

Did the Structure of Work in the Public Health Nurse Service of the Republic of Croatia Change in the Period 1995–2012?

Dobrislav Šimić¹, Zvonimir Bendeković², Ana Gladović² and Luka Kovačić³

¹ Family Practice »Dr. Dobrislav Šimić«, Bednja, Croatia

² Health Centre of the Varaždin County, Family Practice Lepoglava, Lepoglava, Croatia

³ University of Zagreb, School of Medicine, School of Public Health »Andrija Štampar«, Department of Social Medicine and Organization of Health Care, Zagreb, Croatia

ABSTRACT

In Croatia, public health nurses (PHN) have been members of family doctor (FD) teams for decades, conducting a multifunctional and polyvalent scope of activities, including health promotion, prevention, as well as part of the treatment for the inhabitants of a defined catchment area. The main aim of the study was to investigate the trends in the number and structure of PHN visits in the period from 1996 to 2012. The main sources of data were Croatian Health Service Yearbooks. The results strongly indicate that PHN's are overloaded by a high number of visits, especially to chronic patients. While mothers and new-born children are in the PHN care, pregnant women and small children are rather neglected. Considering different working conditions and differences in population needs, a review of the standard is recommendable.

Key words: public health nurse service, primary health care, public health, Croatia

Introduction

Public health nursing (PHN) is an integral part of the primary health care (PHC) system in Croatia since early 1950s, when health centers were established. PHNs became regular members of mainly family doctor teams (FDs), responsible for patients in defined catchment areas. After the »privatization« of the PHC in 1996, the team function was threatened. FDs became private, independent contractors with the Croatian Health Insurance Fund (CHIF), responsible only for the patients on a FD's list – the patients who chose the particular FD. PHNs remained to be employed by health centers and they remained to be responsible for the inhabitants of a particular catchment area (between 4000 and 5000 inhabitants). Although FDs and PHNs were separated by the employment status, they generally remained to function as a team. In 2013, the number of PHNs in Croatia was 917.

The main characteristics of PHN activities have been community orientation and service which is free-of-charge and mostly provided in patients' homes. PHNs conduct a multifunctional, polyvalent scope of activities, in-

cluding health promotion and prevention, as well as some aspects of treatment in accordance with the standards defined in the Plan and Program of the Health Care Measures². The numbers of visits to pregnant and postpartum women as well as to babies and small children are clearly defined in the Plan². The Plan prescribes one visit to pregnant and two visits to postpartum women. It also prescribes two visits to newborn babies, two visits to 1–12 month-old babies, one visit to small children and one visit to school children and to the schools. The number of visits can be increased based on the PHN's individual assessment or following a suggestion by the FD. Visits to healthy women, other vulnerable groups of the adult population and visits based on social, economic or hygienic concerns are not defined in exact numbers; planning of those visits is left to PHNs and it depends on the needs of individual patients. Furthermore, PHNs are primarily responsible for providing health education, health promotion and disease prevention to all of the members of the community, either to in-

dividual citizens, families or high-risk groups, such as former alcoholics. Collaboration with social services, administration, nursing homes, and health institutions is also defined as the standard of PHN's scope of work. As a result of the introduction of a private, home-based nursing service in Croatian PHC, the role of PHN service has gravitated more towards curative care³.

This main purpose of this study is to investigate the trends in the number and structure of PHN visits in Croatia in the period from 1996 to 2012. Secondly, the aim of the study is also to examine the connections between those trends and the changes within the health system and towards defined standards.

Material and Methods

The study is observational and longitudinal, based on routinely collected national statistics and data. The main sources were Croatian Health Service Yearbooks, published by the Croatian Institute of Public Health⁴. The data were obtained for each year in the form in which they were presented in the Yearbooks. In the Yearbooks, the visits are structured as visits to healthy, pregnant and postpartum women; to new-born babies; babies under the age of 12 month; small children (1–6 years) and other children; visits to chronic patients; visits to schools; and visits to patients' homes due to social and hygienic concerns, and other visits. The authors have calculated the total number of visits in the entire studied period and the average number of visits per one PHN per year.

