Interdiligence

Romania's Healthcare System

Reaction to SARS-CoV-2

interdiligence.com 41-43 Ana Davila Street +40 731 837 448 contact@interdiligence.com

INTERDILIGENCE

Romania's Healthcare System. Reaction to SARS-CoV-2

Risk Analysis and Mapping

April, 2020

INTERDILIGENCE CONSULTING SRL (hereinafter referred to as "INTERDILIGENCE" or "we"), an intelligence analysis and risk consulting company is offering an overview of the Romanian medical infrastructure within the framework of the medical crisis generated by the worldwide spread of SARS-CoV-2.

INTERDILIGENCE assumes no direct, indirect or consequential liability towards any third party or intended addressee of this Report for the information contained herein, as interpretation of applications, for omissions or for reliance by any such party or any other third person thereon.

Statements herein concerning financial, medical, regulatory or legal matters should be viewed as general observations based solely on INTERDILIGENCE's experience as an intelligence analysis and risk consulting company and can not be relied upon as medical, technical, financial, regulatory or legal advice, which we are not authorized to provide. All such matters should be reviewed with advisors qualified in these domains.

This report does not constitute a recommendation, endorsement or approval of any kind in regard to any transaction, decision or evaluation and should not be relied upon as such under any circumstances.

Upon request, INTERDILIGENCE may provide additional information and analyses on any of the subjects covered in this Report.

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Table of Contents

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Executive Summary

This report analyzes the Romanian Healthcare System and its reaction to the pandemic generated by SARS-CoV-2,[1] and highlights the opportunities that both public and private organizations can seize and proposes plans of action to optimize current and future activities.

In addition, it explains the benefits of the simplified public procurement decisions taken during the state of emergency, whilst underlining the usefulness of the cooperation between state authorities and organizations that can contribute to combat the spread of the virus and maintain an operational medical system.

The document is based upon information obtained from those involved in combating the Covid-19 pandemic,[2] from the business environment, as well as from public data provided by the Ministry of Interior, the Ministry of Health, the National Insurance House, the National Authority for Quality Management in Health, The National Statistics Institute, the World Health Organization, the European Commission, the OECD,[3] and other authorities competent in this field.

Controlled by the Ministry of Health and its related institutions, **the Romanian Healthcare System** is mainly dependent on the state medical branch (which accounts for approximately 80% of the entire system).[4]

While gravitating around the network of hospitals, distributed in the country according to demographic values, the healthcare system relies on partially outdated infrastructure due to under-financing. This, along with the aging population, increases the demand for medical services and gives the **private sector the opportunity to expand its activity**, including via services paid for by the state.

Medical services are followed by a high demand for pharmaceutical products. The network of pharmacies (across the whole country) **continues to expand and offers investment opportunities**.

From the human resource perspective, Romania is on the verge of facing a **personnel crisis**. The annual additions fail to completely replace the "losses" suffered due to the migration to Western-European countries.

According to trustworthy statistics and assessments, undertaken at European and international[5] levels, the Romanian Healthcare System is one of the least efficient in the EU,[6] facing multiple problems like under-financing, mismanagement, discrimination, etc.

SARS-CoV-2 crisis management is performed through the "White Plan" and the social distancing and isolation rules. This operation provided good results, lacking any excessive aggravations, mainly due to the gradual tightening of preventive and protective measures.

[1] Severe Acute Respiratory Syndrome Coronavirus 2
[2] Coronavirus 19 disease (generated by SARS-CoV-2)
[3] Organisation for Economic Cooperation and Development
[4] https://bit.ly/3bvJi56
[5] https://bit.ly/39Hp86n, Eurostat Regional Yearbook, 2019 edition, https://bit.ly/2wejKdl and others
[6] European Union

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

The spread of SARS-CoV-2 was largely influenced by the flow of Romanian citizens returning from areas seriously affected by the pandemic, as well as by their lack of responsibility and refusal to comply with protection measures. Authorities' low readiness level also played a role. According to the statistical models used, **the Covid-19 pandemic peak will be at the end of April. After this moment a gradual decrease will follow until the middle of May.**

The Ministry of Health adopted a **"White Plan"**, a **reorganization and medical system adaptation strategy**, in order to cope with the pandemic. It identifies the hospitals designated as the first two "front lines" in the fight against the virus (infectious diseases and pneumology hospitals), along with the support medical facilities, and precaution measures to be taken (including a clinical epidemiological mechanism for patient sorting).

Widespread use of the multidisciplinary support hospitals and lack of proper equipment and training has led to infection outbreaks in hospitals (Suceava, Bucharest, Deva, etc.).

Medical personnel protests (isolated cases), undertaken with the purpose of obtaining protective equipment, were followed precisely by the spread of infections within medical support facilities. **The limited resource prioritization** (towards first and second phase hospitals, according to the "White Plan") did not permit such equipment to reach all the medical facilities.

A major problem is the insufficient number of intensive care beds equipped with mechanical ventilation, vital for the treatment of serious Covid-19 forms. The analysis of the current situation highlights a **high probability of surpassing the existing capacities[7] in Suceava, Alba, Hunedoara, and Covasna counties.**

Additional information obtained from the medical sector **confirms the lack of protective equipment, a limited testing capacity, and communication issues between the local and central levels** in regards to the supply and exact hospital situations. Furthermore, **management errors and subjective protocol use** were also revealed.

Exceptional public procurement measures valid during the state of emergency[8] support providers in ensuring the necessary products and services. **Direct acquisition** without a value threshold[9] and **negotiation without publication** (recommended at European level) are efficient contracting procedures, characterized by **speed and the contestation impossibility**.

The rapidiness of the exceptional procurement process can be used for **illicit purposes**. The contribution of the Romanian law enforcement authorities is essential.

Entities aiming to make **donations / sponsorships containing products / equipment of external origin**, have at their disposal:

- **the import through a company licensed by the Ministry of Health**, followed by the direct delivery to the medical unit, or
- **the import by state authorities** that receive the monetary donation.

[7] The number of deaths and the consequent resource availability were not taken into account.
[8] Valid momentarily until 14.05.2020.
[9] Valid for ONAC, DSP, healthcare facilities, central public authorities, legal entities in which the state is a majority shareholder and ministries with own health system

While trying to provide the resources needed for the health system in the pandemic circumstances, **Romanian companies have converted their own production lines and obtained the necessary approvals on their new products through the simplified procedure provided by the authorities.**

In order to help **combat the crisis** and at the same time **benefit from increasing their own visibility and revenues**, companies can run **CSR**[10] **campaigns** and capitalize on the NGO[11] already involved in this endeavor.

