



**Universitas Sriwijaya**  
Faculty of Public Health

## **PROCEEDING BOOK**

**THE 3<sup>rd</sup> SRIWIJAYA INTERNATIONAL  
CONFERENCE OF PUBLIC HEALTH**

**Theme :**

**“ The workplace Initiative : Health, Safety and  
Wellbeing Regarding COVID - 19 ”**

ISBN 978-623-399-020-2



**GRAND ATYASA PALEMBANG**  
**21<sup>st</sup> - 22<sup>nd</sup> OCTOBER 2021**

**PROCEEDING  
THE 3<sup>rd</sup> SRIWIJAYA INTERNATIONAL  
CONFERENCE ON PUBLIC HEALTH**

*The Work Place Initiative: Health, Safety and Wellbeing  
Regarding COVID-19*

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Grand Atyasa Palembang, 21<sup>st</sup> – 22<sup>nd</sup> October 2021  
Publication Year : March 2022

This proceeding is published by:  
Public Health Faculty Universitas Sriwijaya  
Kampus FKM Unsri Indralaya, Jl. Raya Palembang-  
Prabumulih KM.32 Indralaya, Ogan Ilir, Sumatera Selatan, 30662  
Hotline : +62711580068  
Fax : +62711580089

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ISBN : 978-623-399-020-2

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*The Work Place Initiative: Health, Safety and Wellbeing  
Regarding COVID-19*

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# PREFACE

On behalf of the organizing committee, I am delighted to welcome you to the 3<sup>rd</sup> Sriwijaya International Conference on public Health (SICPH 2021) during 21<sup>th</sup> October 2021 at Palembang South Sumatera, Indonesia. The SICPH 2021 is international conference organized by Faculty of Public Health, Sriwijaya University (UNSRI). I would like to extend my warmest welcome to all the participant of The SICPH 2021 under the theme ***“The Impact of Climate Change on Infectious Disease Transmission”***.

The SICPH 2021 consists of keynote sessions from well known expert speakers in the field of public health, and academic paper sessions (oral presentations) who are coming from several region. This conference seeks to bring together academics, public health professionals, researchers, scientists, students and health stakeholders from a wide range of disciplines to present their latest research experience and further development in all areas of public health. We hoped that this conference will be usefull platform for researchers to present their finding in the areas on multidisciplinary realted to public health and health system issues.

This conference will provide opportunities to exchange ideas, knowledge, and development of the latest research among the participants. We will publish the paper as output from the SICPH 2021 in proceeding book with ISBN and selected paper will be published in Jurnal ilmu kesehatan masyarakat- SINTA 3 (a nationally-accredited journal). The SICPH 2021 is being attended by about 50 participants. I hope you enjoy the conference.

With regard to considerable conference agenda, we greatly appreciate any support and sponshorship derived from any governmental as well as private institutions for the success of the conference. Great appreciation is also handed to organizing committe of the conference for any voluntarily effort that bring to the succes of the conference.

The conference committee expresses its gratitude towards all the keynote speakers, authors, reviewers, and participanst for the great contribution to enssure the succes of this event. Finnally, I sincerely thank all the members of the organizing committee who have worked hard to prepare this conference.

**Palembang, October 2021**

**Chair,**

**Anita Camelia, SKM., MKKK.**

# PREFACE



First of all, let us thank God, the Almighty, who has given His grace and guidance so that the 3rd Sriwijaya International Conference of Public Health (SICPH) with the theme of The Workplace Initiative: Health, Safety and Wellbeing Regarding Covid:19 can be held successfully. I welcome all of you to this seminar which has received great attention not only from university, but also other communities to submit papers to be presented in this seminar. I express my highest gratitude and appreciation the presenters.

The conference is divided in two session, the first session is speeches and the second session is round table discussion. In the first session, the invited keynote speakers were Prof. Dr. Tan Malaka, MOH, DrPH, SpOk, HIU (A Professor from Medical Faculty Universitas Sriwijaya), Prof. Dr. Retneswari Masilamani (University Tunku Abdul Rahman, Malaysia), Prof.Dr.Joselito L. Gapaz MD, M.PH(University of the Philippines) and Prof. Dr Tjandra Yoga Aditama, MHA,DTM&H, DTCE,SpP(C).FIRS (Professor from Griffith University, Australia)

Of course, this conference activity would not have succeeded without the support of all parties involved, as well as the presence of all participants in all regions in Indonesia and internationally. I especially thank to all the organizing committees for their hard work, perseverance, and patience in preparing and organizing this conference so that it can go well, smoothly and successfully.