Furthermore, the number of realized PHN visits (visits done) was compared to the number of prescribed visits in accordance with the Plan (estimated number of visits)². The estimated number of visits was calculated only for women and children, and not for other population groups, as the exact number of visits is defined by the standard only for these two population groups. The estimated number of visits to pregnant and postpartum women was calculated in relation to the number of deliveries in the given reference year, also obtained from the Yearbook. For pregnant women, the estimated number of visits equals the number of deliveries, since the standard prescribes one visit per pregnancy. The estimated number of visits for postpartum women was calculated by multiplying the number of deliveries in the given reference year by 2. The estimated numbers of visits to new-born babies, 1–12 month-old babies and small children were calculated on the basis of the number of children obtained from the Census⁵. The calculation was done in the same way as for women, multiplying the number of children of a certain age by the number of visits prescribed by the standard.

Microsoft Office packages (Excel and Access) were used in data mining. The results are presented as a table of frequencies, in percentage, and in time trends by linear graphs.

Results

The results are presented in two parts. The first part lays out the total number and the structure of realized PHN visits to individual population groups. In the second part, the realized visits are compared to the estimated number of visits; the number of visits prescribed by the Plan (the standard)².

Realized public health nurses' visits

Over the period of seventeen years, the number of annual visits per nurse increased from 1,437.7 in 1996 to 1,826.5 in 2012. From 1996 to 2000, the average number fluctuated (it reached a low in 2000, with 1,380.3 visits on average), but it had grown continuously from 2000 on (Figure 1).

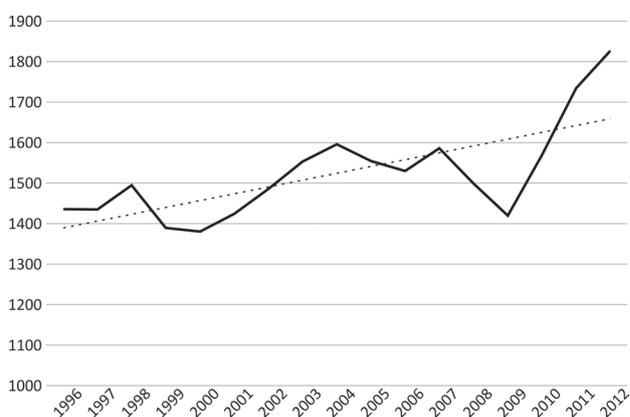


Fig. 1. The number of annual visits per a public health nurse in Croatia, 1996–2012.

Throughout the entire studied period, the most frequent were the visits to chronic patients (12,692,258 visits or 56.9 % of the total number of visits), followed by the visits to well-babies (2,717,245 visits or 12.2 % of the total number of visits) and visits to post-partum women (2,384,006 visits or 10.7 % of the total number of visits). A very small number of visits refer to school visits and visits involving social and hygienic concerns (Figure 2).

The number of PHN visits to chronic patients was almost continuously increasing (a 53-percent increase), with

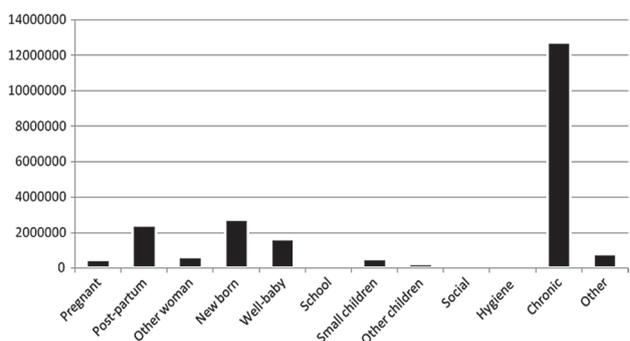


Fig. 2. The structure of public health nurses' visits in Croatia; cumulative sum 1996–2012.

the number rising from 560,898 visits in 1996 to 863,078 visits in 2012. The number of visits to women and children steadily increased, by 49% for women and by 26% for children. Other visits slightly decreased during the studied period (Figure 3).