The conclusions of the report highlights that, **subject to Covid-19 pressure, the Romanian Healthcare System has revealed its vulnerabilities, generating hospital infections outbreaks**, that limit the effective operational capacity of the "White Plan".

The resources necessary to the medical system and the measures taken by the authorities to simplify public procurement procedures **reveal multiple opportunities** for companies that can act as suppliers during this pandemic.

Companies can reduce the impact of the crisis on their own companies and can obtain additional revenues while also establishing profitable long-term business relationships. The effort to help fight the pandemic will help everyone overcome it faster but also produce reputational benefits.

Authorities must prioritize and streamline their funding allocations, depending on the evolution of the pandemic, while **companies are invited to act proactively, so as to identify and benefit from the opportunities of the moment.** It is vital that the necessary items be delivered in a timely manner in order to eliminate the risk of the medical system becoming overwhelmed by the number of cases, helping avoid negative social and economic effects.

Fast reaction, monitoring capacity, and good information are attributes which can significantly contribute to solving the crisis. In the meanwhile, **preparing efficient business continuity or economic recovery plans will have a decisive role in subsequent evolutions.**

[10] Corporate Social Responsibility
[11] Non-Governmental Organisation

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

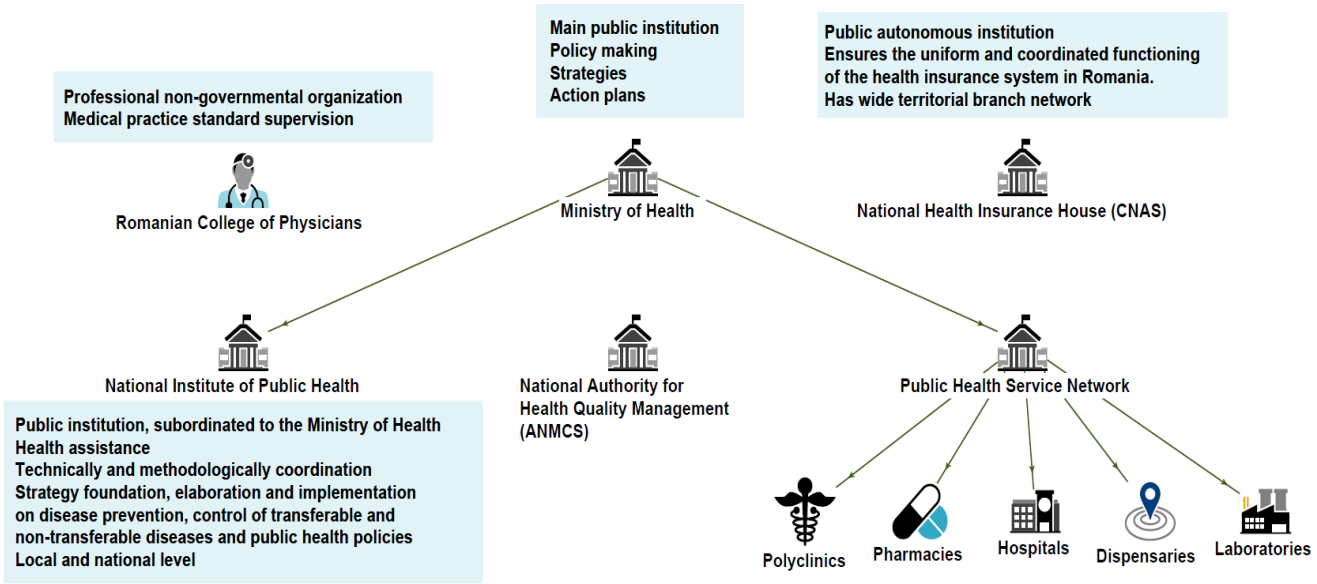
1. The Romanian Healthcare System

1.1. Introduction

The Romanian Healthcare System is structured on five complementary pillars, each providing different services. As described below, its structure is comprised of: the Ministry of Health, the National Health Insurance House (CNAS), the Romanian College of Physicians, the National Institute of Public Health, and the Public Health Service Network:

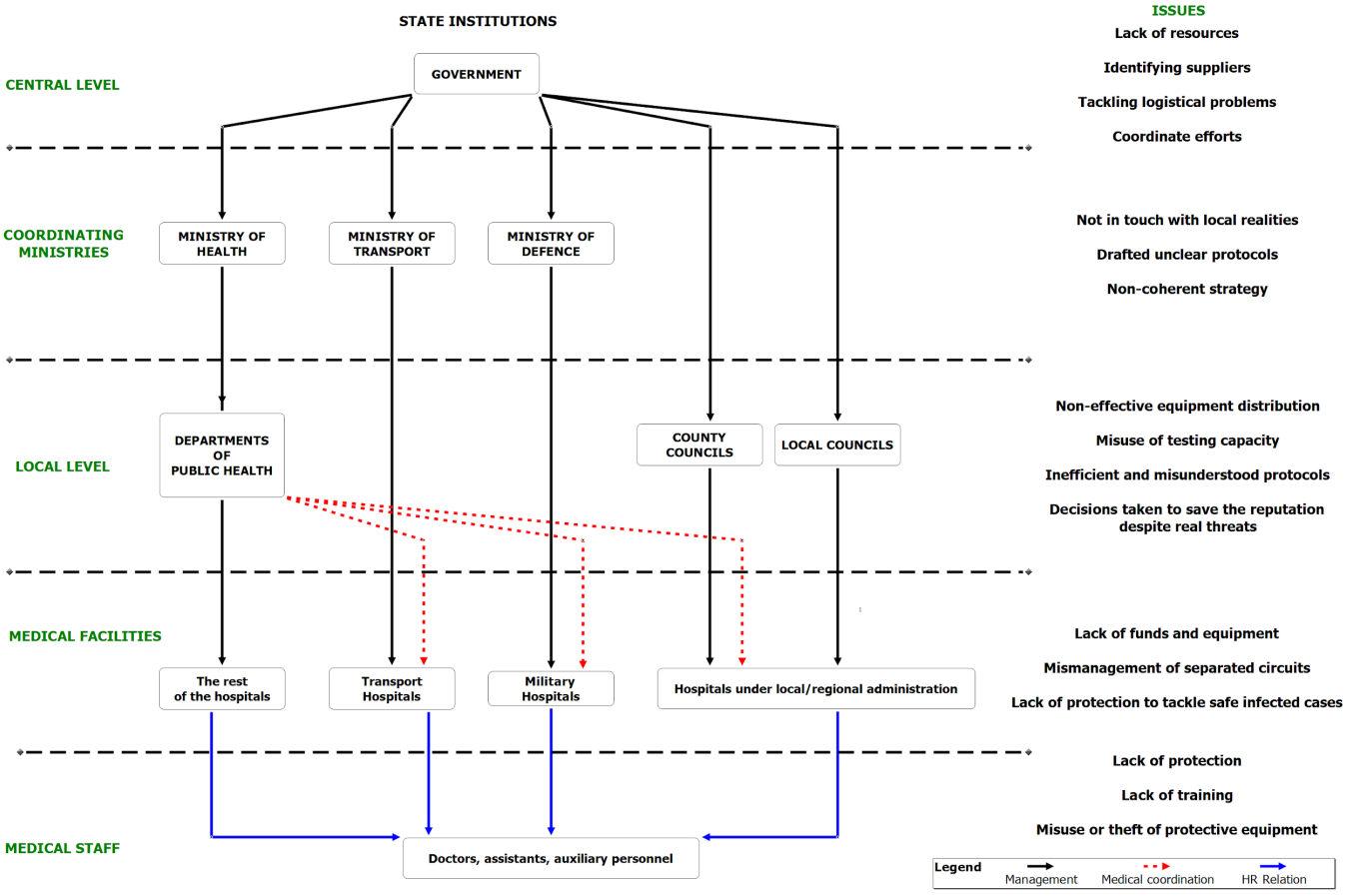
- **The Ministry of Health** - the main public institution responsible for public policies in the medical field strategies and action programs in the field of public health, all under the Romanian Government's tutelage;
- **The National Health Insurance House** (CNAS) - a public institution, with legal personality. Entity responsible for ensuring the coordinated functioning of the health insurance system in Romania. It also hosts a wide territorial network;
- **The Romanian College of Physicians** - a professional organization, non-governmental and non-political, that controls and supervises the optimal fulfillment of the medical practices;
- **The National Institute of Public Health** - a public institution, under the Ministry of Health, that carries out public health assistance, coordinating specialized activity and drafting and implementing strategies for disease prevention. It also controls and handles communication regarding diseases and public health policies (both at national and regional level);
- **The Public Health Service Network** that includes, among others, hospitals, polyclinics, laboratories, dispensaries and pharmacies.

