# Health Care Needs, Utilization and Barriers in Croatia – Regional and Urban-Rural Differences

Ivan Pristaš<sup>1</sup>, Marinko Bilić<sup>2</sup>, Irina Pristaš<sup>3</sup>, Luka Vončina<sup>4</sup>, Nevenka Krčmar<sup>5</sup>, Ozren Polašek<sup>4</sup> and Ranko Stevanović<sup>1</sup>

- <sup>1</sup> Croatian National Institute of Public Health, Zagreb, Croatia
- <sup>2</sup> General Hospital Šibenik, Šibenik, Croatia
- $^3$  University Hospital for Infectious Diseases »Fran Mihaljević«, Zagreb, Croatia
- <sup>4</sup> »Andrija Štampar« School of Public Health, School of Medicine, University of Zagreb, Zagreb, Croatia
- <sup>5</sup> Private General Practice Physician, Čakovec, Croatia

#### ABSTRACT

Even the most socially aware countries in the World have noticed the gap increase between the poorest and the richest population groups. The purpose of this study was to investigate the presence of inequity and to identify main barriers for equitable health care utilization by economic status, region and area of living, controlled for health needs in the Croatian adult population. The data from the Croatian Adult Health Survey 2003 were used in this study. The results show that among the respondents with higher health needs, those with economic status above average had higher proportion of regular annual general practitioner and medical specialist visits. In contrast, highly frequent visits to physician were more common in respondents who were below average economic status. Economically worse-off women, regardless on their health care needs reported gynecologist visits less regularly than the better-off women. Long waiting and the large distance from the health care facilities were the most commonly reported barriers in health care utilization. High expenses were present as the main barrier at dentist and inpatient health services utilization. Suburban and rural settlements were more burdened with long distance from the health care facilities and high expenses for all health services, aggravated by the long waiting time for visits to GP. Respondents from the urban settings reported long waiting time and unkindness of the health personnel as the main barriers. The results of this study clearly show the main barriers in the equitable health care delivery to Croatia population from the health care users perspective.

**Key words:** health care needs, health services utilization, barriers to health care, inequity, economic status, regional differences, urban-rural differences

## Introduction

In the time of state budget limitations and quick changes in health policies, international comparison of economic status dependent access to health care and patient satisfaction with health care system could help many countries learn from others experiences and assess their own relative effectiveness. However, such comparisons are quite rare due to lack of universal routine healthcare access and utilization indicators and international studies that use similar databases and time intervals. Through last three decades most OECD countries except USA have achieved universal health insurance coverage for most health care services<sup>1</sup>. Nevertheless, different mixtures of public and private financing and

providing services have been introduced, and despite existing universal coverage not all population groups have equal positions in case of equal health needs. Even the most socially aware countries have witnessed gap increases between the poorest and the richest population groups. Violation of the horizontal equity principle in health care (that persons with equal needs should be treated equally regardless their other characteristics) is mostly presented through income differences<sup>2</sup>.

In all developed countries it is shown that the poor use more general practitioner's, specialist's and hospital services compared to the affluent. But if these findings are adjusted to the fact that health needs are more prevalent at the bottom of the population distribution by economic status, differences diminish or even increase in behalf of the better off populations<sup>3</sup>.

The Croatian Constitution from 2001 defines the Republic of Croatia as social state and proclaims social justice as the greatest value of the state constitutional regime. According to Health Care Law from 2003, Croatian health care system is established on inclusivity, continuity and equal access principles. All Croatian citizens have lifetime right to health care, and the healthcare network should be organized well enough to insure \*approximately same access to all citizens\*. However, ultimately stated values are not necessarily perfectly achieved and completely accepted in the community\*.

The 1991 Croatian Health care reform privatized primary health care, including primary care medical specialist and polyclinic service providers. The patient's choice of primary health care physicians was made mandatory, in order to increase access to the primary health care system and to increase competition in health services quality and extent. The government's intention was to unload a part of secondary health care burden to the primary level through introduction of family practice specialization and consolidation of the family practitioner concept. All measures should have been followed by secondary and tertiary health care utilization decreases. However, this model has been criticized by many as »reducing the health reform model« because of the fact that most initiated measures had main purpose to reduce health expenditures by burdening the worst off, while the health services quality remained at least doubtful<sup>5</sup>.

