

# Say it in Croatian – Croatian Translation of the EGPRN Definition of Multimorbidity using a Delphi Consensus Technique

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## ABSTRACT

*Patients coming to their family physician (FP) usually have more than one condition or problem. Multimorbidity as well as dealing with it, is challenging for FPs even as a mere concept. The World Health Organization (WHO) has simply defined multimorbidity as two or more chronic conditions existing in one patient. However, this definition seems inadequate for a holistic approach to patient care within Family Medicine. Using systematic literature review the European General Practitioners Research Network (EGPRN) developed a comprehensive definition of multimorbidity. For practical and wider use, this definition had to be translated into other languages, including Croatian. Here presented is the Croatian translation of this comprehensive definition using a Delphi consensus procedure for Forward/Backward translation. 23 expert FPs fluent in English were asked to rank the translation from 1 (absolutely disagreeable) to 9 (fully agreeable) and to explain each score under 7. It was previously defined that consensus would be reached when 70 % of the scores are above 6. Finally, a backward translation from Croatian into English was undertaken and approved by the authors of the English definition. Consensus was reached after the first Delphi round with 100% of the scores above 6; therefore the Croatian translation was immediately accepted. The authors of the English definition accepted the backward translation. A comprehensive definition of multimorbidity is now available in English and Croatian, as well as other European languages which will surely make further implications for clinicians, researchers or policy makers.*

**Key words:** family medicine, multimorbidity, definition, Delphi procedure, Croatia

**TABLE 1**  
ENGLISH ORIGINAL AND CROATIAN TRANSLATION PROPOSED FOR THE FIRST ROUND

English original	Croatian proposed first and final round
Multimorbidity is defined as any combination of chronic disease with at least one other disease (acute or chronic) or bio-psychosocial factor (associated or not) or somatic risk factor.	Multimorbiditet označava bilo koju kombinaciju kronične bolesti s barem još jednom bolesti (akutnom ili kroničnom), ili s biopsihosocijalnim čimbenikom (pridruženim ili nepridruženim) ili sa somatskim čimbenikom rizika.
Any bio-psychosocial factor, any somatic risk factor, the social network, the burden of diseases, the health care consumption and the patient's coping strategies may function as modifiers (of the effects of Multimorbidity).	Bilo koji biopsihosocijalni čimbenik, bilo koji čimbenik rizika, društveno okruženje, teret bolesti, korištenje zdravstvene zaštite te načini bolesnikova nošenja s bolešću, mogu djelovati kao modifikatori (na učinke multimorbiditeta).
Multimorbidity may modify the health outcomes and lead to an increased disability or a decreased quality of life or frailty.	Multimorbiditet može utjecati na zdravstvene ishode te dovesti do povećanja nesposobnosti ili do smanjenja kvalitete života ili do nemoći.

## Introduction

Multimorbidity as a term is nowadays widely used; however, it still represents a challenging concept in medicine and for Family Practice particularly. This concept was first published in 1976<sup>1</sup> in Germany and remained almost entirely restricted to German publications for more than a decade. From the 90-ies onwards the term was used more frequently and the concept became internationally recognized through research<sup>2</sup>.

At first, the concept of multimorbidity was regarded as an addition to the concept of comorbidity. While comorbidity was defined as any disease or risk factors that could interact with one main disease with the effect of making it worse<sup>3–5</sup>, the definition of multimorbidity, by the World Health Organisation (WHO) stated: people being affected by two or more chronic health conditions<sup>6</sup>. This definition should surely be seen through the prism of the WHO intention to look at all conditions in one individual that could impact on that individual's global health status. However the word 'condition' was not sufficiently clear for practical purposes (for instance, whether a treated disease was a 'condition' in this sense), and could lead to numerous interpretations<sup>7</sup>.

Nevertheless, multimorbidity is a particularly interesting concept for Family Practice, given the high and ever increasing prevalence of chronic illness in the aging population. Also, it is closely related to a comprehensive view of the patient, which is a core competency of Family Practice, as defined for instance by the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA)<sup>8</sup>. Multimorbidity, in addition, is an engaging concept, when applied to patients in practice, as it gives an overview of all those factors that could lead to frailty<sup>9,10</sup>. Frailty, however, is another new concept whose translation is discussed further on.