Short schematic description of the Healthcare System may be found bellow:



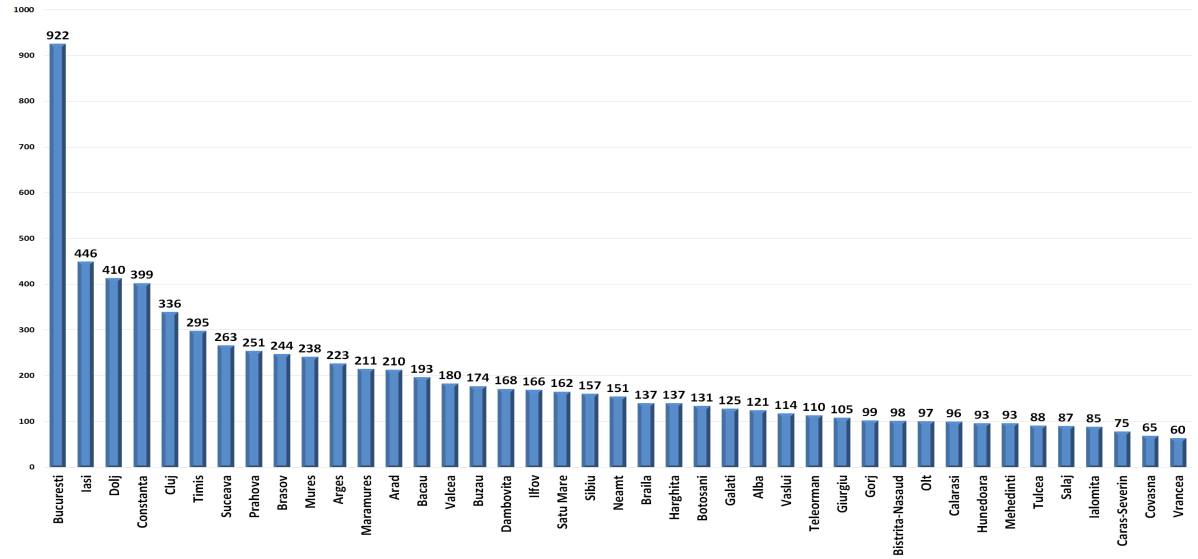
41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

State structures and the communication between authorities are of utmost importance. Also, on each level, **the representation highlights most common issues that arose from the current situation**:



In terms of medical care, the pharmaceutical industry distribution centers are of great importance. Based on the territorial distribution of state independent providers in the field, the coverage of "pharmacies by county" is adequate and evenly distributed, in relation to population.

Total number of Romanian public and private pharmacies by county[12]



[12] https://bit.ly/3eFHylw

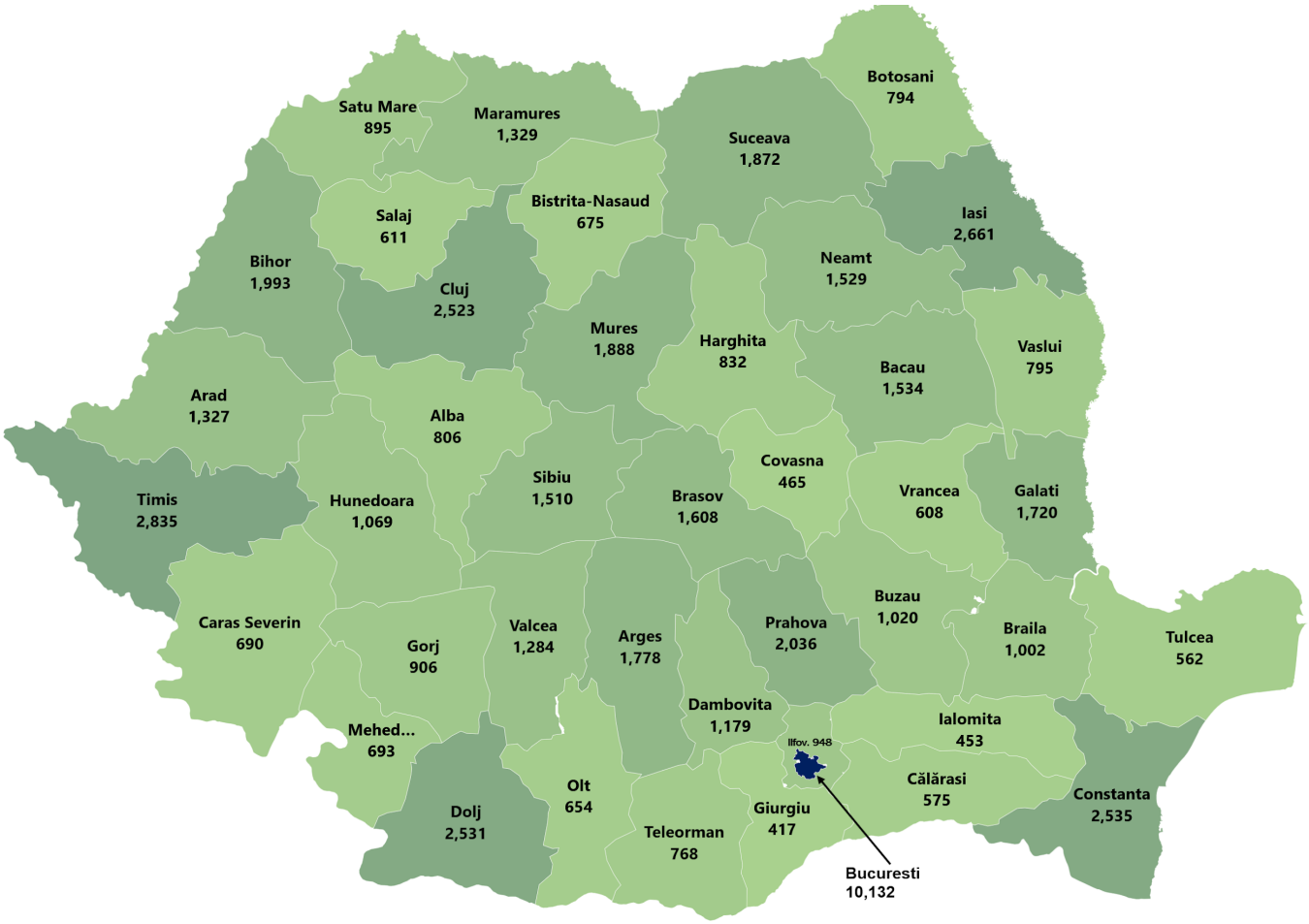
41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