It is quite challenging to show the effect of redistributive measures on health outcomes, defining the latency time period from changing economic conditions to noticeable health effects appearance. Rapid life expectancy decreases in Eastern Europe after the downfall of communism, although not recorded in Croatia, implicate that fundamental changes in social life can affect health status pretty quickly. But for subtle health changes affiliated with inequalities research much more time is needed. Another challenge is to isolate redistributive measures effect from other simultaneous social and political trends. Economic historians interested in health could mace great tribute in understanding inequality and health relationship. Meanwhile, we can accept that there is small suggestive evidence and that there is much more research needed to confirm the effectiveness of redistributive measures on health outcomes provided in theoretic literature<sup>6</sup>.

Although there is a common opinion that older Americans enjoy greater equity in health care access since the establishment of Medicare, recent research argues otherwise. High expenses were detected as one of the most significant barriers in access to health services. As direct payments were the highest burden of Medicare users, the expenses issue was mainly dependent on supplementary insurance. The type of supplementary insurance was independently associated with health care utilization and with health outcomes as well. There is also much evi-

dence emerging on the influence of other socioeconomic factors on health care provision to the elderly (65+), including race, education, age and gender. It has become clear that satisfaction with health providers could modify access to health care and health outcomes assessment<sup>7</sup>.

In one family practice review of literature Scheppers et al. found potential ethnic barriers on three different levels: patient level, providers' level and health care system level. First level implied patient's demographic characteristics, social structure, health beliefs and behavior, personal qualification resources, social qualification resources, disease perception and personal health habits. Second were providers skills, attitudes and behavior and third was health general care system organization<sup>8</sup>.

Although health effects of relative socioeconomic status are expressed throughout its wide range, the poorest carry the greatest burden. Accordingly, measures that aim to increase relative income and safety of income of the poorest should have the greatest impact on health outcomes. One Canadian randomized trial on income bonuses to single parents that started with full work time showed complex effects. These bonuses increased employment and income of the experimental group, but there is still no evidence on adults' health effects. Meanwhile, 3-8 years old experimental group children at the beginning of the study showed significantly less health problems and better cognitive functioning later. There was no effect found on younger children and some negative effects on scores in school and behavior problems in older children<sup>9</sup>.

People with better economic status, with more resources to use health care services have better nutrition, lodging, schooling and recreation too. Independently on particular country overall economic standard territorial distribution of income is associated with mortality rates. Insufficient investing in public goods and social care as well as perceptions of inequity are higher in more income status stratified societies and influence population's general health indicators. Health effects in upper economic distribution segments are more expressed in relative terms, but in lower segments seem to be more associated with absolute economic deprivation.

## Methods

The study »Croatian Adult Health Survey 2003« has been conducted on stratified random regionally representative sample of people older than 18 years according to Croatian population Census from 2001. Validated questionnaire containing demographic characteristics, economic status, and health services utilization (elected general practitioner, dentist, gynecologist, medical specialist and inpatient health care) has been used. It has become possible to identify Croatian standards and interregional comparisons. Taking into consideration that Croatia has around 4.3 million inhabitants in 20 counties together with the City of Zagreb this representative research has been made at regional level (6 regions). Fur-

ther exhaustive methodology has been described elsewhere in this journal issue<sup>10</sup>.

Selected variables in use were: year of birth, gender, marital status, profession, employment, position, level of education, relative household economic status, urbanization level, elected GP, dentist, gynecologist, visits to GP, dentist, specialist, gynecologist and to hospital frequency and barriers (long waiting, unkind personnel, distance from the facilities, high expenses), cardiovascular and other chronic conditions in history (health care needs).

For the purpose of descriptive statistical results presentation tables and graphs have been used. For testing hypothesis univariate nonparametric independent samples analyses were performed. For basic testing of statistical significance of proportions differences between subgroups for categorical variables nonparametric  $\chi^2$  test have been used.

### Results

### Health needs

Investigating the relationship of health needs obtained through existing cardiovascular and other chronic diseases and conditions and main selected socioeconomic characteristics we found that the proportion of persons with expressed health needs was distinctively associated with gender, age, region, education, occupation, employment, marital status, level of urbanization and economic status. Thereby, female gender, older age group, living in the City of Zagreb, central and eastern region, lower level of education, unemployment, rural surrounding and lower economic status have significantly higher health needs than others. Association of marital status "unmarried" with lower health needs can be interpreted through greater share of younger persons in this subgroup. (Table 1)

## Heath care utilization

In Croatia there were very few household members without elected general practitioner, dentist or gynecologist at primary level. These percentages varied only between 0.1% and 0.5%. Subgroups divided through socioeconomic factors didn't significantly differ in these percentages.