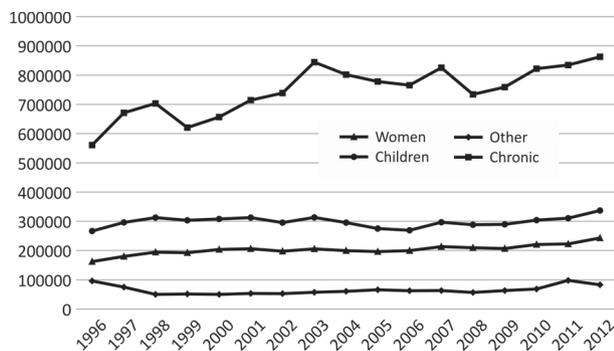


Fig. 3. Trends in public health nurses' visits in relation to the population groups in Croatia, 1996–2012.

In the category of visits to women, the most frequent were those to post-partum women, with a steady trend of growing; going from 113,036 visits in 1996 to 175,357 visits in 2012. The number of visits to pregnant women gradually decreased and the number of visits to healthy women gradually increased (Figure 4).

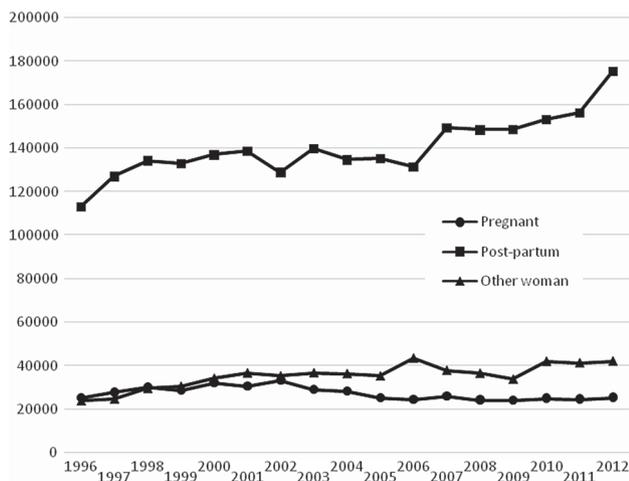


Fig. 4. Trends in public health nurses' visits to pregnant, post-partum and healthy women in Croatia, 1996–2012.

The most frequent PHN visits, with a steadily growing trend, were to new-born babies. In contrast, the number of visits to well-babies was in constant decrease while visits to small-children also, steadily, decreased (Figure 5).

The comparison between the realized and the estimated number of visits

The comparison of the PHN visits which were realized and the visits which should be realized in accordance with the standard, the estimated number, was conducted

for only two population groups. The standard for the number of visits is defined only for women and children, and not for other population groups.

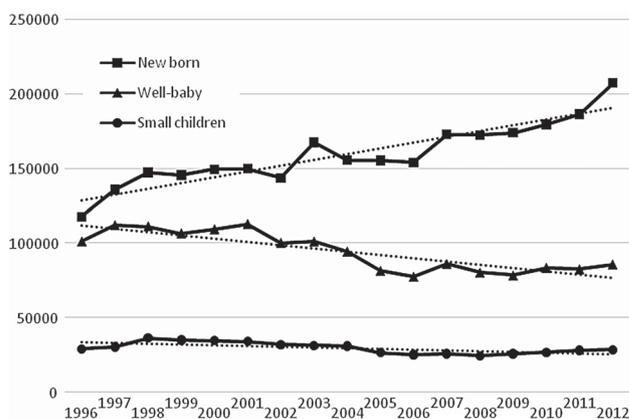


Fig. 5. Trends in public health nurses' visits to children: new-born babies, well-babies and small children in Croatia, 1996–2012.