The distribution of facilities is based on supply and demand, and should be treated as such. In terms of opportunity, on a business level, during the next few months we may find individuals / companies seeking out certain products. Based on this, **import / export companies will profit**, **but it will not result in long term deals, rather "on the spot buying / selling"**.

From a business perspective, the total number of pharmaceutical companies active in Romania indicates the: **"potential for growth"**. Steady contracts and distribution networks will prove more valuable in the long run.

In terms of service providers, state owned networks represent a big part of Romania's healthcare system. They are evenly distributed throughout the country and represent "focus points" in case of necessity.

The territorial distribution, per county, of both public and private healthcare facilities in Romania[13]



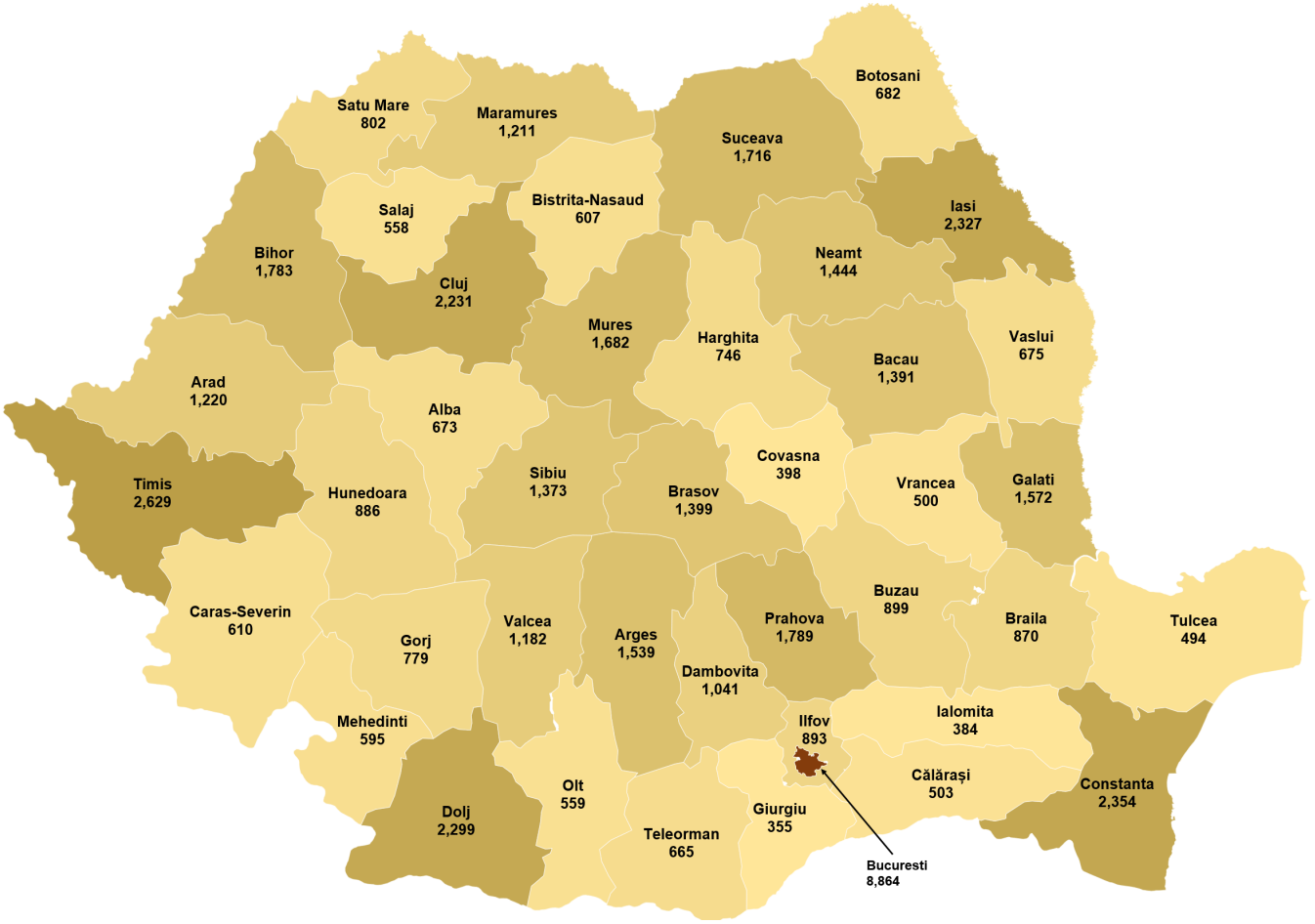
The national public healthcare system is backed up by the private one. Accreditations are still lacking in some cases but in situations of crisis and / or pandemics, these facilities are ready to provide healthcare to all patients.

[13] https://bit.ly/3eFHylw

An up to date analysis indicates that the private sector only provides treatment for about 20%[14] of what the public sector does. Given Romania's Healthcare System and policies, it has not reached the level of other, more developed, EU countries but it is promising.