Irregular visits to elected dentist and gynecologist were very high (around 55 to 60% subjects that had at least one visit in the last year), which was less expressed for elected general practitioner (20%). High frequent visits were mostly expressed in general practice (around 20%).

Among the subjects with higher health needs those with economic status above average had higher proportion of regular annual general practitioner visits than those below average economic status. Meanwhile, high frequent visits were more often in those below average economic status ( $\chi^2{=}114.062,\ df{=}20,\ p{<}0.001$ ). Economically better off had more regular medical specialist visits at primary level, but again, high frequent visits were significantly more often in those below average economic status ( $\chi^2{=}43.639,\ df{=}20,\ p{=}0.002$ ).

All visits to the elected dentist regardless the frequency of visits and the health care needs were more represented in better off subjects ( $\chi^2=121.760$ , df=20, p<0.001). Economically worse off women regardless the health care needs were less often in visits to elected gynecologist than the better off women ( $\chi^2=115.994$ , df=20, p<0.001).

Among the subjects with higher health needs those below average economic status had higher proportion of inpatient health care than those above average economic status ( $\chi^2$ =19.895, df=20, p=0.011). There were no differences in inpatient care length towards the economic status.

### **Barriers**

Long waiting and the distance from the facilities were generally the most represented barriers in health care utilization. High expenses were represented as main barrier at dentist and inpatient health services utilization. Among all investigated barriers unkindness of personnel was generally least represented (3.5–10%).

For all investigated barriers in general practitioner visits we found higher burden of population below average economic status. We found similar for barriers in medical specialist visits with exception of unkindness of personnel. For dentist's, gynecologist's and inpatient health services utilization we found higher burden of the worse off population in two barriers – long distance from the facilities and high expenses. (Table 2)

## Regional differences

The analysis of the distribution of subjects' economic status showed that it significantly differed throughout 6 Croatian regions. Eastern and central region were more than other regions represented with those subjects below average economic status (48.5% and 45.5% respectively), and the City of Zagreb and southern region were more than other regions represented with those above average economic status (2.9% and 2.5% respectively,  $\chi^2=141.045$ , df=20, p<0.001).

While using general practitioner's health services all regions had long waiting and long distance from the facility as the greatest barriers. Western region among all was at least burdened with all researched barriers. Long waiting was at most represented in the City of Zagreb, unkind personnel in eastern region, distance from the facility in the central region, and high expenses in northern region.

While using medical specialist's health services long waiting was again greatest in the City of Zagreb, unkind personnel in southern region, distance from the facility again in central region, and high expenses in central region. First two mentioned barriers were lowest in central and northern region respectively and the last two in the City of Zagreb both.

While using elected dentist's health services there were no differences in representation of long waiting and unkind personnel. But the distance from the facility was

