

## Index of Rationality

2.

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## **1. GOALS AND METHODOLOGY**

The Centre for Civil Communications from Skopje is the only non-governmental organization in the Republic of Macedonia that implements direct and comprehensive monitoring of public procurement procedures organized in the country. With the aim to make an additional contribution to advancing the state of affairs in this field, the Centre initiated the development of the so-called Index of Rationality in public spending. It aims to introduce a new instrument that will be used to assess effectiveness of public spending, to identify bottlenecks in the system, and ultimately to contribute to institutions' rational spending of public funds.

The Index of Rationality is developed by means of comparison of prices under which different institutions have procured same products, services or works. The Index of Rationality will be developed quarterly and each quarter will include at least five different types of procurements. The Index provides comparisons of public spending practices of at least five institutions and, where possible, efforts are made to maximize the number of institutions targeted. In addition to enabling comparison of prices, the analysis of same products, services or works provides different patterns of behaviour on the part of state institutions as regards implementation of same type of public procurements.

The Index is envisaged to serve the state institutions as an indicator against which they will improve the rationality in public procurements, i.e., public spending. Given that Index-included average prices are the mean values of those paid by the institutions and do not imply the actual or market prices, state institutions should - when possible - pursue attainment of lowest prices and spend public funds in a more rational manner, moreover knowing that other institutions have attained more favourable prices for same types of procurements.

Differences in price paid by institutions for same types of products and services indicate the need for a thorough market research prior to tender announcement and harmonized approach on the part of contracting authorities when procuring same type of products.

The sample used to develop the Index can include all national and local level contracting authorities, i.e., from line ministries and municipalities, public enterprises and agencies, to schools and kindergartens. For the purpose of securing better coverage on the territory of the Republic of Macedonia, the Centre's monitoring team

also includes representatives from civil society organizations seated in several municipalities country-wide.

It should be noted that the Index of Rationality will disclose the contracting authorities monitored, but not the companies with whom contracts have been signed (although data thereof is available), given that the responsibility for rational spending primarily lies with the contracting authorities.

The Index of Rationality uses primary and secondary data sources.

Data collection from primary sources is pursued by means of:

- attendance at public opening of bids submitted by economic operators under specific public procurement procedures, in order to obtain data on prices bided; and
- direct contacts with contracting authorities, in order to obtain data on the selection of the most favourable bid.

These activities provide data on prices paid to procure particular products, services or works.

Secondary data sources include:

- Electronic Public Procurement System (EPPS); and
- Free Access to Information (FOI) applications.

The research and the Index of Rationality were developed in cooperation with and financial support from the Foundation Open Society – Macedonia.

## 2. INDEX OF RATIONALITY

The Index of Rationality for the second group of products (second quarterly report) was developed by means of comparing purchase prices paid for medical disposables used in the health care sector. In order to provide a better overview of the state of affairs in this sector, the Index was developed for six types of products, those being:

- transfusion kits;
- infusion kits;
- syringes;
- cotton wads;
- cotton patches; and
- calico bandages.

These products were selected because they are considered to be the most frequently used disposables by all health care centres, hospitals and clinics. The ultimate goal was to determine whether unified prices were obtained from the suppliers or there are price deviations, given the fact that these materials are used on day-to-day basis and are therefore frequently purchased. Information related to prices paid were obtained by means of Freedom of Information (FOI) applications, submitted to all contracting authorities in the health care sector and registered in the Electronic Public Procurement System (EPPS).

## 2.1 Index of Rationality for Infusion Kits

*The highest price attained is by 440% higher than the lowest price and is equal to product's retail price in pharmacies. Reasons for this major gap between prices can only be partially justified by the quantity purchased, and therefore they should be sought in other factors that are - most likely - of subjective nature. Analysed procurement procedures for this product provide the conclusion that the application of the open procedure does not guarantee cost-effective and rational public spending.*

The Index of Rationality for infusion kits was based on data obtained for individual prices attained per infusion kit. FOI applications were submitted to nine hospitals, eight of which responded thereto and were included in the Index, whereas the Psychiatric Hospital in Demir Hisar did not respond to the FOI application. The Index was developed for purchase price per 100 infusion kits as a standard-size package.