The Romanian healthcare private sector is based on supply and demand, sole dependency on it is not advised. This particular system should be viewed as "complementary".

The territorial distribution, per county, of the private healthcare facilities in Romania[15]

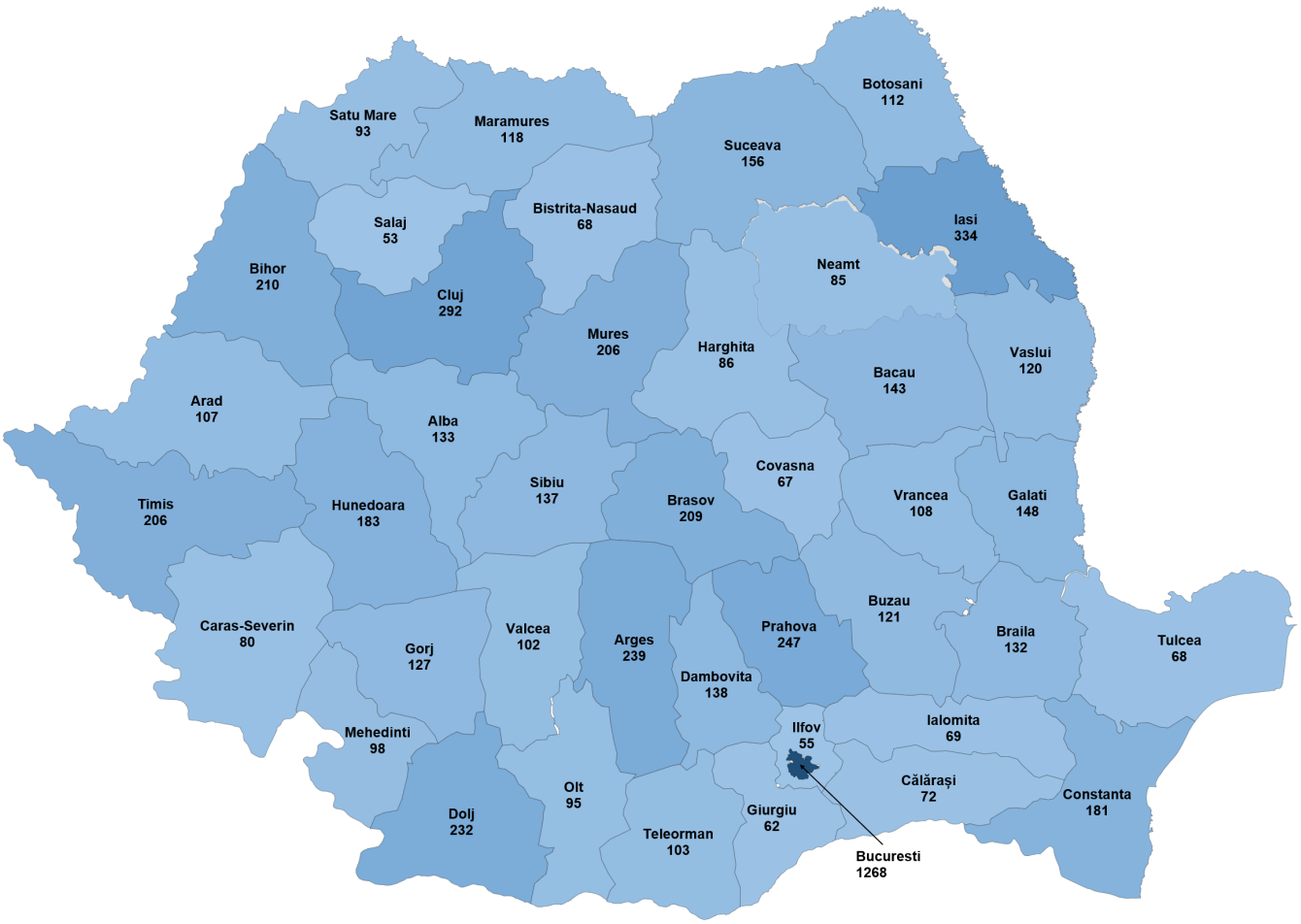


[14] https://bit.ly/3bvJi56
[15] https://bit.ly/3eFHylw

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Sole public healthcare facilities are lower in numbers, but higher in capacity. Quality over quantity issues favour the private sector, but accessibility and distribution favours the public one.

The territorial distribution, per county, of the public healthcare facilities in Romania[16]:



[16] https://bit.ly/3eFHylw

1.2. Health Care Facilities Classification

A total of 56,771 healthcare facilities provide services to patients in Romania[17] according to the 2017 National Authority for Management of Healthcare Quality (ANMCS)[18] official reports.[19]

Romanian healthcare facilities, public and private, provide curative and prophylactic healthcare and are organized in the following types of entities:

- Hospitals;
- Dispensaries;
- Polyclinics;
- Sanatoriums;
- Diagnostic and treatment centers;
- Integrated outpatient and specialized hospitals;
- Preventive hospitals;
- Family doctors offices;
- Dental clinics;
- Specialized medical offices;
- School / student medical offices;
- Medical laboratories;
- Pharmacies and pharmacy points.

Hospitals are **medical facilities (public, private, or public with private sections) with hospital beds** that provide medical services to patients or to outpatients, and ensure the health of the population. They provide preventive, curative, recovery and / or palliative medical services.

Hospital integrated ambulatories are structures that provide **medical facilities with hospital beds**. They offer ambulatory medical assistance and they also hold specialized medical offices corresponding to specific designated illness treatment (e.g. “viral diseases” / “emergencies of all sorts” etc.).

Sanatoriums are **facilities with hospital beds** that provide medical assistance using natural healing factors associated with other medical procedures, techniques, and therapeutic means. They are organized as tuberculosis, neurosis, or various SPA sanatoriums.

Preventories are **medical facilities with hospital beds** which ensure the prevention and control of tuberculosis in children and young people, as well as in the clinically stabilized and contagious tuberculosis patients.

Health centers are **medical facilities with hospital beds** that provide specialized medical care for the nearby local population, in at least two specialties.

Medical-social facilities are **specialized public institutions, with hospital beds,** subordinate to the local administration, that provide care and social services to patients in need. **These are mostly oriented towards social cases, but may be reconverted if necessary.**

Medical offices, public/private, provide preventive, curative, recovery and emergency humanitarian assistance. Provided by general practitioners, family doctors, dentists, specialist doctors, and other authorized health personnel. The medical offices are focused on: students, general medicine, families,

[17] Order no 1096/2016 regarding the modification and completion of the Minister of Health Order no 914/2006 to approve the norms on the criteria to be answered by a hospital in order to obtain medical authorisation to function
[18] RO. Autoritatea Națională de Management al Calității în Sănătate - https://bit.ly/34fc47f
[19] https://bit.ly/34dJyTy

specialized issues or dental issues.

