice. Much emphasis is also given to self-management support for patients which is essential for extending health care outside the physician's office into a patient's daily life. Protocols encompass clinical pathways for an efficient and effective journey of patients through the health care system. They contain the following clearly specific elements:

- protocol for performing an individual consultation with a patient
- criteria for managing a patient with a stable chronic disease
- frequency of planned visits

- ways of communicating
- criteria for urgent situations
- measures at the primary health care level for referral to an emergency department
- indications for referral to secondary/tertiary health care
- how to manage unstable diseases at the primary health care level
- communication pathways between a family physician and patient
- quality indicators for patients with chronic diseases
- physician instructions for the activities of registered nurses (12).

QUALITY ASSURANCE AND IMPROVEMENT

Quality assurance encompasses the following dimensions: registers of chronic patients and patients with risk factors, protocols for the management of different groups of patients, quality indicators, and continuous education.

REGISTERS OF CHRONIC PATIENTS AND PATIENTS WITH RISK FACTORS

Each family practice is establishing registers for patients with the following chronic diseases: diabetes, asthma, chronic obstructive pulmonary disease, hypertension, benign prostatic hyperplasia, depression, coronary heart disease, osteoporosis, smoking, and excessive alcohol drinking. At the level of family practice, the register contains information on a patient's gender, age, medications, and clinical indicators; namely, blood pressure levels and blood glucose levels. Family practice numbers are stored in electronic health records and are then captured by the national database. At the national level, only a small number of patients with certain chronic diseases is reported.

QUALITY INDICATORS

Quality of care is monitored by 28 quality indicators which cover the quality of clinical work, quality of preventive activities, and quality of an organization. They are designed to give a comprehensive view of quality as they are from all three quality indicator categories: structure, process and outcome. Also, patient and staff satisfaction is measured annually. The parameters for quality indicators are automatically captured from electronic health records in practice and from an electronic database at the national level. Each family practice team has access to the data of its own practice and can also benchmark its work to that of other family practice teams.

EDUCATION

An important part of quality assurance is proper and continuous education. Before a family practice can join the project, its entire team must undergo an educational module where the basics of the project, work, competencies and information technology are introduced. Registered nurses must then complete several educational modules to gain competencies for working with patients as a part of the family practice team.

Continuous professional development for teams in family practice takes place once a year through an annual professional conference organized by the Slovenian Family Medicine Society and the Department of Family Medicine, Faculty of Medicine, University of Ljubljana.

RESULTS

NUMBER OF PRACTICES AND PATIENTS

At the end of 2017, 775 of a total of 968 family practices in Slovenia had adopted the upgraded model of care. In these 775 practices, 1 252 889 patients were registered, representing 83.5% of all patients, or 1 500 419 patients, registered in family practices in Slovenia.

PREVENTIVE ACTIVITIES

From 2011 to 2017, 428 191 patients were screened for the selected chronic diseases and risk factors. A total of 108 546 patients were found to have at least one of the selected chronic diseases, and 293 170 patients had risk factors (Table 1).

CHRONIC DISEASES

At the end of 2017, there were 349 402 patients registered to have at least one of the selected chronic diseases. Most patients had hypertension (Table 2).

QUALITY INDICATORS

The satisfaction of patients with the family physicians was very high over the years. The satisfaction with the registered nurses was slightly lower the first year but stabilized at a very high level in the next years. The patients were most satisfied with the professionalism, attitudes and ethics of the physicians, and least with the possibility of telephone communication with the practice – telephone lines were almost always busy – and waiting times. For registered nurses, patients were most satisfied with the integrated approach, where a diversity of professionals are involved, and communication, and least with the lack of a person-centred approach (as opposed to a disease-centred

TABLE 1. NUMBER OF PATIENTS WITH CHRONIC DISEASES AND RISK FACTORS FOUND AT SCREENING FROM 2011 TO 2017

Condition	Number of patients
Risk factors	293 170
Chronic diseases ^a	108 546
Asthma	3240
Chronic obstructive pulmonary disease	5786
Diabetes	21 460
Hypertension	44 808
Depression	12 234
Cardiovascular diseases	12 309
Coronary heart disease	2449
Osteoporosis	8264

^a The total number of chronic diseases does not equal the sum of the separate diseases because one patient can have more than one chronic disease.

TABLE 2. NUMBER OF PATIENTS WITH THE SELECTED CHRONIC DISEASE REGISTERED IN THE FAMILY PRACTICES WITH AN UPGRADED MODEL OF CARE

Chronic disease	Number of patients
Diabetes	72 449
Asthma	31 426
Chronic obstructive pulmonary disease	15 126
Hypertension	252 189
Benign prostatic hyperplasia	42 471
Depression	51 504
Coronary heart disease	31 481
Osteoporosis	96 684

approach). Employee satisfaction in the practices increased over the years, with employees satisfied most with teamwork and the least with the possibility of replacement during their absence.

The patient satisfaction scale for 2016 showed high satisfaction with confidentiality, equity and respect among practice team members. The flexibility of the appointment system received the lowest evaluation values (Table 3) (13).