Finally, through this conference let us extend the network and cooperation among all stakeholders of the public health sector, especially in Indonesia and in the world in general, to build a better public health world in Indonesia

Thank you for participating in this conference.

**Dean of Public Health Faculty,  
Universitas Sriwijaya**

**Dr. Misnianti, S.K.M, M.K.M**



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## ASSOCIATION BETWEEN MEMBERSHIP OF HEALTH INSURANCE AND INPATIENT UTILIZATION: ANALYSIS OF THE NATIONAL SOCIOECONOMIC SURVEY (SUSENAS) 2019

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### ABSTRACT

*Equity in health services, utilization including inpatient service, has become a global concern. It is crucial for the realization of universal health coverage. The aim of this study was to analyze the association between membership of health insurance and inpatient health service utilization in Indonesia. The study was a cross-sectional household survey from the Indonesian National Socioeconomic Survey (Susenas) conducted in 2019. The dependent variable was the utilization of inpatient. While the independent variables are health insurance membership status and socio-demographic factors, namely: age, gender, education, occupation, area of residence. The study sample was 278,004 respondents. Data were analyzed using Chi-Square statistical test. The results of the study illustrated that the utilization of inpatient services in Indonesia is 4.8% and there is a statistically significant relationship between the variables of age, gender, education, occupation, area of residence, and health insurance participation status ( $p$ -value  $<0.001$ ) with use of inpatient health services. Health insurance ownership is the most dominant variable related to the utilization of health services in Indonesia ( $p$ -value  $<0.001$ ). PR was 2.220 (95% CI= 2.117-2.328) after controlling for variables of age, gender, occupation, and area of residence.*

**Keywords:** equity, inpatient, national socioeconomic survey, universal health coverage, utilization

### ABSTRAK

Pemerataan pemanfaatan pelayanan kesehatan termasuk pelayanan rawat inap telah menjadi perhatian global. Hal ini penting untuk terwujudnya cakupan semesta (*universal health coverage*). Penelitian ini bertujuan untuk menganalisis hubungan antara status kepesertaan asuransi kesehatan dengan pemanfaatan pelayanan kesehatan rawat inap di Indonesia. Penelitian ini menggunakan desain cross sectional yang diperoleh dari hasil survei Sosial Ekonomi Nasional (Susenas) tahun 2019. Variabel terikat dalam studi ini adalah pemanfaatan pelayanan kesehatan rawat inap. Sedangkan variabel bebas adalah status kepesertaan asuransi kesehatan dan faktor sosio-demografis, yaitu: usia, jenis kelamin, pendidikan, pekerjaan, daerah tempat tinggal. Sampel penelitian sebanyak 278.004 responden. Data dianalisis menggunakan uji statistik Chi-Square. Hasil penelitian menggambarkan bahwa utilisasi pelayanan rawat inap di Indonesia sebesar 4,8% dan terdapat hubungan yang signifikan secara statistik antara variabel usia, jenis kelamin, pendidikan, pekerjaan, wilayah tempat tinggal, dan status kepesertaan asuransi kesehatan ( $p$ -value $<0,001$ ) dengan pemanfaatan layanan kesehatan rawat inap. Kepemilikan asuransi kesehatan merupakan variabel yang paling dominan berhubungan dengan pemanfaatan pelayanan kesehatan di Indonesia ( $p$ -value $<0,001$ ). PR sebesar 2,220 (95%CI= 2,117-2,328) setelah dikontrol dengan variabel usia, jenis kelamin, pekerjaan, serta wilayah tempat tinggal.