### Index of Rationality for Infusion Kits

(price per package of 100 infusion kits)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PHF Clinical Hospital Tetovo	590	-42.94%
PHF Clinical Hospital Stip	602	-41.78%
PHF Specialized Hospital for Orthopaedics and Traumatology "St. Erasmus" Ohrid	640	-38.10%
PHF Clinical Hospital Bitola	660	-36.17%
PHF Specialized Hospital for Gynaecology and Obstetrics "Cair" Skopje	825	-20.21%
PHF Psychiatric Hospital "Skopje"	826	-20.12%
PHF Psychiatric Hospital "Negorci" Gevgelija	944	-8.70%
Average	1,034	0.00%
PHF Specialized Hospital for Pulmonary Diseases and TBC "Lesok"	3,186	+208.12%

As shown in the Table above, the lowest and highest price ratio accounts for staggering 1:5.4 and implies that the highest price is by 440% higher than the lowest price. On the account of the high purchase price for infusion kits paid by the PHF

Specialized Hospital for Pulmonary Diseases and TBC “Lesok”, the average price calculated for this disposable material amounts to 1,034 MKD per 100 infusion kits. As a result thereof, other health facilities targeted by the present Index were ranked below the indicated high average price. The fact that the average price calculated for this Index is unrealistically high is also supported by data showing that the said average price is equal to retail prices for infusion kits, as sold in pharmacies. In reality, such outcome would be unlikely given that quantities purchased by the analysis-targeted health care facilities are counted in thousands, whereas the product’s retail price includes additional costs (business premises, employees’ salaries, and like) that result in increased price paid by end-users.

Moreover, the Index of Rationality for infusion kits is characterized by significant differences in price attained by the remaining seven health care facilities ranked below the average price, notably in the range of 8.70% to 42.94% compared to the average price.

The price paid by the Specialized Hospital for Pulmonary Diseases and TBC “Lesok” for the procurement of infusion kits is by 208.12% higher than the average price calculated. In practice, if this health facility had purchased 12,000 infusion kits under the lowest price attained for this type of procurements (Clinical Hospital Tetovo), it would have spent 70,800 MKD instead of 382,320 MKD. In that, when analysing these unfavourable high prices attained for small budget items included under the list of medical disposables, one must have in mind that on annual level the total value of contracts signed for this type of procurements by the analysis-targeted health care facilities is a significant amount expressed in millions MKD.

Reasons for such high differences in price can only be partially justified by the quantity of infusion kits purchased. Notably, the Clinical Hospital Tetovo - which attained the lowest price - purchased 84,000 kits, whereas the Specialized Hospital for Pulmonary Diseases and TBC “Lesok” purchased 12,000 kits. Oddly enough, the quantity purchased under the highest price recorded in this Index is significantly higher compared to the quantity purchased under the lower price attained by the Specialized Hospital for Orthopaedics and Traumatology "St. Erasmus" from Ohrid (5,000 kits) and PHF Psychiatric Hospital “Negorci” – Gevgelija (only 200 kits). In the case quantity was defined as price-determining factor, the Specialized Hospital for Pulmonary Diseases and TBC “Lesok” would be ranked higher in the list, because it would have attained a significantly lower price than the actual price it paid for procurement of infusion kits.

**Quantity of infusion kits purchased**

<b>Contracting authority</b>	<b>Number of infusion kits</b>	<b>Difference against the average price</b>
PHF Clinical Hospital Tetovo	84,000	-42.94%
PHF Clinical Hospital Stip	60,000	-41.78%
PHF Specialized Hospital for Orthopaedics and Traumatology "St. Erasmus" Ohrid	5,000	-38.10%
PHF Clinical Hospital Bitola	130,000	-36.17%
PHF Specialized Hospital for Gynaecology and Obstetrics "Cair" – Skopje	10,000	-20.21%
PHF Psychiatric Hospital "Skopje"	3,200	-20.12%
PHF Psychiatric Hospital "Negorci", Gevgelija	200	-8.70%
PHF Specialized Hospital for Pulmonary Diseases and TBC "Lesok"	12,000	+208.12%

Great differences in prices included in the present Index cannot be explained by the type of public procurement procedure applied. Notably, seven of the eight health care facilities (Clinical Hospital Tetovo, Clinical Hospital Stip, Specialized Hospital for Orthopaedics and Traumatology "St. Erasmus" Ohrid, Clinical Hospital Bitola, Specialized Hospital for Gynaecology and Obstetrics "Cair" Skopje, Psychiatric Hospital "Negorci" – Gevgelija, and Specialized Hospital for Pulmonary Diseases and TBC "Lesok") purchased infusion kits by applying the open procedure for procurement of different medical disposables, ampullar medicines or procurement of medicines, etc. Only the Psychiatric Hospital "Skopje" purchased these materials by applying a bid-collection procedure without previously announced call, which was reflected in the price paid for infusion kits, i.e., the price attained was by 40% higher compared to the lowest price.

There are no significant differences in regard to criteria used by health care facilities for selection of the most favourable bid, where dominant was the criterion "economically most favourable bid". In that, this criterion was applied by health care facilities that attained the lowest and the highest price. Therefore, the criterion used by the Clinical Hospital Tetovo for selection of the most favourable bid includes the elements "price" and "quality" (80 and 20 points, respectively), while the Specialized Hospital for Pulmonary Diseases and TBC "Lesok" based its selection on the



following bid elements: 80 points were allocated to price, 10 points to quality and 10 points were allocated to payment deadline.