Since the available, WHO definition of multimorbidity was inadequate for practical use because of its inaccuracy and because of existence of its various definitions in literature, thus a new, clear and more comprehensive

definition has been enhanced by an EGPRN workgroup. The main aim of the whole project was to achieve a more usable definition of multimorbidity in order to advance research in this field throughout Europe. This kind of definition would greatly help researchers in Family Practice to investigate the complexity of patients' conditions and their overall impact on patients' health. Also, it could be an additional tool for Family Physicians (FPs) which would enable them to identify frail patients and work on the prevention of their decompensation<sup>7</sup>.

For the purpose of clarifying the concept of multimorbidity for Family Practice and constructing a new definition a research team, including 8 national groups throughout Europe, all active within the EGPRN, was created<sup>11</sup>. An initial review, presented in an EGPRN meeting in spring 2011<sup>12</sup>, identified more than one hundred different definitions of multimorbidity used by academic researchers. They were all analyzed and used for the construction of a new comprehensive definition of multimorbidity<sup>13</sup> (see Table 3). In October 2011 during the EGPRN meeting in Krakow (Poland) researchers from Croatia (University of Zagreb) joined the team to further work on this definition. Hence, it was regarded that the use of the concept of multimorbidity regarded by FPs differs from those of other specialists and that added value from their point of view surely exists and should be looked for. Therefore, the first version of the definition had to be translated into other European languages for use in further collaborative qualitative research planned to be performed using semi structured interviews and focus groups. The aim of this article was to evaluate the Croatian version of this definition.

## Methods

The forward and backward translation of the original English definition has been undertaken using a Delphi consensus procedure<sup>14</sup>. First, a team including 2 FPs and one official translator translated the proposed extensive multimorbidity definition into Croatian language (Table 1). According to the Delphi consensus procedure, the lo-

**TABLE 2**  
EXPERT PANEL CHARACTERISTICS

Participant number	Gender	Age	Years in practice	English level			English publications	Other publications
				Read	Spoken	Written		
1.	F	63	36	Yes	Yes	Yes	71	136
2.	F	60	36	Yes	Yes	Yes	2	40
3.	F	59	35	Yes	Yes	Yes	3	35
4.	F	40	10	Yes	Yes/No	Yes/No	0	1
5.	F	60	35	Yes	Yes	Yes	2	30
6.	F	44	18	Yes	Yes	Yes	7	15
7.	F	65	35	Yes	Yes	Yes	28	65
8.	M	55	31	Yes	Yes	Yes	33	100
9.	F	39	13	Yes	Yes	Yes	6	9
10.	F	61	37	Yes	Yes	Yes	25	80
11.	F	26	1	Yes	Yes	Yes	0	0
12.	F	36	11	Yes	Yes	Yes	8	29
13.	F	55	20	Yes	Yes	Yes	18	10
14.	F	46	21	Yes	Yes	Yes	16	50
15.	M	45	14	Yes	No	No	1	2
16.	F	47	20	Yes	Yes	Yes/No	0	0
17.	M	35	9	Yes	Yes	Yes	9	23
18.	F	48	23	Yes	Yes	Yes	0	1
19.	F	47	20	Yes	Yes	Yes	35	50
20.	F	64	30	Yes	Yes	Yes	40	85
21.	F	60	36	Yes	Yes	Yes	9	9
22.	F	48	23	Yes	Yes	Yes	10	30
23.	F	50	25	Yes	Yes	Yes	12	45

cal research team proposed to 23 GPs the English definition and its translation into Croatian language. Table 2 shows the characteristics of the expert panel. This proposition was done using emails (each participant has been contacted separately to avoid contamination). Participants were kindly asked to rank translation from 1 (absolutely not agreeable) to 9 (fully agreeable) and to explain each rank under 7<sup>15</sup>. Consensus was reached when at least 70 % of the participants rate the consensual definition as 7 or above. All suggestions and remarks made by the experts were collected for the purpose of enhancing each non consensual criteria, reformulate it and propose a new version for another Delphi round. If consensus was quickly achieved all suggestions and remarks had to be collected in order to enhance discussion. Once the consensual definition in Croatian had been established, two other official translators did a backward translation from Croatian into English and sent it for approval to the study’s scientific committee<sup>15</sup>.