**Kata Kunci:** cakupan semesta, ekuitas, rawat inap, survei sosial ekonomi nasional, utilisasi

## Introduction

Public health conditions are influenced by several factors such as lifestyle (life style), environment (social, economic, political, and cultural), health services and genetic factors (heredity). One of the important factors that affect health status is health services because with the existence of public health service facilities that require health services, they will use them well to provide health recovery services, disease prevention, treatment and nursing<sup>1</sup>. Inpatient services are health services found in hospitals, health centers, or other health facilities consisting of a combination of several service functions. Inpatient services are a fairly important role in health services which consist of a series of activities for observing, diagnosing, administering treatment, and health efforts by means of patients staying at health services<sup>2</sup>. Health facilities are not only a place for curative activities but also as a place to improve the health status of individuals or communities, so that the quality of health and human life in Indonesia also increases<sup>3</sup>. The behavior of using hospital inpatient services in Indonesia still has inequality, it can be seen from the difference in the concentration index of 0.0045. This inequality is caused by differences between age, income, education, area of residence, and ownership of health insurance<sup>4</sup>.

Inequality in the use of inpatient services is influenced by several factors, such as predisposing characteristics, enabling characteristics, and needs characteristics of a person for health services. Predisposing characteristics are demographic factors (age, gender, and marital status, social structure consists of education level, occupation, race, beliefs such as views on health services, and knowledge. The next factor that affects the utilization of health services is supporting factors consisting of: family resources such as income, health insurance participation, quality of service and distance to health services. The last factor that affects the utilization of health services is the need factor such as tariffs for health services, facilities, personnel services, location, speed of service and information<sup>5</sup>.

According to the 2015 National Socio-Economic Survey (Susenas) the percentage of the population who had been hospitalized in the last year was 3.61% with the highest inpatient in a government hospital at 41.71%. In 2018 the percentage of the population who had been hospitalized in the last year was 4.69% with the highest inpatient in a government hospital at 41.33%. In 2019 the percentage of the population who had been hospitalized in the last year was 5.05% with the highest inpatient care at a government hospital at 39.77%. From these data, there is an increase in the number of utilization of inpatient services in Indonesia. Healthy Indonesia 2025 hopes that the community will have the ability to access quality health services and obtain health insurance<sup>6</sup>. Health facilities are health

service infrastructure facilities to support individual health care efforts in a promotive, preventive, curative and rehabilitative manner carried out jointly by the government, regional governments and the community<sup>7</sup> with reference to improving the quality of health services and achieving a healthy Indonesia in 2025.

In connection with the above description, it is necessary to analyze the utilization of inpatient services and what factors are related to the utilization of inpatient services in Indonesia. This study aims to analyze the factors related to the utilization of inpatient services in Indonesia using the 2019 National Socio-Economic Survey data.

## **Method**

This study uses a Cross Sectional research design using secondary data from the 2019 National Socio-Economic Survey (Susenas). The research sample was 278,004 respondents who were selected according to inclusion and exclusion criteria. The data were analyzed using univariate analysis, and bivariate analysis to see whether or not there was a relationship between the independent variable and the dependent variable. Bivariate analysis in this study uses the Chi-Square analysis test which in operation is assisted by a data processing application program.

## **Results**

The data was then analysed using univariate analysis. In addition, the bivariate analysis explains the association between each variable, such as age, gender, education, employment status, district, and insurance. This section demonstrates univariate and bivariate analysis, as shown in tables 1, and 2 below.

**Table 1. Frequency Distribution Based on Inpatient Utilization**

<b>Variables</b>	<b>Respondent Frequency</b>	<b>Percentage (%)</b>
<b>Dependent Variable</b>		
<b>Inpatient Utilization</b>		
Yes	13.258	4.8
No	264.746	95.2
<b>Independent Variables</b>		
<b>Age</b>		
Productive age	185.504	66.7
Unproductive age	92.500	33.3
<b>Gender</b>		
Male	139.526	50.2
Female	138.472	49.8
<b>Education</b>		
Low	193.371	69.6
High	84.633	30.4
<b>Employment Status</b>		
Unemployment	143.583	51.6
Employment	134.421	48.4
<b>District</b>		
Urban	118.534	42.6
Rural	159.470	57.4
<b>Health Insurance</b>		
Uninsurance	195.883	70.5
Insurance	82.121	29.5

Table 1 showed the frequency distribution base on inpatient utilization, it is known that 4.8% of research respondents used inpatient services in Indonesia, which means that most of the respondents in this study not used inpatient services (95.2%). The majority of respondents are in the productive age (15-64 years) which is 66.7%. The proportion of respondents are male is 50.2%. The majority of respondents education is in the low education category of 69.6%. The most dominant occupation of respondents is in the category unemployment 51.6%. The most dominant area where respondents live is in the rural area category, which is 57.4%. The proportion of respondents who have health insurance is 29.5%.