Based on the above given information, the conclusion was inferred that differences in purchase price for infusion kits cannot be justified by the quantity purchased or the type of public procurement procedure applied, or the criteria used for selection of the most favourable bid. Obvious is that reasons for such differences in price should be sought elsewhere, i.e., in other factors that are - most likely - of subjective nature, rather than in objective differences and characteristics of procurement procedures applied.

It should be noted that this Index of Rationality for infusion kits undoubtedly leads to the conclusion that implementation of open procedures does not guarantee cost-effective and rational public spending.

## 2.2 Index of Rationality for Transfusion Kits

*The difference between the lowest and highest price attained for procurement of this product accounts for 22% and is the smallest difference recorded to date. The institution that attained the lowest price for procurement of this product paid a price that is by 6.8% lower than the average, whereas the institution that attained the most expensive price paid a price that is by 14% higher than the average. All procurements included in the Index applied the open procedure divided into lots with previously announced call for awarding public procurement contract. This practice proved to be conducive to decreasing prices per lots compared to procurements where the procurement subject is undividable.*

The Index of Rationality for transfusion kits was based on procurements made by general hospitals. Prices were obtained by means of FOI applications submitted to 13 city general hospitals. 11 hospitals responded to the applications, while two of them (PHF General Hospital Kumanovo and PHF General Hospital Gostivar) provided answers that they do not hold information on the price per transfusion kit because they are purchased by the Transfusiology Institute in Skopje. Following the FOI applications submitted and a series of follow-up urges, the Institute submitted an official response wherein it indicated that it does not use transfusion kits and thus does not hold such information. This does not correspond to the response given by the two hospitals which claimed that their transfusiology wards are transferred under the jurisdiction and management of the Transfusiology Institute in Skopje, which disposes with information as regards the price of transfusion kits used by these two hospitals. Two hospitals did not respond to the FOI applications, those being: PHF General Hospital Veles and PHF General Hospital Kavadarci. Therefore, the Index of Rationality for transfusion kits was based on price per 100 infusion kits paid by 9 general hospitals in the Republic of Macedonia.

### Index of Rationality for Transfusion Kits

(price per 100 transfusion kits)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PHF General Hospital Struga	922	-6.82%
PHF General Hospital Kocani	922	-6.21%
City General Hospital "8 Septemvri" Skopje	968	-1.53%
PHF General Hospital Prilep	975	-0.81%
PHF General Hospital Gevgelija	980	-0.31%
PHF General Hospital Strumica	980	-0.31%
Average	983	0.0%
PHF General Hospital Kicevo	989	+0.61%
PHF General Hospital Ohrid	990	+0.71%
PHF General Hospital Debar (2011)	1,121	+14.03%

The average price paid by hospitals for procurement of 100 transfusion kits amounts to 983 MKD. Six contracting authorities purchased the kits under prices cheaper than the average, whereas three contracting authorities attained more expensive purchase prices compared to the average. The contracting authority which purchased the transfusion kits under the lowest price, i.e., 922 MKD for a standard-size package of 100 kits, paid a price that is by 6.82% lower than the average. On the contrary, the institution which paid the most expensive price for these kits, i.e., 1,121 MKD per 100 kits, accepted a price that is by 14.03% higher compared to the average price calculated. The highest and lowest price ratio is 1:1.22 and represents one of the smallest differences recorded to date and included in the Index of Rationality.

All procurements were implemented as open procedures divided into lots with previously announced call for awarding public procurement contract, which proved to be conducive in terms of obtaining lower prices. The analysis shows that prices attained for procurement of transfusion kits were not necessarily proportional to the quantity purchased, although procurement of larger quantity was supposed to result in attainment of lower prices. Nevertheless, the quantity purchased had a certain effect on the price attained by the contracting authority that paid the most expensive price per transfusion kit (PHF General Hospital Debar), notably because it purchased the smallest quantity thereof.

### Quantity of transfusion kits purchased

Contracting authority	Number of transfusion kits	Difference against the average price
PHF General Hospital Struga	36,000	-6.82%
PHF General Hospital Kocani	10,000	-6.21%
City General Hospital "8 Septemvri" Skopje	10,000	-1.53%
PHF General Hospital Prilep	20,000	-0.81%
PHF General Hospital Gevgelija	2,400	-0.31%
PHF General Hospital Strumica	10,000	-0.31%
PHF General Hospital Kicevo	1,500	+0.61%
PHF General Hospital Ohrid	20,000	+0.71%
PHF General Hospital Debar	500	+14.03%

As regards the criteria for the selection of the most favourable bid, only one hospital (PHF General Hospital Ohrid) used the selection criterion "lowest price", whereas the remaining eight hospitals used the criterion "economically most favourable bid". In that, as shown in the present Index of Rationality, the single institution that used the criterion "lowest price" falls under the group of hospitals that attained prices higher than the average. This undoubtedly confirms the conclusion that the selection of the financially most favourable bid does not depend only on the selection criteria used, but on other factors as well (eligibility criteria for companies, tender specifications, definition of procurement lots, and like). Hospitals that purchased transfusion kits using the criterion "economically most favourable bid" frequently included the element "payment deadline and manner", whereas a number of them also included the element "quality".