Family doctors' offices provide medical services to patients insured through the National Health Insurance System, registered on state lists based on employment records. Also, some patients might be on the lists of other family members. In some social cases they provide base treatment for uninsured patients.

General medicine medical offices are health units that provide primary health care services to patients insured through the National Health Insurance System.

Dental offices provide dental prevention and / or curative services.

Specialized medical offices are medical facilities designed especially for outpatient health care. In general these offices provide treatment services for only one medical specialty.

School/student medical offices are medical facilities operating in schools and higher education facilities, which provide general preventive medical and emergency care for students.

Dispensaries are medical units for the provision of general and specialized prophylactic and curative medical care as well as the monitoring of patients, by doctors and medical personnel.

Specialized ambulatory in the health facility, provides specialized medical care to patients in the ambulatory. It provides preventive, curative, recovery, emergency medical services and medical education activities.

Pharmacies provide pharmaceutical assistance to the population through activities such as delivery of prescription or non-prescription drugs, preparation of master and official medicines or other health products, sale of parapharmaceuticals or medical devices, etc.

Pharmaceutical points assure pharmaceutical assistance to the population by providing retail services of medicines, sale of medical devices and other products intended for use in some pathological conditions, except for the sale of homeopathic products issued only on prescription.

Polyclinics are health facilities that provide specialized medical care for outpatients. Both in the public and private system, providing preventive, curative, and emergency medical services.

Diagnostic and treatment centers are health facilities that provide specialized ambulatory healthcare. They can establish the diagnosis and make therapeutic recommendations or outpatient treatment.

Blood transfusion centers are structures responsible in any stage for the collection and testing of human blood and blood components (the definition does not include hospitals' blood transfusion facilities).

Specialized medical centers are health facilities that provide specialized medical services in the outpatient clinic, which conclude a contract with the National Health Insurance System.

Civil medical societies are medical offices that can be established by licensed doctors and in the form of medical civil societies. They are constituted by two or more associated Doctors.

Dental technology laboratories are laboratories in which dental prostheses or similar items are made.

Medical laboratories are health facilities that operate health tests such as analyses, investigations, collection of pathological products, medical preparations and examinations.

Mental health centers are public sector health facilities organized within medical facilities **with beds**,

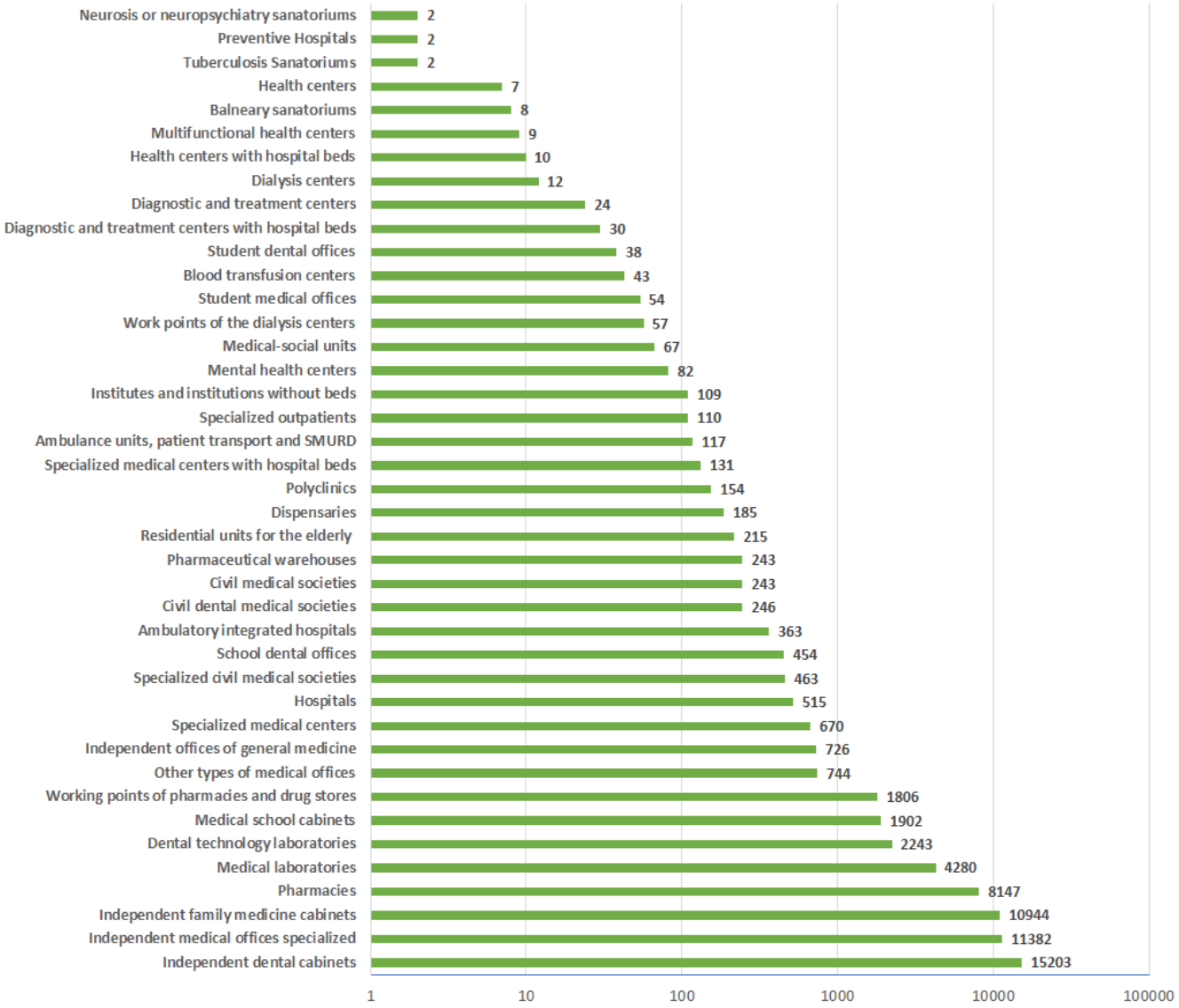
which provide medical assistance to people with mental disorders.

Specialized medical civil societies are medical offices set up by licensed doctors and in the form of specialized medical civil societies.

Civil dental medical societies are set up by licensed dental practitioners and constituted between two or more associated doctors.

Pharmaceutical warehouses are healthcare facilities focused on medical wholesale distribution.