**Table 2. Bivariate Analysis of Factors Associated with Inpatient Utilization**

Variables	Inpatient Utilization		<i>p-value</i>	PR (95%CI)
	Yes	No		
<b>Age</b>				
Productive age	9.271	5.0	185.504	95.0
Unproductive age	3.987	4.3	92.500	95.7
				<0,001
				1,168 (1,124-1,213)
<b>Gender</b>				
Male	5.074	3.6	134.452	96.4
Female	8.184	5.9	138.478	94.1
				<0,001
				0,601 (0,580-0,623)
<b>Education</b>				
Low	8.744	4.5	184.627	95.5
High	4.514	5.3	80.119	94.7
				<0,001
				0,841 (0,810-0,872)
<b>Employment</b>				
Unemployment	7.583	5.3	1336.000	94.7
Employment	5.678	4.2	128.746	94.1
				<0,001
				1,265 (1,221-1,310)
<b>District</b>				
Urban	6.603	5.6	111.931	94.4
Rural	6.655	4.2	152.815	95.8
				<0,001
				1,355 (1,308-1,403)
<b>Health Insurance</b>				
Uninsurance	11.143	5.7	184.730	94.3
Insurance	2.115	4.6	80.006	95.8
				<0,001
				2,282 (2,176-2,392)

The results of the bivariate analysis in this study showed that the variables were age ( $p$ -value<0.001), gender ( $p$ -value<0.001), education ( $p$ -value<0.001), employment ( $p$ -value<0.001), district ( $p$ -value<0.001), and ownership of health insurance ( $p$ -value<0.001), which means that all independent variables have a significant relationship with the utilization of inpatient services in Indonesia. From the results of the analysis, 95% of the researchers believe that respondents of productive age have a 1.1 times greater opportunity to take advantage of inpatient services compared to respondents who are unproductive with CI range of 1.124-1.213. Respondents who are male have 0.6 times lower chance of utilizing inpatient services compared to female respondents with CI range of 0.580-0.623. Respondents with low education have 0.841 times higher chance of utilizing inpatient services compared to respondents with higher education with CI range of 0.810-0.872. Respondents who do not work have 1.2 times higher chance of utilizing inpatient services compared to respondents who work with CI range of 1.221-1.310. Respondents living in urban areas have 1.3 times lower chance of utilizing inpatient services compared to respondents living in rural areas with CI range of 1.308-1.403. Respondents who don't used health insurance have 2.282 times higher chance of utilizing inpatient services compared to respondents who have health insurance with a CI range of 2.176-2.392.

## Discussion

### Age

*The 3<sup>rd</sup> Sriwijaya International Conference on Public Health (SICPH)  
Palembang, Oktober 21<sup>st</sup>, 2021*



The results of the chi-square test showed that respondents who are unproductive age had p-value of  $<0.001$  (p-value  $<0.05$ ), so it could be concluded that there was a significant relationship between the age of the respondents and the utilization of inpatient services. Based on the PR value, in the population of 95%, researchers believe that respondents who are not productive have 1.1 times greater chance of utilizing inpatient services compared to respondents who are not productive with CI range of 1.124-1.213.

The results of the research conducted by Prety (2019) are in line with this study, showing a p-value of  $<0.0001$ , which means that there is a relationship between age and utilization of inpatient services. Based on the results of the research above, it can be concluded that a person's age can affect the utilization of inpatient services, because the results of the above study are also in line with other studies which state that there is an influence of age on the utilization of inpatient services<sup>8</sup>. The older a person is, the resistance of a person's body will decrease and in the elderly the disease experienced will be more severe, it will increasingly require health services for healing from the disease in accordance with the population pyramid in the form of a U Shape graph, which states the high incidence of illness at age under five years old (not productive age), decreases and will stabilize at productive age (15-64 years) and will increase again in old age ( $> 65$  years)<sup>9</sup>.