TABLE 3. PATIENT SATISFACTION SCORES (EACH ITEM COULD BE ANSWERED ON A 5-POINT LIKERT SCALE – FROM 1 TO 5)

Item	Mean (standard deviation)
The appointment system in this practice is flexible.	4.7 (0.6)
During the consultation, team members gave me enough information about self-care.	4.8 (0.5)
During the consultation, team members gave me understandable information about my health and planned treatment.	4.8 (0.5)
During the consultation, I was able to express my expectations regarding my treatment plan to the team.	4.8 (0.5)
In this practice, all patients are treated equally by the entire team.	4.9 (0.5)
Each team member in this practice knows their role.	4.8 (0.5)
Team members in this practice respect each other.	4.8 (0.4)
In this practice, the team handles my data confidentially.	4.9 (0.4)
In this practice, all patients are treated with respect by the entire team.	4.9 (0.4)

The structure quality indicators achieved quality standards but the process and outcome ones did not. In addition, there were significant differences in quality indicators between individual providers, health centres and regions of Slovenia.

DISCUSSION

The project on the upgraded model of management of patients in family medicine in Slovenia was successfully implemented. It was expected that all family practices in Slovenia would adopt this model of care by the end of 2018. The first analysis showed that certain quality segments, including structure quality indicators and patient and employee satisfaction, achieved very high quality levels, while others did not yet achieve a satisfactory level of quality.

Currently, nearly four-fifths of all family practices in Slovenia have adopted the new model of care, which indicates a high level of acceptance of this model among family practice teams. With the inclusion of a registered nurse to a family medicine team, an excessive workload (14, 15) may be distributed between physicians and registered nurses, thus making more time available for consultations and fostering a more person-centred

approach. Also, it enables an inter-professional approach to patients. It has been shown that registered nurses can achieve similar health outcomes to those achieved by family physicians themselves (16, 17). They may even have superior interpersonal skills (18) and can assure high patient satisfaction (19, 20). It is therefore justified that registered nurses take over the tasks of checking the parameters of chronic patients and conducting preventive activities, which was also shown to be successful in other studies (16, 17). The protocols for managing patients with chronic conditions are developed in a way which fosters a person-centred approach to patients. Much emphasis is given to the need for patients to become partners in health decisions. The management of the individual patient is concentrated on their needs and priorities. Much time is devoted to effective communication which aims to empower patients to actively participate in the health care process. Health education is individually tailored according to the abilities, priorities and motivation of patients (21).

Registers of patients with risk factors and chronic diseases present a step forward in working at the primary health care level. They allow for an overview of the registered population and its health care needs and enable a structured, personalized and approach focused on a population rather than an individual.

Structure quality indicators achieved high standards and this is a sign that the conditions for measuring quality have been established. In addition, high levels of patient satisfaction show that the new form of care in family medicine was well received by patients. On the other hand, the process and outcome indicators did not meet the standards and this could be attributed to several reasons including the lack of quality control and improvement, poor adherence to guidelines and protocols, poor quality indicators, and suboptimal information support.

This project has significant public health potential. It offers objective and regularly updated data on the prevalence and incidence of chronic diseases and the presence of risk factors among the population of Slovenia. These data could present a basis for public health actions and public health policy planning at the national level which could result in an improvement in population health. At the primary health care level, this project offers a better quality of care and constant quality improvement. It also enables the same standards of care across the entire country which is a step towards more equitable health care. Through this project, primary health care in Slovenia could be reinforced and obtain a central role in the health care system.

As this model continues to be implemented, we are faced with many future challenges. Once all family practices in Slovenia have adopted this model of care, it will certainly be a good step towards the improvement of primary health care in Slovenia. The plans are to introduce other professional groups to the family practice team such as clinical pharmacists, dietitians, physiotherapists and others. Another big challenge is to establish the continuous professional monitoring of quality, which would require an enhanced workforce, financial resources, and infrastructure, and provide constant feedback to individual family practice teams about suggestions for quality improvement.

The improvement of primary health care demands long-term changes. Such changes are provided by this upgraded model which promises to strengthen health indicators in Slovenia. It also offers an insight into the future models of care at the primary health care level, possibly of an inter-professional nature. The implementation of such an approach needs coordinated planning which should include professionals from all levels of health care – primary, secondary and tertiary – and professional groups (as noted above), the Ministry of Health and other decision-makers, and patients. Registered nurses have to be educated in this new approach and their new tasks, such as preventive activities and managing patients with risk factors and chronic diseases, prior to beginning such a project, and the entire family practice team should be educated about this new approach. Feasible standardized guidelines for managing patients at all levels of health care should be developed. The competencies and responsibilities of family practice team members should be clearly defined. Such an on-going project needs continuous and flexible adaptation to the actual circumstances of the health care system of a country. In addition, the protocols should be constantly updated to include new knowledge that emerges as a consequence of the development of the profession.

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¹ All references were accessed 9 November 2018.