Quantitative distribution of medical facilities in Romania



41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

1.3. Hospitals Classification

The latest organizational structure of the Romanian hospitals dates back to 2011 (Health Minister Order 1408/2011).[20] Based on this, **the whole system consists of a five tier structure: from the bottom up, tier 5 hospitals being of limited competence.**

Since 2011, the following taxonomy applies to health care units with hospital beds, in Romania:

Defined by criteria	Category (Total)	Public	Private
Very High competence level Provide very high complexity medical services, by using topmost level equipments and staff, for the population in the county where the hospital is located, as well as from other counties.	I	8	8	
	I M	31	31	
High competence level Provide high complexity medical services, by using high level equipment and staff, for the population in the county where the hospital is located, as well as from surrounding counties.	II	23	22	1
	II M	40	38	2
Medium competence level Provide average complexity medical services, for the population in the county where the hospital is located and, only by exception, from surrounding counties.	III	65	60	5
Basic competence level Provide low complexity medical services, for the population in a limited administrative	IV	157	136	21
Limited competence level Provide, as the case may be, the following medical services: care for chronic diseases, care for a single pathology or palliative care.	V	200	120	80
	Unclassified	142	5*	137

* Of which 1 is public with private sections
M - Monoprofile units

[20] https://bit.ly/3aNooxT

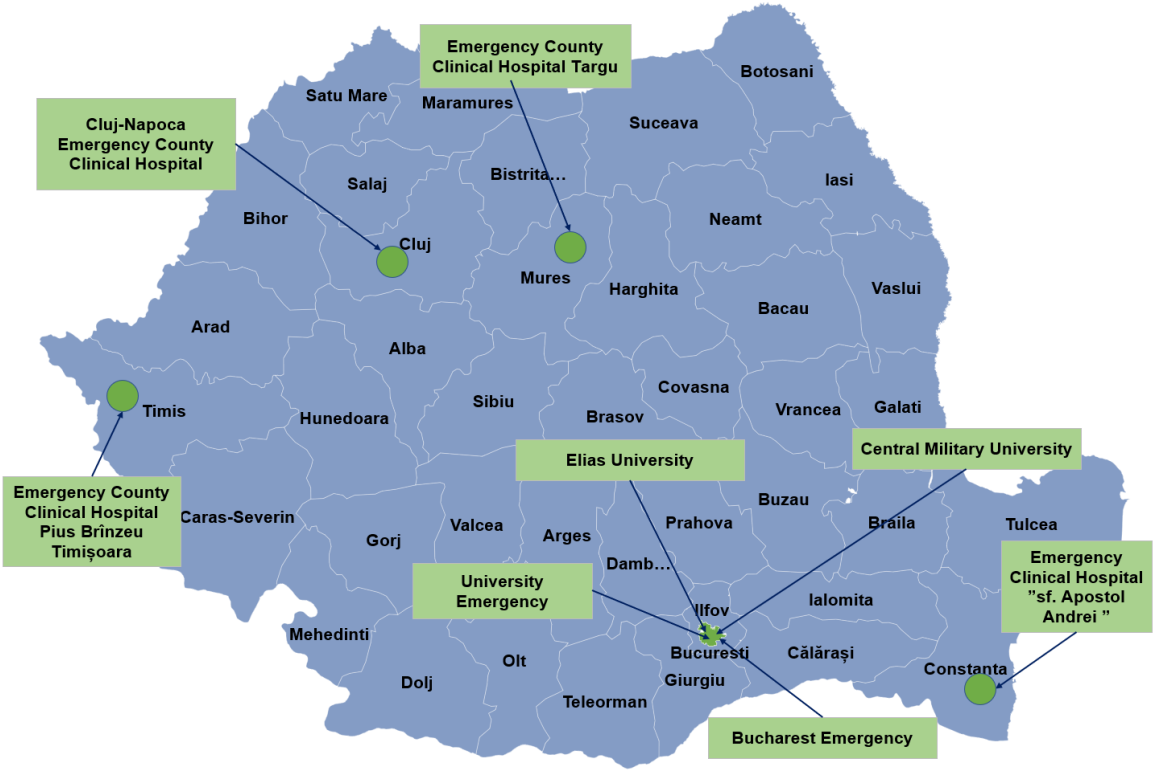
41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

As previously mentioned, Tier I units - rated at "Very High Competence Level", are a very limited category with only 8 hospitals out of the total of 515 (2018 data). These are available in only five Romanian cities.

Breakdown of the medical institutions below:

- Bucharest Emergency Clinical Hospital (Spitalul Clinic de Urgenţă Bucureşti);
- University Emergency Hospital Bucharest (Spitalul Universitar de Urgenţă Bucuresti);
- Elias University Emergency Hospital (Spitalul Universitar de Urgență Elias);
- Cluj-Napoca Emergency County Clinical Hospital (Spitalul Clinic Judeţean de Urgenţă Cluj-Napoca);
- Emergency County Clinical Hospital Pius Brînzeu Timisoara (Spitalul Clinic Județean de Urgență Pius Brînzeu Timișoara);
- Central Military University Emergency Hospital "dr. Carol Davila" (Spitalul Universitar de Urgenta Militar Central "dr. Carol Davila");
- Emergency Clinical Hospital "sf. Apostol Andrei " Constanța (Spitalul Clinic Județean de Urgență "Sf. Apostol Andrei" Constanța);
- Emergency County Clinical Hospital Targu Mures (Spitalul Clinic Județean de Urgență Târgu Mureș).

Graphical depiction based on geo mapping of the main units:



41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Romanian Hospitals are subject to a mandatory accreditation process based on Law no. 95/2006[21] and Government Decision no. 1148 from September 18th, 2008.[22] According to Law no. 185/2017,[23] regarding quality assurance in the health system, the health facilities evaluation is the activity of analyzing the level of compliance with the accreditation standards.

This process is carried out, upon request, by an independent health service evaluator and results in an accreditation based on the structure of the health facility and presence of quality management structure.

The accreditation process is performed by the National Authority for Health Quality Management (ANMCS) and is divided into 3 separate steps:

1. The pre evaluation; when documents are submitted by the hospital to ANMCS;
2. The actual evaluation; when evaluators check, on hospital premises, the compliance of the filed documents and data with on site conditions;
3. The post processing; when all the information is centralized, all the forms are filed, and the Evaluation Report is drafted.

The Ministry of Health provides an additional and distinct accreditation for private health facilities with hospital beds, upon a complex and lengthy documentation.