## Results and Discussion

This study is a part of the EGPRN project, which aims to provide a comprehensive definition of multimorbidity throughout Europe.

As can be seen in the Table 3 consensus was obtained already after the first round which means that it represents the 100% of the Delphi process. The only challenging term was frailty, which will be further discussed later on. Subsequently a backward translation was carried out. This backward translation, showed in the Table 4, was presented to the study’s scientific committee. The committee validated the translation obtained and found no semantic changes compared to the original English definition.

The main finding of this research is in line with the research aim that was to obtain the Croatian definition of multimorbidity and its backward English translation which was positively validated.

The Delphi technique used for translation is regarded as an accurate consensus technique in health research<sup>21,22</sup> with its main strengths to eliminate information and selection bias. All research participants’ characteristics were very carefully assessed to ensure that each participant was a medical expert in Family Medicine, as well as being fluent in English. We regarded as our main weakness the fairly high grade that the participants ranked already the first version of translation and very few given comments. This could mean that the translation was ac-

**TABLE 3**  
FIRST AND FINAL ROUND RESULTS

Participant number	Lickert result first round
1	9
2	9
3	9
4	8
5	9
6	8
7	8
8	9
9	9
10	8
11	9
12	7
13	9
14	9
15	8
16	7
17	9
18	9
19	7
20	9
21	9
22	9
$\bar{X}$	8.5

curate and understandable or the participants were ignorant of the research aim and their task. However their comments were only regarding the term »frailty« which also disturbed the translators because of the difficulty of translating this term in the spirit of Croatian language and not finding an adequate Croatian synonym. Originally, this English term and concept in general has been formulated to help physicians identify decompensating patients especially in Long Term Care which is FP’ every day’s bread<sup>16</sup>.

In relation to other studies on this topic performed throughout the research network, i.e. translation to other languages, there were no methodological differences.

In general, any definition of multimorbidity is supposed to take into account the cultural and social background in which FPs live, work and take care of patients in their practices, and in addition, encourage a holistic approach which is, according to WONCA, the core competency of patient-centered care in Family Practice<sup>8</sup>. The purposes of a standardized and reproducible definition are numerous. Therefore, its translation into other European languages is of great value for further research.

As it is stated in other studies, a more comprehensive definition leads to a better focused research, especially regarding quality of care and cost of care<sup>13</sup>. This comprehensive definition is helpful for targeting resources in a far more accurate way than the WHO definition<sup>6</sup>. In addition, it gives more focused individual prognoses and improves risk management as well as clinical decision making in terms of risk/benefit evaluation<sup>7</sup>.

Regarding all previous definitions of multimorbidity, most authors engaged in this research agreed to reject any concept which was insufficiently discriminating for the selection of patients with the diseases in question. This caused problems of interpretation, and problems for the inclusion of patients, as well as imposing restrictions and confounding factors<sup>7,17–20</sup>. This new and comprehensive definition which has been translated into Croatian language encompass all definitions of multimorbidity found in literature<sup>13</sup> and is supposed to overcome previous limitations.

### Conclusion

The main result of our study is to have obtained a validated Croatian version of the published English Multimorbidity definition. This is important for all Croatian medical research society as well as for other Family Medicine researchers in Europe.

Namely, like numerous other European countries, in the last decade Croatia has been faced with the »epidemics« of chronic diseases in the population of which FPs take(s) care of.