### 2.3 Index of Rationality for Cotton Patches

*The ratio between the lowest and highest price for procurement of this product accounts for 1:1.5, i.e. the highest price attained is by 54% higher than the lowest price. Five clinics purchased cotton patches under prices lower than the average, whereas four clinics purchased the patches under prices higher than the average. The lowest price is by 21.86% lower than the average and the highest price is by*

*20.06% higher than the average price calculated. Moreover, the fact that the criterion “lowest price” does not necessarily result in the selection of low-priced bids is confirmed by data indicating that all three clinics which attained purchase prices higher than the average used the said criterion.*

The present Index of Rationality was based on prices paid by clinics for procurement of this basic medical disposable.

### **Index of Rationality for Cotton Patches**

(price per package of 10 cotton patches 5cm x 5m)

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average</b>
University's Ophthalmology Clinic	261	-21.86%
University's Surgical Clinic "St. Naum Ohridski"	307	-8.08%
University's Cardiology Clinic	315	-5.69%
University's Nephrology Clinic	319	-4.49%
Public Institute in the field of health care tasked to address needs of Public Health Facilities, University's Clinics, Public Health Institutes and Emergency Rooms	325	-2.69%
Average	334	0.00%
University's Otorhinolaryngology Clinic	342	+2.40%
University's Radiotherapy and Oncology Clinic	344	+2.99%
University's Gynaecology and Obstetrics Clinic	391	+17.07%
University's Dental Clinical Centre "St. Pantelejmon"	401	+20.06%

In order to provide data required for the development of this Index of Rationality, FOI applications were submitted to all 29 clinics registered in the Electronic Public Procurement System, whereby we requested data on the purchase price of cotton patches with dimensions 5cm x 5m. 17 clinics responded to FOI applications, 7 of which indicated that they were supplied with patches by the Public Institute in the field of health care tasked to address needs of Public Health Facilities, University's Clinics, Public Health Institutes and Emergency Rooms, those being: Clinics for Haematology, Pulmonology and Allergology, Neurology, Plastic and Reconstructive Surgery, Urology and Paediatric Surgery. University's Psychiatric Clinic notified us that it does not use patches, while 12 University's Clinics did not respond to the FOI applications submitted, those being: the Clinics for Digestive Surgery, Gastroenterohepatology, Dermatology, Paediatrics, Infectious and Febrile Diseases,

Maxillofacial Surgery, Neuro-Surgery, Rheumatology, Endocrinology, Toxicology, Clinical Biochemistry and Radiology. Therefore, the Index of Rationality for cotton patches was based on comparison of prices paid by nine clinics for standard package of 10 cotton patches 5x5.

As presented in the Index of Rationality, the ratio between the highest and lowest price paid by the clinics for the procurement of cotton patches with dimensions 5x5 is 1:1.5, i.e., the highest price is by 54% higher than the lowest price paid.

The average price paid for procurement of patches amounts to 334 MKD per package of 10. Five clinics purchased the patches at prices lower than the average, while four clinics purchased the patches at prices higher than the average price calculated. In that, the lowest price paid is by 21.86% lower than the average and the highest price is by 20.06% higher than the average price. It is important to note that the highest price paid for procurement of cotton patches is similar to their retail price, which is contradictory given the fact that market placement of patches in pharmacies implies additional costs.

In terms of the type of public procurement procedure applied, differences in price can be considered expected only in regard to the University's Dental Clinical Centre "St. Pantelejmon" in Skopje, given that this facility implemented the procurement procedure by collecting three bids and without previously announced call for bids. All other Clinics applied the open procedure with previously announced call for awarding public procurement contract. All clinics purchased the patches as part of procurement of medical disposables with defined lots. The fact that the criterion "lowest price" does not necessarily result in the selection of low-priced bids is also confirmed by the fact that this criterion was used by all three clinics that attained purchase prices higher than the average. On the contrary, three of the five clinics that attained prices lower than the average used the selection criterion "economically most favourable bid" and allocated rank-points for elements "payment deadline" or "quality". The highest number of points allocated to the element "quality" (30 from 100 points in total) was recorded with the Public Institute in the field of health care tasked to address needs of Public Health Facilities, University's Clinics, Public Health Institutes and Emergency Rooms.

The relation between prices paid and quantity purchased indicates only partial interconnection. Notably, the highest purchase price for patches was paid for procurement of the smallest quantity thereof (University's Dental Clinical Centre "St.

Pantelejmon”), while at the same time the lowest price attained was also connected to procurement of small quantity of patches (Ophthalmology Clinic).