TABLE 1
HEALTH NEEDS DISTRIBUTION THROUGH SELECTED SOCIOECONOMIC CHARACTERISTICS

|                          |         | Expressed health needs |       |      |       |  |
|--------------------------|---------|------------------------|-------|------|-------|--|
|                          | P*      | No                     | %     | Yes  | %     |  |
| Gender                   | 0.019   |                        |       |      |       |  |
| Male                     |         | 637                    | 22.04 | 2253 | 77.96 |  |
| Female                   |         | 1230                   | 19.90 | 4950 | 80.10 |  |
| Age group                | < 0.001 |                        |       |      |       |  |
| 18–29                    |         | 532                    | 61.15 | 338  | 38.85 |  |
| 30-64                    |         | 1155                   | 22.01 | 4093 | 77.99 |  |
| 65 +                     |         | 180                    | 6.10  | 2772 | 93.90 |  |
| Region                   | 0.005   |                        |       |      |       |  |
| Zagreb                   |         | 278                    | 19.21 | 1169 | 80.79 |  |
| Eastern                  |         | 331                    | 19.39 | 1376 | 80.61 |  |
| Southern                 |         | 321                    | 21.47 | 1174 | 78.53 |  |
| Western                  |         | 303                    | 22.90 | 1020 | 77.10 |  |
| Central                  |         | 301                    | 18.47 | 1329 | 81.53 |  |
| Northern                 |         | 333                    | 22.70 | 1134 | 77.30 |  |
| Education level          | < 0.001 |                        |       |      |       |  |
| Unfinished primary       |         | 118                    | 7.36  | 1486 | 92.64 |  |
| Primary school           |         | 305                    | 14.31 | 1826 | 85.69 |  |
| High school              |         | 1086                   | 26.71 | 2980 | 73.29 |  |
| College                  |         | 145                    | 25.85 | 416  | 74.15 |  |
| University               |         | 212                    | 31.50 | 461  | 68.50 |  |
| Employment               | < 0.001 |                        |       |      |       |  |
| Yes                      |         | 932                    | 32.60 | 1927 | 67.40 |  |
| No                       |         | 934                    | 15.05 | 5274 | 84.95 |  |
| Marital status           | < 0.001 |                        |       |      |       |  |
| Married                  |         | 1166                   | 20.87 | 4422 | 79.13 |  |
| Not married              |         | 484                    | 45.66 | 576  | 54.34 |  |
| Divorced                 |         | 74                     | 16.86 | 365  | 83.14 |  |
| Widowed                  |         | 142                    | 7.18  | 1836 | 92.82 |  |
| Level of urbanization    | 0.017   |                        |       |      |       |  |
| City                     |         | 960                    | 21.84 | 3435 | 78.16 |  |
| Suburban area            |         | 307                    | 20.03 | 1226 | 79.97 |  |
| Village                  |         | 593                    | 19.15 | 2504 | 80.85 |  |
| Solitude household       |         | 5                      | 12.20 | 36   | 87.80 |  |
| Economic status          | < 0.001 |                        |       |      |       |  |
| Much worse than average  |         | 228                    | 12.70 | 1567 | 87.30 |  |
| Worse than average       |         | 334                    | 16.09 | 1742 | 83.91 |  |
| Average                  |         | 990                    | 23.40 | 3241 | 76.60 |  |
| Better than average      |         | 253                    | 31.16 | 559  | 68.84 |  |
| Much better than average |         | 58                     | 39.73 | 88   | 60.27 |  |

<sup>\*</sup>Statistical significance of health needs proportion difference inside every socioeconomic variable

greatest in central region and lowest in the City of Zagreb, and high expenses were greatest in central and lowest in eastern region.

While using elected gynecologist's health services there were no differences in representation of long wait-

ing. Unkind personnel were highest in the City of Zagreb and long distance from the facility and high expenses in central region both. Unkind personnel were lowest in eastern region and long distance from the facility and high expenses in the City of Zagreb both.

| TABLE 2  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| ASSOCIATION OF ECONOMIC STATUS AND BARRIERS IN HEALTH SERVICES UTILIZATION |  |  |  |  |  |  |

|                        | Barriers     |                  |                            |               |  |  |
|------------------------|--------------|------------------|----------------------------|---------------|--|--|
| -                      | Long waiting | Unkind personnel | Distance from the facility | High expenses |  |  |
| Visits to GP           |              |                  |                            |               |  |  |
| richest/poorest (%)    | 25.9/39.0    | 2.8/8.9          | 13.0/25.6                  | 4.6/18.9      |  |  |
| p                      | < 0.001*     | 0.001*           | < 0.001*                   | < 0.001*      |  |  |
| Visits to specialist   |              |                  |                            |               |  |  |
| richest/poorest (%)    | 28.8/50.4    | 16.7/14.5        | 40.9/49.0                  | 16.7/37.4     |  |  |
| p                      | < 0.001*     | 0.331            | < 0.001*                   | < 0.001*      |  |  |
| Visits to dentist      |              |                  |                            |               |  |  |
| richest/poorest (%)    | 7.3/17.2     | 0.0/4.0          | 10.1/18.6                  | 10.1/22.5     |  |  |
| p                      | 0.352        | 0.886            | < 0.001*                   | < 0.001*      |  |  |
| Visits to gynecologist |              |                  |                            |               |  |  |
| richest/poorest (%)    | 10.5/26.7    | 5.3/4.9          | 15.8/28.1                  | 13.2/22.4     |  |  |
| p                      | 0.103        | 0.532            | < 0.001*                   | 0.003*        |  |  |
| Inpatient care         |              |                  |                            |               |  |  |
| richest/poorest (%)    | 0.0/18.1     | 14.3/10.2        | 42.9/48.6                  | 21.4/35.8     |  |  |
| p                      | 0.342        | 0.587            | < 0.001*                   | < 0.001*      |  |  |