The number of realized visits to post-partum women was always higher than the estimated number of visits, with the trend of growing. On the other hand, the number of realized visits + to pregnant-partum women was always lower than the estimated number of visits, with the trend of decreasing (Figure 6).

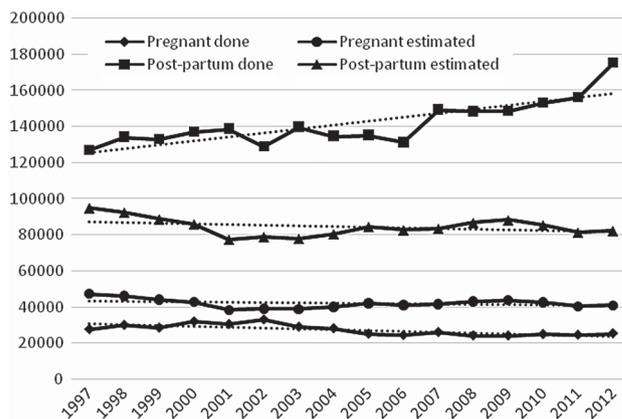


Fig. 6. The comparison of done and estimated number of public health nurses' visits to pregnant women and post-partum women in Croatia, 1996–2012.

The number of realized visits to new-born babies was always higher than the estimated number of visits, with the trend of growing. In contrast, the number of realized visits to small children was far below the estimated number of visits. The number of realized visits to babies was always around the estimated number (Figure 7).

Discussion

The obtained results indicate that the average number of visits per a public health nurse (PHN) is relatively

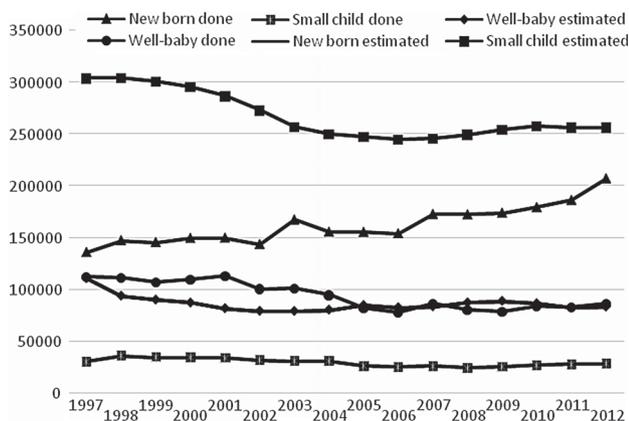


Fig. 7. The comparison of done and estimated number of public health nurses' visits to new-born babies, babies and small children in Croatia, 1996–2012.

high; it ranges between 1,380.3 and 1,826.5 visits a year; or, with the calculation of 250 working days, the daily number of visits ranges between 5.5 and 7.3. Taking into account the one-hour-per-visit standard, it can be inferred that a PHN spends all of the working hours on visits only. There is no time left even for keeping the medical record. Therefore, the fulfillment of other important PHC duties, such as health education, working in small groups, community involvement, cannot be expected. Furthermore, different circumstances and working conditions should be taken into consideration. For instances, PHNs in villages or remote areas are under even a higher pressure than those working in urban areas⁶. Nursing shortage, especially in some parts of Croatia, is obviously a reason for the patient overload, the ramifications of which might include inaccessibility of nurses for the population in need⁷.

The results also indicate that the structure of PHN visits is incongruent with their scope of work and with the main goals of public health nursing. Over 50% of the visits targeted chronically ill patients. This fact cannot be explained by the compulsory involvement in the home nursing care, since the positive trend was continuous and the obligation was not introduced until 2004³. Furthermore, the number of home visits to ill patients by family doctors was continuously dropping. This might suggest that home visits to chronically ill patients were delegated to PHNs instead of family doctors^{6,8}. In Slovenia, PHNs are also very much involved in the home care for chronically ill patients as well⁹. It is not clear whether care for chronically ill patients involves other essential PHN tasks^{10,11}. According to the results, visits due to social and environmental concerns or visits to schools and kindergartens account for only a small number of total visits.