**Quantity of cotton patches purchased**

<b>Contracting authority</b>	<b>Number of cotton patches</b>	<b>Difference against the average price</b>
University’s Ophthalmology Clinic	300	-23.64%
University’s Surgical Clinic “St. Naum Ohridski”	6,500	-10.18%
University’s Cardiology Clinic	1,000	-7.84%
University’s Nephrology Clinic	4,000	-6.67%
Public Institute in the field of health care tasked to address the needs of Public Health Facilities, University’s Clinics, Public Health Institutes and Emergency Rooms	18,000	-4.92%
University’s Otorhinolaryngology Clinic	1,000	+0.06%
University’s Radiotherapy and Oncology Clinic	2,000	+0.64%
University’s Gynaecology and Obstetrics Clinic	1,500	+14.39%
University’s Dental Clinical Centre “St. Pantelejmon”	60	+17.32%

## 2.4 Index of Rationality for Syringes

*The lowest price is by 12.34% lower than the average, and the highest price is by 26.6% higher than the average price calculated. The lowest and highest price ratio is 1:1.44, which means that the highest price is by 44% higher than the lowest price attained for procurement of syringes. This confirms the conclusion that in cases of multiple-product purchases it is better to divide the procurement subject into lots.*

13 Health Care Centres from the Republic of Macedonia were included in the development of the Index of Rationality for 5 ml syringes. Data were obtained based on FOI applications submitted to 17 health care centres, 4 of which did not respond (Health Care Centres from Kavadarci, Delcevo, Krusevo and Kocani) and hence they were not included in the Index of Rationality. Prices were compared based on the price paid per standard package of 100 individual 5 ml syringes.

### Index of Rationality for 5 ml Syringes

(price per package of 100 syringes)

Contracting authority	Price in MKD (VAT included)	Difference against the average
Health Care Centre Kriva Palanka	135	-12.34%
Health Care Centre Bitola	136	-11.69%
Health Care Centre Demir Hisar	136	-11.69%
Health Care Centre Gostivar	142	-7.79%
Health Care Centre Kicevo	142	-7.79%
Health Care Centre Gevgelija	142	-7.79%
PHF Health Care Centre Valandovo	142	-7.79%
Health Care Centre Vevcani	153	-0.65%
Average	154	0.00%
Health Care Centre Kumanovo	166	+7.79%
Health Care Centre Berovo	169	+9.74%
Health Care Centre Kratovo	169	+9.74%
Health Care Centre Vinica	177	+14.94%
Health Care Centre Veles	195	+26.6%



The average price per for package of 100 individual 5 ml syringes as paid by the contracting authorities amounts to 154 MKD. Eight health care centres purchased the syringes under prices cheaper than the average, and five health care centres purchased the syringes under more expensive prices compared to the average. The lowest price is by 12.34% lower than the average, and the highest price is by 26.6% higher than the average price. The lowest and highest price ratio is 1.44, which means that the highest price is by 44% higher than the lowest price attained for procurement of syringes. In practice, this implies that if the Health Care Centre Veles had bought syringes under the lowest price attained, it would have paid 27,000 MKD for 20,000 syringes instead of 39 000 MKD, which was the value paid for this contract.

Such differences in the value of syringes purchased are significant given the fact that this product is only one item from the long list of medical disposables that are subject of procurement. Notably, when priority is not given to rationality for all procurement lots and items, it results in unreasonable increase in total public spending made by health care institutions.

#### Quantity of syringes purchased

Contracting authority	Number of syringes	Difference against the average price
Health Care Centre Kriva Palanka	23,000	-12.34%
Health Care Centre Bitola	15,000	-11.69%
Health Care Centre Demir Hisar	4,500	-11.69%
Health Care Centre Gostivar	1,800	-7.79%
Health Care Centre Kicevo	10,000	-7.79%
Health Care Centre Gevgelija	12,000	-7.79%
PHF Health Care Centre Valandovo	4,500	-7.79%
Health Care Centre Vevcani	2,500	-0.65%
Health Care Centre Kumanovo	30,000	+7.79%
Health Care Centre Berovo	5,000	+9.74%
Health Care Centre Kratovo	5,000	+9.74%
Health Care Centre Vinica	2,000	+14.94%
Health Care Centre Veles	20,000	+26.60%

An in-depth analysis of the quantity of syringes purchased indicates that differences in price were unlikely to occur on the grounds of quantities purchased.

Notably, 23,000 syringes were purchased under the lowest price attained and this quantity is slightly bigger in number from the quantity purchased under the highest price (20,000 syringes). This conclusion is supported also by the fact that the two health care centres that purchased the smallest quantities (Health Care Centre Gostivar and Health Care Centre Vevcani) are included in the group of contracting authorities that attained prices lower than the average, whereas the Health Care Centre that purchased the largest quantity of syringes actually attained a price higher than the average (Health Care Centre Kumanovo).