<sup>\*</sup>p<0.05

While using inpatient health services there were no differences in representation of unkind personnel. Long waiting, distance from hospital and high expenses were highest in southern, central and eastern region respectively. Long waiting was lowest in central region and distance from hospital and high expenses were lowest in the City of Zagreb both. (Table 3)

### Rural-urban differences

Analysis of the level of urbanization (graded into urban, suburban and rural areas, excluding isolated households because number of their respondents was too small for stratification purposes) and barriers to health services utilization relationship gave these results:

Suburban and rural settlement were more burdened with long distance from the facilities and high expenses for all researched kinds of health services utilization (visits to GP, specialist, dentist, gynecologist and inpatient care), and additionally, with long waiting for visits to GP. For visits to medical specialist though, urban and suburban settlements were more burdened with long waiting and unkind personnel. It can be interpreted through lower demands and expectations of patients in rural areas. (Table 4).

## Discussion

Recent studies as health equity indicators increasingly have in focus overall health care outcomes and not only health financing or even health expenditure. Good policy effectiveness analyzers that compare investments and expenses of competing financing management modes

in order to achieve best value for the invested resources need information on economic status and health services utilization relationship. The information should be helpful to clinical researchers that evaluate new ways of treatment and technology, and to practitioners and other providers that try to accomplish best reachable outcomes for their patients.

The relationship of economic status of citizens and their health services utilization is recognized but not well enough explored issue in countries in transition such as Croatia, the issue that epitomizes financial, health and especially ethical challenges<sup>11</sup>.

Croatia still does not have regional policy of equable development. The City of Zagreb has three times higher GDP per capita than Croatian average, or even six folds higher than the average of the rest of Croatian counties. Zagreb GDP follows the level of GDP in Spain, Greece and Portugal, but in the poorest county in Croatia, the Lika-Senj County (belongs to western region) GDP is 14 times lower than in Zagreb.

Developmental centralization gets apparent through other indicators too. Unemployment rate ranges from 13% in Krapina-Zagorje County (belongs to northern region) to 31% in Šibenik-Knin County (southern region). Also education level assessed through share of university educated people in the population of older than 50 years ranges from 3.2% in Krapina-Zagorje County (northern) to 16.6% in the City of Zagreb which can only be partially interpreted through the public institutions availability.

Zagreb has dominant economic potential with 1/5 of all Croatian citizens. The Lika-Senj County has only 16 inhabitants per km², and the Međimurje County 160 in-