The comparison between the realized and the estimated visits to women and children revealed overrepresentation of some population groups and underrepresentation of others. It seems that pregnant women are a neglected population group in PHN, with the number of realized visits far below the estimated number, based on the standard, and with a downward trend. This can be

explained by the changes in the organizational structure of PHC. Before 1996, all PHC professionals, including family doctors, gynecologists and PHNs, were employed by health centers and they functioned as large teams. After 1996, family doctors and gynecologists became private physicians, contractors with CHIF¹. The communication between doctors, who usually take care of pregnant women, and PHNs deteriorated because nurses remained employed by health centers. The nurses do not have the information about pregnant women unless they receive it from doctors or unless doctors refer the women to PHN. In contrast, the number of visits to the post-partum women is almost double than the estimated number, with a trend of growing. The number of visits to new-born babies was almost the same and it was also on the rise. It is possible that a single visit to a mother with a child home was registered twice, as a visit to a post-partum mother and as a visit to a new-born baby. However, the number of visits to new-born babies was more than twice as high as the estimated standard as opposed to the visits to small children, which are below the standard. It is not clear why PHNs invest more time in babies and mothers⁶. There might be a rational and effective reason according to the literature^{12,13}.

The strength of the study lies in the fact that it is based on standardized and routinely collected data which allow for the comparison of nursing organizational structure across time and geographic areas. The eighteen follow-up periods add a new quality to the reliability of the study, meaning that the observed trends are permanent, not momentary. Nonetheless, observing the trends does not provide us with a deeper understanding of the actual situation in the organization of public health nursing in Croatia. We also found some imprecise data, which is also a limitation of this study and should be taken in account in future reporting.

Besides the limitations, the results of the study can help the policy-makers on different levels to make more adequate decisions. The standards concerning the number and the structure of visits should be revised, taking into account the needs and the possibilities of PHNs working in rural areas. The decision about the PHN involvement in the home care should also be revised in order to open the time for the real scope of nursing work. It would be worthwhile to consider whether certain population groups are in a higher need of nursing care, such as groups of lower socioeconomic status. The results also indicate that further investigation into the effectiveness of PHN-led activities might be necessary in order to set the foundations for evidence-based nurse interventions^{14,15}.

Conclusion

The results of the number and structure of PHN visits in Croatia over the eighteen-year period strongly indicate that PHNs are overloaded by visits, especially to chronic patients. While mothers and new-born children are covered by PHN care, pregnant women and small children are rather neglected. Because of different working conditions and differences in the population needs, it would be recommendable to revise the standards.

Acknowledgements

This study was supported by the Foundation for the Development of Family Medicine in Croatia and WHO

Collaborating Centre for Primary Health Care, School of Public Health »Andrija Štampar«, School of Medicine, University of Zagreb.