Once quantity is eliminated as price-determining factor, the question is raised whether differences in price are due to the type of public procurement procedure applied. The analysis indicates that the lowest price for procurement of syringes was attained as part of open procedure, which is considered to be the procedure that provides greater competition among economic operators and enables the contracting authorities to make the most favourable selection. Oddly enough, even in regard to the highest price attained for procurement of syringes (Health Care Centre Veles) the type of procurement procedure applied was bid-collection with previously announced call and is considered an open procedure, although it includes shorter deadlines for bid submission and simplified tender documents.

The significant difference in prices cannot be fully explained also by the criterion used for the selection of the most favourable bid, as the health care centre that attained the lowest and the health care centre that attained the highest price both used the same criterion for selection of the economically most favourable bid, notably by including the following two elements: “price” and “payment manner and terms”. Thus, the reasons for the 44% difference between the lowest and highest price should be sought in other aspects of the procurement procedure, and not only in terms of procedure type and the selection criterion used.

Notably, as part of its call for bids related to procurement of medical disposables, including syringes, the Health Care Centre Veles indicated that the procurement is not divided into lots, which means that all procurement items will be purchased from one company and that the most favourable bid will be assessed as a whole and not per procurement lots. Unlike this model, the health care centre that attained the lowest price decided to divide the procurement subject into lots, which provides

increased competition among suppliers of different items. In the case of procurement of syringes, this approach proved to be quite rational. The procurement made by the Health Care Centre Berovo provides further evidence in support of the conclusion inferred that procurement subject divided into lots should be the preferable approach used in cases of multiple product procurements. Namely, apart from the Health Care Centre in Kriva Palanka, this is the only other institution that applied the open procedure for procurement of different disposables, including syringes, but did not divide the procurement subject into lots, i.e., one company was expected to supply an array of products (laboratory, medical, dental and ambulance disposables). Perhaps the reasons for the higher price attained by this health care centre compared to the average price calculated for procurement of 5 ml syringe should be sought in the undivided procurement subject.

However, the assumption that prices attained under public procurement procedures are due to certain subjective factors is best confirmed by the fact that as many as 7 of the 13 health care centres targeted with the Index of Rationality for 5 ml syringes signed procurement contracts without previously announced call for bids, i.e., they used the law-stipulated procedure for small procurements in the amount of 5,000 EUR where the most favourable bid is selected from the bids submitted by three companies which the contracting authority addressed with a limited call for bids. In that, 5 of them (Health Care Centre Demir Hisar, Health Care Centre Gostivar, Health Care Centre Gevgelija, PHF Health Care Centre Valandovo and Health Care Centre Vevcani) attained prices lower than the average, and only two health care centres signed contracts without previously announced call for bids and attained prices higher than the average (Health Care Centre Kratovo and Health Care Centre Vinica). The fact that lower prices were attained under procedures implemented without previously announced call for bids (procedures applied for small procurements, which are considered non-transparent) compared to prices attained under open procedures raises doubts in regard to the quality of open procedures implemented.

## 2.5 Index of Rationality for Cotton Wads

*The lowest and highest price ratio is 1:1.35, which means that the highest price is by 35% higher than the lowest price. Considering the fact that for the procurement of cotton wads most health care centres applied the bid-collection procedure with previously announced call for bids and in that divided the procurement subject into lots, the differences in price attained for this type of procurement can be explained by differences in quantity purchased.*

A second group of health care centres was targeted for the purpose of developing the Index of Rationality for 1000 gr cotton wads used for medical purposes. 16 FOI applications were submitted to the contracting authorities targeted, 7 of which (Health Care Centres in Makedonski Brod, Pehcevo, Radovis, Strumica, Tetovo, and Health Care Centre Zeleznicar in Skopje) did not respond, while the Health Care Centre Rostuse responded that it does not procure cotton wads. Therefore, this Index is comprised of eight health care centres.

### Index of Rationality for Cotton Wads

(price per 1000 gr cotton wads)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PHF Health Care Centre Resen	201.0	-12.45%
PHF Health Care Centre Skopje	220.0	-4.18%
PHF Health Care Centre Probistip	224.0	-2.44%
PHF Health Care Centre Sveti Nikole	225.0	-2.00%
Average	229.6	0.00%
PHF Health Care Centre Negotino	230.0	+0.17%
PHF Health Care Centre Prilep	230.0	+0.17%
PHF Health Care Centre Struga	236.0	+1.79%
PHF Health Care Centre Ohrid	271.0	+18.03%

The Index of Rationality for 1000 gr cotton wads provides the conclusion that differences in price exist in regard to procurement of these basic disposables as well. Prices paid for 1000 gr cotton wads fall in the range from 201 to 271 MKD. Four health care centres purchased the cotton wards under prices lower than the average and four health care centres attained prices higher than the average price calculated. The lowest and highest price ratio is 1:1.35, which means that the highest price is by 35% higher than the lowest price.

Considering the fact that for the purpose of purchasing cotton wads, most health care centres applied the bid-collection procedure with previously announced call where the procurement subject is divided into lots, differences in price attained can be explained with differences in quantity purchased. Namely, the Health Care Centre Ohrid attained the highest purchase price for cotton wads because it purchased only 6 kg cotton wads.