## **Gender**

The results of the chi-square test obtained a p-value of  $<0.001$  (p-value $>0.05$ ), which means that there is a significant relationship between gender and the used of inpatient services. Based on the PR value, in the population 95%, researchers believe that male respondents have 0.6 times lower chance of utilizing inpatient services compared to female respondents with CI range of 0.580-0.623.

The research conducted by Prety (2019) is in line with this research, p-value is 0.01 which means that there is a relationship between gender and the use of inpatient services, female respondents have a 0.92 less chance of utilizing inpatient services compared to male respondents with CI range 0.89-0.95<sup>8</sup>.

Based on the results of the study above, it was found that gender can affect the utilization of health services. Women usually need more special health services such as maternity services and other health services that require women to take advantage of health services<sup>10</sup>. However, on the other hand, men have a higher number of visits than women to carry out sustainable reproductive health services, so many choose to do outpatient services with the aim of pregnancy checks, family planning services, and will only take advantage of health services when giving birth<sup>11</sup>.

## **Education**

The results of the chi-square test obtained a p-value of  $<0.001$  ( $p\text{-value}>0.05$ ), which means that there is a significant relationship between education and the use of inpatient services. Based on the PR value, in the population 95% of the researchers believe that respondents with low education have 0.841 times higher chance of utilizing inpatient services compared to respondents with higher education with CI range of 0.810-0.872.

According to Anderson and Newman (1973), education is one of the predisposing factors that can influence a person to take advantage of health services. Education has an important role in a person's attitudes and actions to take advantage of health services<sup>12</sup>. Education will affect a person's awareness of the importance of health both for himself and his environment, so that it encourages the need for health services both outpatient and inpatient, the higher a person's education, the need for health services will increase<sup>13</sup>.

The results of this study are in line with research conducted by Tampi, Rumayar and Tucunan (2016) which shows that statistically the level of education has a relationship with the utilization of health services (outpatient and inpatient services) with a p-value 0.002<sup>14</sup>. In this study, high school-college education has a significant relationship to health utilization both outpatient and inpatient because someone who has a high education can better understand information on government policies in improving health facility services<sup>15</sup>. Another study conducted by Purba (2017) obtained a p-value of 0.012, which means that there is a significant relationship between education and the reuse of inpatient services at RSUD dr.Djasamen Saragih<sup>16</sup>. Based on the above results, it was found that a person's education in utilizing inpatient services is one of the factors that affect the utilization of health services, especially in inpatient services. Therefore, it can be concluded that the level of education shapes a person's behavior and attitude to take advantage of health services, especially inpatient services.

## **Employment**

The results of the chi-square test obtained p-value of  $<0.001$  ( $p\text{-value}>0.05$ ), which means that there is a significant relationship between employment and the utilization of inpatient services. Based on the PR value, in the population 95% of the researchers believe that respondents who unemployment have 1.2 times higher chance of utilizing inpatient services compared to respondents who employment with CI range of 1.221-1.310.

This study is in line with Prety's (2019) research, the result of p-value 0.01 which means that there is a relationship between employment status with the utilization of inpatient services. Respondents who employment have 0.48 times lower chance of utilizing inpatient services compared to respondents who unemployment with 95% CI = 0.47-0.50. Employment status is not a guarantee for a person to decide to use the right health services because there are still other factors such as age, gender, education, and the influence of ease of access in visiting the use of health services<sup>17</sup>.

Based on the results above, it can be concluded that employment status can affect health utilization. Someone who does not work generally has the opportunity to take advantage of health services because they have a lot of time to access health services<sup>18</sup>.

### **District**

Associated between district and Utilization of Inpatient Services, both urban and rural, are one of the factors in the behavior of using health services. The results of the chi-square test obtained p-value of <0.001 (p-value>0.05), which means that there is a significant relationship between the area of residence and the utilization of inpatient services. Based on the PR value, in the population 95% of the researchers believe that respondents living in urban areas have 1.3 times lower chance of utilizing inpatient services compared to respondents living in rural areas with CI range of 1.308-1.403.