<sup>\*</sup> significant difference between richest and poorest

|                           |                | Barriers (%) |                  |                            |               |  |
|---------------------------|----------------|--------------|------------------|----------------------------|---------------|--|
|                           | Region         | Long waiting | Unkind personnel | Distance from the facility | High expenses |  |
|                           | City of Zagreb | 36.9**       | 6.5              | 14.9                       | 6.3*          |  |
|                           | Eastern        | 36.2         | 9.4**            | 19.8                       | 12.9          |  |
|                           | Southern       | 32.0         | 6.3              | 17.9                       | 12.9          |  |
| 7: :                      | Western        | 26.4*        | 4.5*             | 14.6*                      | 7.2           |  |
| Visits to GP              | Central        | 32.7         | 5.5              | 22.4**                     | 17.1**        |  |
|                           | Northern       | 34.7         | 5.7              | 21.8                       | 17.0          |  |
|                           | $\chi^2$       | 66.453       | 36.641           | 54.649                     | 132.001       |  |
|                           | p              | < 0.001      | < 0.001          | < 0.001                    | < 0.001       |  |
|                           | City of Zagreb | 48.3**       | 15.1             | 34.0*                      | 15.9*         |  |
|                           | Eastern        | 45.5         | 13.2             | 42.4                       | 28.9          |  |
|                           | Southern       | 47.1         | 16.9**           | 42.0                       | 33.0          |  |
| isits to                  | Western        | 39.3         | 9.7              | 36.3                       | 23.5          |  |
| pecialist                 | Central        | 36.6*        | 9.3              | 49.7**                     | 35.0**        |  |
|                           | Northern       | 39.5         | 8.8*             | 38.6                       | 28.5          |  |
|                           | $\chi^2$       | 54.790       | 40.079           | 57.922                     | 133.589       |  |
|                           | р              | < 0.001      | < 0.001          | < 0.001                    | < 0.001       |  |
|                           | City of Zagreb | 18.1         | 3.8              | 11.0*                      | 17.1          |  |
|                           | Eastern        | 15.1         | 3.5              | 15.4                       | 12.0*         |  |
|                           | Southern       | 19.0         | 2.9              | 16.4                       | 19.6          |  |
| isits to                  | Western        | 11.9         | 3.0              | 13.4                       | 17.2          |  |
| dentist                   | Central        | 16.0         | 3.3              | 17.5**                     | 18.4          |  |
|                           | Northern       | 17.8         | 3.8              | 17.0                       | 20.8**        |  |
|                           | $\chi^2$       | 16.955       | 8.760            | 24.786                     | 32.335        |  |
|                           | р              | 0.075        | 0.555            | < 0.001                    | < 0.001       |  |
| Visits to<br>gynecologist | City of Zagreb | 23.7         | 6.8**            | 15.5*                      | 10.3*         |  |
|                           | Eastern        | 18.1         | $2.2^{*}$        | 20.8                       | 15.9          |  |
|                           | Southern       | 19.0         | 5.6              | 21.7                       | 18.4          |  |
|                           | Western        | 26.1         | 2.7              | 17.9                       | 13.6          |  |
|                           | Central        | 17.8         | 3.3              | 22.7**                     | 18.5**        |  |
|                           | Northern       | 21.1         | 5.7              | 20.9                       | 14.0          |  |
|                           | $\chi^2$       | 15.303       | 21.216           | 23.005                     | 35.638        |  |
|                           | р              | 0.121        | 0.02             | 0.011                      | < 0.001       |  |
| inpatient<br>care         | City of Zagreb | 18.4         | 14.2             | 22.1*                      | 13.2*         |  |
|                           | Eastern        | 12.1         | 6.8              | 43.2                       | 31.6**        |  |
|                           | Southern       | 19.7**       | 12.7             | 42.3                       | 29.1          |  |
|                           | Western        | 19.3         | 10.2             | 38.0                       | 21.9          |  |
|                           | Central        | 10.0*        | 7.2              | 43.8**                     | 30.1          |  |
|                           | Northern       | 14.1         | 9.5              | 42.7                       | 27.7          |  |
|                           | $\chi^2$       | 54.790       | 12.284           | 21.303                     | 45.647        |  |
|                           | p              | < 0.001      | 0.267            | 0.019                      | < 0.001       |  |

<sup>\*</sup>Least represented across regions \*\*Most represented across regions

 ${\bf TABLE~4} \\ {\bf URBAN-RURAL~REPRESENTATION~OF~BARRIERS~IN~HEALTH~SERVICES~UTILIZATION} \\$ 

|                        |          | Barriers (%) |                  |                            |               |  |
|------------------------|----------|--------------|------------------|----------------------------|---------------|--|
|                        | Area     | Long waiting | Unkind personnel | Distance from the facility | High expenses |  |
|                        | Urban    | 31.8         | 6.2              | 10.8                       | 5.5           |  |
|                        | Suburban | 33.6         | 6.5              | 18.3                       | 11.1          |  |
| Visits to GP           | Rural    | 35.2**       | 6.6              | 30.2**                     | 23.0**        |  |
|                        | $\chi^2$ | 16.021       | 3.464            | 364.952                    | 423.082       |  |
|                        | p        | 0.003        | 0.483            | < 0.001                    | < 0.001       |  |
|                        | Urban    | 44.8         | 13.5             | 33.3                       | 19.3          |  |
|                        | Suburban | 43.6         | 13.5             | 42.2                       | 28.8          |  |
| Visits to specialist   | Rural    | 39.5*        | 9.6*             | 52.4**                     | 40.8**        |  |
|                        | $\chi^2$ | 11.425       | 15.114           | 155.626                    | 192.746       |  |
|                        | p        | 0.022        | 0.004            | < 0.001                    | < 0.001       |  |
| Visits to dentist      | Urban    | 16.2         | 2.9              | 9.5                        | 13.2          |  |
|                        | Suburban | 16.4         | 4.0              | 14.8                       | 18.8          |  |
|                        | Rural    | 17.1         | 3.9              | 24.8**                     | 23.8**        |  |
|                        | $\chi^2$ | 1.679        | 5.958            | 134.768                    | 67.374        |  |
|                        | p        | 0.795        | 0.202            | < 0.001                    | < 0.001       |  |
| Visits to gynecologist | Urban    | 21.9         | 5.3              | 13.6                       | 9.7           |  |
|                        | Suburban | 22.4         | 3.0              | 22.3                       | 16.0          |  |
|                        | Rural    | 18.3         | 3.7              | 30.4**                     | 24.6**        |  |
|                        | $\chi^2$ | 4.391        | 7.326            | 94.554                     | 79.807        |  |
|                        | p        | 0.356        | 0.120            | < 0.001                    | < 0.001       |  |
|                        | Urban    | 14.5         | 10.3             | 29.5                       | 17.2          |  |
|                        | Suburban | 16.2         | 10.7             | 35.5                       | 24.8          |  |
| Inpatient care         | Rural    | 15.8         | 9.1              | 53.2**                     | 38.1**        |  |
|                        | $\chi^2$ | 1.661        | 0.892            | 74.211                     | 61.356        |  |
|                        | p        | 0.798        | 0.926            | < 0.001                    | < 0.001       |  |