**Quantity of cotton wads purchased**

<b>Contracting authority</b>	<b>Cotton wool (in kg)</b>	<b>Difference in prices against the average</b>
PHF Health Care Centre Resen	120	-12.45%
PHF Health Care Centre Skopje	2,000	-4.18%
PHF Health Care Centre Probistip	20	-2.44%
PHF Health Care Centre Sveti Nikole	65	-2.00%
PHF Health Care Centre Negotino	180	+0.17%
PHF Health Care Centre Prilep	190	+0.17%
PHF Health Care Centre Struga	80	+1.79%
PHF Health Care Centre Ohrid	6	+18.03%

The analysis of the Index of Rationality for cotton wads provides the conclusion that the open procedure where the procurement subject is divided into lots as applied by Health Care Centres in Skopje and in Probistip resulted in the attainment of favourable low prices. In that one should note that these two procedures used the selection criterion “economically most favourable bid”, where points were allocated also for the element “quality”. On the contrary, the other two contracting authorities which attained prices lower than the average used the selection criterion “lowest price”. Based on the above given, the conclusion is inferred that in the attempt to obtain more valuable contracts (which also imply greater quantities of goods procured), the suppliers are prone to reducing the prices bided.

## 2.6 Index of Rationality for Bandages

*The highest price under which bandages were purchased is almost twice the lowest price. The highest price is even higher than retail prices of bandages in pharmacies. This great difference in prices attained cannot be justified by the quantity purchased. Reasons thereto could be identified in the type of public procurement procedure applied. The lowest price was attained as part of an open procedure, whereas the highest price was attained in the procedure with collection of three bids, without previous announcement of call for bids.*

The Index of Rationality for calico bandages with dimensions 8cm x 5m was based on prices disclosed by 11 health care facilities that were addressed with FOI applications. From the total number of institutions addressed with these applications only the Health Care Institute for Nephrology in Struga did not provide a response thereto. However, some institutions responded that they do not use bandages, while the Health Care Institute for Protection and Rehabilitation “Banja Bansko” and the Health Care Institute for Rehabilitation of Children and Youth – Skopje referred us to the Ministry of Labour and Social Policy explaining that this line ministry supplies them with bandages. Despite the several FOI applications we submitted, the Ministry did not disclose the price under which it purchased bandages.

Hence, the Index of Rationality for calico bandages was based on prices disclosed by four Health Care Institutes and one Psychiatric Hospital and concerns the procurement of standard package of 10 calico bandages 8cm x 5m.

### Index of Rationality for Bandages

(price per package of 10 calico bandages 8x5)

Contracting authority	Price in MKD (VAT included)	Difference against the average
Gerontology Institute “13 Noemvri” Skopje	81	-22.86%
Health Care Institute for Prevention, Treatment and Rehabilitation of Chronic, Respiratory, Non-Specific and Allergic Diseases Otesevo	91	-13.33%
Health Care Institute for Physical Medicine and Rehabilitation Skopje	94	-10.48%
Average	105	0.00%
Psychiatric Hospital “Negorci” – Gevgelija	106	+0.95%
Health Care Institute for Rehabilitation of Children with Damaged Hearing “Koco Racin” - Bitola	153	+45.71%

The highest purchase price paid for calico bandage 8cm x 5m is almost twice the lowest price, i.e., the highest and lowest price ratio is 1:1.9. Three contracting authorities attained prices lower than the average price of 105 MKD per package of 10 bandages, while two contracting authorities attained prices higher than the average. In that, the highest price attained was recorded with the Health Care Institute for Rehabilitation of Children with Damaged Hearing “Koco Racin” – Bitola and is by 45.71% higher than the average. It should be noted that the highest price also exceeds the product’s retail price. These major differences in price for procurement of bandages cannot be justified by the quantity purchased. As shown in the Table below, the lowest price was attained for procurement of smaller quantities compared to the quantity of bandages that was purchased under the highest price.

**Quantity of calico bandages 8x5 purchased**

<b>Contracting authority</b>	<b>Number of bandages</b>	<b>Difference against the average price</b>
Gerontology Institute “13 Noemvri” Skopje	200	-22.86%
PHF Health Care Institute for Prevention, Treatment and Rehabilitation of Chronic, Respiratory, Non-Specific and Allergic Diseases Otesevo	150	-13.33%
Health Care Institute for Physical Medicine and Rehabilitation Skopje	30	-10.48%
PHF Psychiatric Hospital “Negorci”, Gevgelija	30	+0.95%
Health Care Institute for Rehabilitation of Children with Damaged Hearing “Koco Racin” - Bitola	300	+45.71%

However, if differences in price cannot be justified by the quantity purchased, they must be due to the type of public procurement procedure applied. Namely, the lowest price (Gerontology Institute “13 Noemvri” – Skopje) was attained as part of an open procedure, whereas the highest price (Health Care Institute for Rehabilitation of Children with Damaged Hearing “Koco Racin” – Bitola) was attained as part of bid collection procedure without previously announced call for bids. The procedure for small procurements in the amount of 5,000 EUR that does not guarantee any transparency was pursued by the Health Care Institute for Prevention, Treatment and Rehabilitation of Chronic, Respiratory, Non-Specific and Allergic Diseases Otesevo and the Health Care Institute for Physical Medicine and Rehabilitation Skopje.