REFERENCES

1. MINISTARSTVO ZDRAVSTVA I SOCIJALNE SKRBI, Pravilnik o uvjetima za davanje u zakup zdravstvenih ustanova primarne zdravstvene zaštite i lječilišta, Narodne novine, 6 (1996). — 2. MINISTARSTVO ZDRAVSTVA I SOCIJALNE SKRBI, Plan i program mjera zdravstvene zaštite iz obveznog zdravstvenog osiguranja, accessed 27.3.2013. Available from: URL: <http://zakon.poslovna.hr/public/plan-i-program-mjera-zdravstvene-zaštite-iz-obveznog-zdravstvenog-osiguranja>. — 3. HRVATSKI ZAVOD ZA ZDRAVSTVENO OSIGURANJE, Izmjena Pravila i općih uvjeta ugovaranja primarne, sekundarne i tercijarne razine zdravstvene zaštite i razine zdravstvenih zavoda za razdoblje od 1. travnja do 31. prosinca 2004. godine, Narodne novine, 81 (2004). — 4. HRVATSKI ZAVOD ZA JAVNO ZDRAVSTVO, Hrvatski zdravstveno-statistički ljetopisi, 1995-2012 (Hrvatski zavod za javno zdravstvo, Zagreb, 1996-2012). — 5. DŽAVNI ZAVOD ZA STATISTIKU, Popis stanovništva 1991, 2001, 2011. godine, Kontingenti stanovništva po županijama, gradovima i općinama, Državni zavod za statistiku, Zagreb, accessed 12. 03. 20214. Available from: URL: <http://www.dzs.hr/>. — 6. MAZZI B, Patronažna služba i obiteljski doktor. In: Proceedings (Zbornik jedanaestog kongresa HDOD-HLZ, Rovini 2011), accessed 11. 03. 20214. Available from: URL: www.hdod.net/rad_drustva/. — 7. BENDEKOVIĆ Z, ŠIMIĆ D, GLADOVIĆ A, KOVAČIĆ L, Coll Antropol, 38 Suppl 2 (2014) 85. — 8. ŠPEHAR B, MAČEŠIĆ B, Sestrinski glasnik, 19 (2014) 42. DOI: 10.11608/sgnj.2014.19.003. — 9. MINISTRSTVO ZA ZDRAVJE REPUBLIKE SLOVENIJE, Patronažno varstvo in patronažna zdravstvena nega – nadgradnja in prilaganje novim izivom, Nacionalni Inštitut za javno zdravje RS, accessed 25.05.2014, Available from: URL: http://www.ivz.si/podatkovne_zbirke. — 10. HANSEN C, CARRYER J, BUDGE C, Nurs Prax N Z, 23 (2007) 14. — 11. GLAVIN K, SCHAFFER MA, HALVORSRUD L, KVARME LG, Public Health Nurs, 31 (2013) 153. DOI: 10.1111/phn.12082. — 12. GLAVIN K, SCHAFFER MA, J Clin Nurs, 23 (2014) 492. DOI: 10.1111/jocn.12206. — 13. YONEMOTO N, DOWSWELL T, NAGAI S, MORI R, Cochrane Database Syst Rev, 7 (2013) CD009326. DOI: 10.1002/14651858.CD009326.pub2. — 14. DODGE KA, GOODMAN WB, MURPHY RA, O'DONNELL K, SATO J, GUPTILL S, Am J Public Health, 104 (2014) S136. DOI: 10.2105/AJPH.2013.301361. — 15. VAN BEKKUM JE, HILTON S, BMC Nurs, 12 (2013) 17. DOI: 10.1186/1472-6955-12-17.

D. Šimić

Family Practice »Dr. Dobrislav Šimić«, Trg Svete Marije 17, 42 253 Bednja, Croatia
e-mail: dobrislav.simic1@vz.t-com.hr

MIJENJA LI SE STRUKTURA RADA U PATRONAŽNOJ DJELATNOSTI U RH U PERIODU 1995–2012?

SAŽETAK

Patronažna služba u Republici Hrvatskoj organizirana je u sklopu domova zdravljak kaopolivalentna i multifunkcionalna služba čiji je zadatak prvenstveno preventivni i edukativni rad, skrb o osjetljivim populacijskim grupama, ali i rad s kroničnim bolesnicima. Cilj ovog istraživanja bio je ispitati trendove u strukturi rada patronažne službe u periodu 1996.–2012. godine. Podaci su prikupljeni iz Hrvatskih zdravstveno-statističkih ljetopisa koje izdaje Hrvatski zavod za javno zdravstvo i popisa stanovništva. Rezultati ukazuju na trend povećanja ukupnog broja posjeta kao i trajno izrazito velik udio posjeta kroničnim bolesnicima. Skrb o majkama i novorođenčadi je kroz cijeli promatrani period bila na višem nivou od planirane. Skrb o dojenčadi bila je u razini plana dok je skrb o trudnicama bila znatno ispod planiranog. Gotovo u potpunosti bila su zapostavljena mala i školska djeca kao i posjete zbog socijalnih i higijenskih razloga.