<sup>\*</sup>least represented across areas

habitants per km<sup>2</sup>. Unequal regional development disables particular counties to keep up their growth in all sectors including public health. On the other side, attenuated regional competitiveness leads to vicious circle and central affluence of people and goods. As a consequence, around 773000 people in Croatia are considered to be relatively poor. Greatest share among the poor take unemployed persons, then retired and economically inactive persons that are also the greatest users of medical services<sup>12</sup>.

From the perspective of the majority of patients, main health care system's goals are to assure effective life and to remain functionality and wellbeing. Although patients are the best resource of information if these goals are met, as far as we know there were no studies conducted or routine indicators developed in Croatia that would combine economic status and healthcare utilization so far

Obviously, many factors influence individual's health, irrespective to whether they are poor. Nevertheless, the

opportunity to steadily improve poor people's accessibility to health care system through removal of financial barriers has become a governmental tool sine qua non to decrease unjust health differences.

Health policy literature contains evidence on this financial effect through two main indicators – health care utilization and health outcomes<sup>13</sup>. In a health care utilization study by Casanova and Starfield it was shown that in some diseases such as bronchial asthma the availability of primary health care physician can prevent the exacerbation of symptoms which, if happen, could require more sophisticated, urgent and expensive health care services<sup>14</sup>.

Seattle survey on health insurance and access to health care showed that the health insurance is the strongest predictor of regular health care source and is strongly associated with access to health care. Furthermore, when uninsured persons approached to Medicaid their health status improved, but never reached levels seen in private health insurance<sup>15</sup>.

<sup>\*\*</sup>most represented across areas

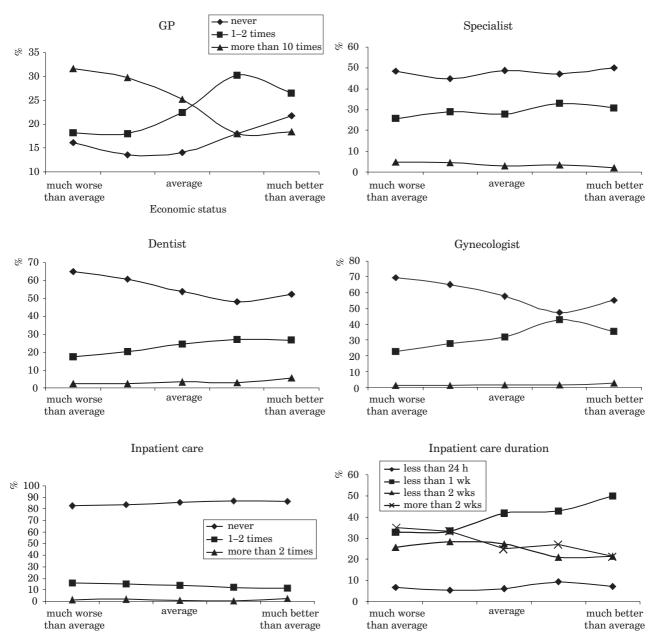


Fig. 1. Health care utilization by the type of health care and by economic status.

Ethnical minority women delivery outcomes report showed positive effect of financial barriers reduction on access to health care through increased pregnant women's prenatal visits, increased withdrawals from insurers to providers and improved postnatal monitoring and health education<sup>16</sup>. New York study working on socioeconomic status and health care quality relationship found that uninsured persons had higher probability to receive substandard health services in case of accidental trauma<sup>17</sup>. Another study on hypertension that included 200 patients, members of ethnical minorities in New York, showed association of hypertension severity with absence of contact with primary health care physician. Furthermore, uninsured persons tended to test blood pres-

sure in emergency units more often. Authors concluded here that improving the access to primary health care through health insurance can improve effectiveness of hypertension control among ethnical minority patients, and thereby prevent numerous health consequences<sup>18</sup>.