### 3. GENERAL CONCLUSION

*Identified differences in price attained for procurement of given products are very important, given that they were obtained for a small group of products from the long list of medical disposables needed for day-to-day work of health care facilities country-wide. The findings presented in this Index of Rationality confirm the general rule that open procedures result in attainment of the most favourable prices and the conclusion that in addition to announcing a public call for bids, tender procedures should be properly prepared. Division of the procurement subject into lots proved to be conducive to obtaining lower prices. The analysis presented in this report deconstructs the widespread illusion that application of the selection criterion "lowest price" results in obtaining the financially most favourable bid.*

If the purpose of this Index of Rationality was to provide an overview of the state-of-affairs in the health care sector by comparing prices attained for procurement of small medical disposables and to determine whether past experiences related to procurement of these items have led to more unified purchase prices – the first conclusion inferred indicates that there are significant differences in price attained which in most cases raises concerns as to rationality of public spending.

The lowest and highest price ratios per individual product are the following:

- 1:5.4 for infusion kits, i.e., the highest price is more than 5 times higher than the lowest price;
- 1:1.22 for transfusion kits, i.e., the highest price is by 22% higher than the lowest price;
- 1:1.5 for cotton patches, i.e., the highest price is by 50% higher than the lowest price;
- 1:1.44 for 5 ml syringes, i.e., the highest price is by 44% higher than the lowest price;
- 1:1.35 for cotton wads, i.e., the highest price is by 35% higher than the lowest price; and
- 1:1.9 for calico bandages 8 cm x 5 m, i.e., the highest price is almost two times higher than the lowest price.



Differences in price attained are significant, given that they were obtained for a small group of products from the long list of medical disposables needed for the day-to-day work of health care facilities country-wide.

In that, most distressing is the fact that the highest prices attained by the relevant contracting authorities in the case of three from the six analysis-targeted products (infusion kits, bandages and patches) are equal to or exceed products' retail prices in pharmacies. Most certainly, such practices are not considered to be cost-effective. If such differences are common in terms of broadly available products, the question is raised as to what happens with purchase prices for more sophisticated medical materials and equipment?

Given that the Freedom of Information Law stipulates an obligation for information holders to disclose information requested by means of FOI applications, unclear remains why significant number of health care facilities did not disclose information related to prices paid for procurement of certain products. The question is also raised whether some institutions do not respond because of objective reasons or maybe attempt to conceal prices and avoid being held accountable for irrational spending of taxpayers' money, in particular by ignoring their legal obligation. The dilemma remains whether differences in price would be even greater if all health care facilities disclosed the information requested.

Findings stemming from the Index of Rationality developed for six commonly used products at health care facilities provide evidence in support of the general rule that open procedures result in attainment of the most favourable prices. However, considering the fact that significant differences were also recorded in regard to prices attained as part of open procedures and bid-collection procedures with previously announced call for bids, the conclusion is confirmed that in addition to announcing public call for bids, tender procedures should be properly prepared and should include high quality and precise tender documents. Such practices will stimulate greater competition among bidding companies and will result in attainment of more favourable prices.

Moreover, division of the procurement subject into lots proved to be conducive to decreasing prices of products that are subject of procurement. Evidence in support of this conclusion can be identified in high purchase prices attained as part of procurement procedures that were not divided into lots whereby all products were purchased from one supplier and the insignificant differences in price attained as part of open procedures where the procurement subject was divided into lots.

At the same time, the analysis deconstructs the widespread illusion that use of the selection criterion “lowest price” results in obtaining the financially most favourable bids. As unlikely as it might sound, most institutions attained more favourable prices when using the selection criterion “economically most favourable bid”, which implies allocation of rank-points to other elements in addition to the “price” element, such as quality, payment deadline, and like. Why? Of course, a serious factor contributing to this situation is the problem already identified by the on-going monitoring of public procurements. Namely, instead of precisely defined tender specifications and determined quality that products or services bided should meet in order to compete only in terms of prices bided, most tender procedures include high eligibility criteria for companies’ participation. Hence, most procurement procedures that used the selection criterion “lowest price” exclusion from the bid-evaluation process the companies that submitted the financially most favourable bids, and justified such actions with companies’ failure to meet the defined eligibility criteria for participation in the public procurement procedure. Such practices are beneficial for pharmaceutical wholesalers that sustain on the Macedonian market for years now and hold the dominant position in this sector.