This had as a consequence increased scientific research on chronic illness multimorbidity in Family Prac-

**TABLE 4**  
THE ORIGINAL ENGLISH DEFINITION AND THE BACKWARD TRANSLATION OF THE FINAL CROATIAN VERSION INTO ENGLISH

English original	Croatian backward translation into English
Multimorbidity is defined as any combination of chronic disease with at least one other disease (acute or chronic) or bio-psychosocial factor (associated or not) or somatic risk factor.	Multimorbidity is defined as any combination of chronic disease with at least one other disease (acute or chronic), biopsychosocial factor (associated or not) or somatic risk factor.
Any bio-psychosocial factor, any somatic risk factor, the social network, the burden of diseases, the health care consumption and the patient’s coping strategies may function as modifiers (of the effects of Multimorbidity).	Any biopsychosocial factor, risk factor, social network, burden of diseases, health care consumption and patient’s coping strategies may function as modifier (of the effects of multimorbidity).
Multimorbidity may modify the health outcomes and lead to an increased disability or a decreased quality of life or frailty.	Multimorbidity may modify the health outcomes and lead to an increased disability, or decreased quality of life or frailty

tice in Croatia<sup>23–26</sup>. However, among numerous researchers in Europe and around the world awareness developed of the need to equalize the multimorbidity research methodology so that all research results would be overall comparable and applicable in practice. Exact shaping and construction of the scientifically based multimorbidity definition could enable future individual and collaborative research on multimorbidity in Family practice in European countries based on unique methodology. This definition will surely enable better research planning, better implementation of research projects, and finally the expected improvement of condition of chronic multimorbid patients in Family Practice in Europe.

However, it is expected that Croatian-speaking FPs (which according to the Croatian National Institute for Public Health are more than 2000) will mostly benefit from its implementation<sup>27</sup>. The translation to our native language is also important for other physicians as well as policy makers in order to clearly recognize and thus correctly plan an optimal management for those patients<sup>28</sup>.

Nevertheless, this translation enables the Croatian EGPRN research team to proceed to the next step, which is qualitative research, in order to find the additional value to the concept of multimorbidity added by FPs.

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## RECI TO NA HRVATSKOM – HRVATSKI PRIJEVOD EGPRN DEFINICIJE MULTIMORBIDITETA KORISTEĆI DELPHI TEHNIKU KONCENZUSA

### SAŽETAK

Pacijenti, kada posjećuju svojeg liječnika obiteljske medicine (LOM) obično imaju više od jednog razloga odnosno problema. Sam multimorbiditet kao pojam odnosno koncept, a također i suočavanje s takvim pacijentom predstavljaju izazov za liječnike obiteljske medicine. Svjetska zdravstvena organizacija (SZO) je definirala multimorbiditet, jedno-

stavno, kao prisutnost dva ili više kroničnih stanja kod jednog/istog pacijenta. Međutim, ta se definicija ne čini primjerenom konceptu cjelovitog pristupa pacijentu u obiteljskoj medicini. Stoga je, Europska mreža istraživača u obiteljskoj medicini (EGPRN) sustavnim pregledom literature razvila novu sveobuhvatnu definiciju multimorbiditeta. Za praktično i šire korištenje, ta bi definicija trebala biti prevedena i na druge jezike, uključujući i hrvatski. Ovdje je predstavljen hrvatski prijevod te sveobuhvatne definicije koristeći Delphy tehniku koncenzusa za naprijed/natrag prevođenje. 23 stručnjaka, specijalista obiteljske medicine, koji tečno govore engleski bili su zamoljeni procijeniti kvalitetu prijevoda na ljestvici od 1 (apsolutno nezadovoljavajuće) do 9 (potpuno zadovoljavajuće) te obrazložiti svaku ocjenu nižu od 7. Definirano je da će koncenzus biti postignut kada 70% ocjena bude iznad 6 a zatim će se provesti prijevod s hrvatskog natrag na engleski koji treba biti potvrđen od strane samih autora definicije. Koncenzus je postignut već nakon prvog Delphi kruga sa 100% ocjena iznad 6 – prema tome, hrvatski je prijevod odmah prihvaćen. Autori definicije na engleskom prihvatili su prijevod natrag na engleski. Sveobuhvatna definicija pojma multimorbiditeta sada je dostupna na engleskom i hrvatskom jeziku kao i na drugim europskim jezicima što će zasigurno biti od velike koristi ne samo kliničarima i istraživačima već i stvarateljima zdravstvene politike.