Socioeconomic status affects the quality of healthcare and health outcomes both. Patients of lower socioeconomic status receive less preventive health services, unsatisfactory chronic diseases control and less indicated acute interventions. Socioeconomic status is a complex term sometimes shown as a combined index, but mostly through many component indicators including income, education, marital status, occupation, employment, insurance as mostly measured indicators as well as a wide

range of related factors that affect quality of provided health care including access, health beliefs, patient-physician relationship and others. In modern health care system surroundings there is raising attention to specific effectiveness measures in individual clinical practice. Many are expressing concern that health providers that have vulnerable groups in care such as those with lower socioeconomic status could be in unfavorable position in the performance public reporting context. In many studies physicians responded that socioeconomic status of patients affected their clinical deciding, which is very important information needed to understand inequities in health care quality. Physicians would mostly try to adjust the treatment plan in order to improve patients' health outcomes, but than underwent many obstacles trying to balance what was feasible for the patients with set healthcare standards.

For strategic health care management purposes, the comparison of regional and national standard indicators could provide valuable guidance for setting public health priorities and establishing effective locally tailored polices. We hope this research showed which barriers to health care utilization are region and type of settlement specific and how are they distributed across economic status, and which of these are most avoidable and appropriate for local measures and actions to be focused on.

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### I. Pristaš

Croatian National Institute of Public Health, Social Medicine Service, Rockefellerova 7, 10000 Zagreb, Croatia e-mail: ivan.pristas@hzjz.hr

# ZDRAVSTVENE POTREBE, KORIŠTENJE ZDRAVSTVENE ZAŠTITE I ZAPREKE PRI KORIŠTENJU ZDRAVSTVENE ZAŠTITE U HRVATSKOJ

## SAŽETAK

Čak i najsolidarnije zemlje prema političkom ustroju su zbog problema ograničenja sredstava izdvojenih za zdravstvo primijetile porast procjepa u zdravlju između najsiromašnijih i najbogatijih populacijskih skupina. Cilj ove studije bio je utvrditi postojanje nepravičnosti i istražiti glavne zapreke pri korištenju zdravstvene zaštite kontrolirano zdravsvenim potrebama. Među ispitanicima s povećanim zdravstvenim potrebama, ispitanici natprosječnog imovinskog statusa u većem udjelu su bili u redovitom posjetu liječniku opće/obiteljske medicine i specijalistu nego ostali ispitanici. Međutim, visokofrekventni posjeti bili su zastupljeniji kod ispitanika ispodprosječnog imovinskog stanja. Svi posjeti izabranom stomatologu bez obzira na frekvenciju i bez obzira na zdravstvene potrebe bili su zastupljeniji kod imovinski natprosječnih ispitanika. Ispitanice ispodprosječnog imovinskog statusa bez obzira na zdravstvene potrebe u većem udjelu nisu koristile redoviti posjet izabranom ginekologu u odnosu na imućnije ispitanice. Među ispitanicima s povećanim zdravstvenim potrebama ispitanici ispodprosječnog imovinskog statusa u većem su udjelu bili hospitalizirani nego ispitanici natprosječnog imovinskog statusa. Dugo čekanje i udaljenost od ordinacije pokazale su se kao ukupno

najzastupljenije barijere pri korištenju zdravstvene zaštite. Pri posjetu zubaru i pri hospitalizaciji troškovi su se pokazali kao jedna od glavnih barijera. Od svih istraživanih barijera univerzalno je najmanje bila zastupljena neljubaznost osoblja. Prigradsko i seosko naselje bili su opterećeniji udaljenošću od ordinacije i troškovima od gradskog naselja pri posjetima izabranom liječniku opće/obiteljske medicine (dodatno i dugim čekanjem), liječniku specijalistu, izabranom stomatologu, izabranom ginekologu te pri hospitalizaciji. Međutim, pri posjetu liječniku specijalistu dugim čekanjem i neljubaznim osobljem opterećeniji su bili ispitanici iz gradskog i prigradskog naselja u odnosu na seosko naselje.