Based on the results of research conducted by Prety (2019) in line with this study where the p-value is <0.0001, which means that there is a relationship between the status of the DTPK area and the utilization of health services, the DTPK area has 0.80 times smaller chance of utilizing the service. hospitalization compared to non-DTPK areas with 95% CI = 0.77-0.84. As for other factors, such as the socio-economic conditions of the community, transportation costs that will be incurred if using inpatient services, due to the geographical location of health services that are far away. Geographical diversity that occurs can form inequality in public health status, limited availability of health facilities, and limited transportation to reach the nearest health service. In addition, the accessibility of people who live in urban areas is higher to reach health services because distance is not a problem like people who live in rural areas<sup>19</sup>. Based on the results above, it can be concluded that the area of residence is one of the factors that affect the utilization of health services, especially in inpatient services. In Afghanistan, the utilization of government health facilities is more for inpatients, namely 3.3% compared to 0.7% for outpatients. This is influenced by many factors including the place of residence which is one of the main factors that cause inequality in the use of health services<sup>20</sup>.

Efforts that can be made to overcome the affordability of health services in rural areas, borders or islands are the need for a review of the period of work, workload, and achievements for health workers on duty in the area, then an increase in the number of logistics for health care facilities can be made, such as the availability of supporting tools and the availability of effective means of transportation for the community<sup>21</sup>.

### **Membership of Health Insurance**

Andersen's theory of ownership of health insurance is one of the important factors that influence the utilization of health services<sup>22</sup>. With the existence of health insurance, it can increase access to the use of health services because it can overcome financial problems because it will protect people who use insurance from high health costs<sup>23</sup>. The ownership of health insurance has a close relationship with the search for health services, patients with health insurance get more benefits in the utilization of health services compared to patients who are not guaranteed in health insurance, this is also reinforced by adequate government health facilities, proper health workers and sufficient, as well as the role of the government in overcoming health insurance coverage<sup>24</sup>.

The results of the chi-square test obtained p-value of  $<0.001$  ( $p\text{-value}>0.05$ ), which means that there is a significant relationship between ownership of health insurance and utilization of inpatient services. Based on the PR value, in the population 95% of the researchers believe that respondents who uninsurance have 2,282 times higher chance of utilizing inpatient services compared to respondents who have health insurance with CI range of 2,176-2,392.

This research is in line with that conducted by Prety (2019) where there is a relationship between JKN ownership (OR = 1.02; 95%CI= 0.98-1.07), private health insurance has a greater chance of 1.60 times (95%CI= 1.42-1.80) and more than one health insurance has a greater chance of 1.08 times (95% CI= 1.05-1.11) on the use of inpatient services compared to respondents who do not have health insurance. The above research is in line with other studies so that it can be concluded that insurance ownership is one of the factors that affect the utilization of health services, especially in inpatient services.

The results of the research above are in line with other studies so that it can be concluded that insurance ownership is one of the factors that influence the use of health services, especially in inpatient services, and with the existence of community insurance ownership can overcome the problem of using

health services by guaranteeing the community to get benefits such as health protection and protection to meet basic health needs<sup>25</sup>.

## **Conclusion**

The proportion of respondents who use inpatient services is 4.8%. The majority of respondents are in the productive age (15-64 years) which is 66.1%. The proportion of respondents who are female is 49.8%. The majority of respondents' education is in the low education category of 69.6%. The most dominant employment of respondents is in the category of unemployment by 51.6%. The most dominant area where respondents live is in the rural area category, which is 57.4%. The proportion of respondents who have health insurance is 29.5%. As for the types of health facilities, the majority of inpatient service utilization in government hospitals is 42.8%. The factors that were significantly related to the utilization of inpatient services in Indonesia were age (p-value<0.001), gender (p-value<0.001), education (p-value<0.001), employment (p-value< 0.001), district (p-value<0.001), and ownership of health insurance (p-value<0.001).

## **Acknowledgement**

Thank you to Badan Pusat Statistik Indonesia for providing Susenas data

## **Funding**

The authors should state that they have no funding for the research

## **Conflict of Interest**

The authors declare that they have no conflict of interest

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<https://doi.org/10.1080/16549716.2017.1305765>





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ISBN 978-623-399-020-2