A summarized view on the documentation[24] required for the aforementioned can be found below, as follows:

- Company bylaws and premises documentation;
- The request addressed to the Health Ministry that contains information on the history of the company, the proposed organizational structure, the types of services to be provided (outpatient, day hospitalization, continuous hospitalization, and types of cases and of specialties), the equipment to be used and the human resource to perform herein;
- The approval notice issued by the Public Health Institute/its branches confirms that the respective premise complies with the type of activity to be performed, organizational and functional circuits. The Public Health Institute/its branches shall perform the analysis taking into account the need of the medical service, the necessity to establish such a private entity and the type and speciality requested for that particular area;
- Additional information along with committees and professional associations' opinions might be requested as well, depending on the necessity.

[21] https://bit.ly/3cGvMvw
[22] https://bit.ly/2VM3ol7
[23] https://bit.ly/2Kpng8j
[24] The complete set of rules and steps to be followed is available at: https://bit.ly/34hCc1r

1.4. Public Hospitals (distribution and logistics)

Romanian hospitals are split in two main sections:

- The type of medical issues presented by the contagium / illness (e.g. specialized hospitals: “infectious diseases”);
- The type of medical issues that require a multidisciplinary role, which also provide support for academia (e.g. medical university education).

Depending on the nature of the medical issue, Romanian hospitals are further split into the following categories:

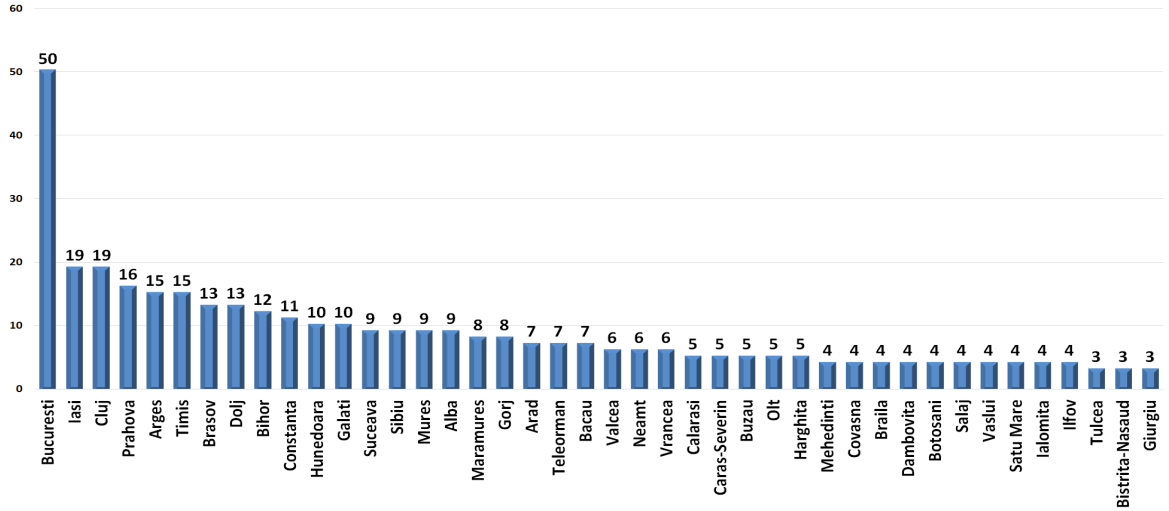
- General hospitals;
- Specialty hospitals, focus on one particular area (e.g. Oncology);
- Hospitals for chronic diseases;
- Emergency hospitals.

Most of the public hospitals are owned by the state and administered by the local / regional authorities or Ministry of Health. Several others are managed by the Ministry of Transportation, the Ministry of Defense, the Ministry of Internal Affairs, the Romanian Academy, with educational purposes, and any ministry with its own medical network.

The management and functional activities focused on medical-sanitary of hospitals are governed and checked by the Ministry of Health. While in hospitals under other ministries or institutions, with their own medical network, the checks are being done by their specialized structures.[25]

The Romanian hospital structure is organized based on the soviet model. This specific method provides a higher efficiency in cases like the SARS-CoV-2 generated pandemic. In a particular situation, such as this, the existence of hospital systems made up of “cells” - focused solely on distinct areas of practice, can better isolate the spread of the virus.[26]

A detailed chart containing the public hospital distribution by counties[27]



[25] https://bit.ly/2VLFXbu

[26] **Infectious disease dedicated hospitals will be / are on the front line in case of a pandemic**. In multidisciplinary hospitals the personnel interact in various sections, increasing the chance of spreading disease.

[27] https://bit.ly/3eFHylw

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

The structure of a public hospital varies based on their specific medical focus. Treated as an impromptu analysis, **the Elias University Emergency Hospital** (RO: Spitalul Universitar Urgenta Elias), **represents a flagship of medical research and treatment. This example of hospital organization may be extrapolated to other Romanian hospitals, for a better understanding of their internal mechanism.**

The Elias Hospital is an university hospital (as it also provides medical university education) and is administered by the Romanian Academy. In 2019, Elias Hospital total income, and total expenses, amounted to 302,808,748 RON (€61,181,538.55), while 113,344,376 RON (€22,900,868.47) in State subsidies.[28]

The Elias Hospital is headquartered in Bucharest, 17th Marasti Boulevard and has **21 sections and clinics:**[29]

- Anesthesia and Intensive Care - 12 doctors in each unit plus one in transfusions. Capacity of 30 beds;
- Cardiology - 17 doctors, including 8 in the supervision unit and advanced treatment of critical cardiac patients and 3 in the cardiology research unit. Capacity of 57 beds, including 11 in the supervision unit and advanced treatment of critical cardiac patients. Also, 20 beds in the interventional cardiology unit;
- General Surgery - 16 doctors, including 1 in the thoracic surgery unit, 4 in the plastic surgery and reconstructive surgery unit and 1 in the vascular surgery unit. 68 beds, including 5 beds in the thoracic surgery unit, 10 beds in the plastic surgery and reconstructive surgery unit, and 10 beds in the vascular surgery unit;
- Dermatology and Allergology - 12 doctors. 25 beds including 5 in the allergic and clinical immunology unit;
- Endocrinology, Sugar Diabetes, Nutrition and Metabolic Diseases - 10 doctors. Capacity of 30 beds including 10 in the diabetes, nutrition and metabolic diseases unit;
- Gastroenterology - 11 doctors. Capacity of 44 beds;
- Geriatrics and Gerontology - 4 doctors, 9 nurses, 4 employees in the administrative staff, 10 assistants. Capacity of 33 beds, including 10 in the geriatric psychiatry unit;
- Internal Medicine - 6 doctors. Capacity of 50 beds including 5 in the nephrology unit and 5 in the rheumatology unit;
- Neurology - 11 doctors, including 4 in the UAVCA[30]. Capacity of 70 beds including 11 in the UAVCA and 4 in the acute therapy unit;
- Neonatology - 7 doctors. Capacity of 30 beds including 5 in the premature birth unit and 5 in the intensive care unit;
- Neurosurgery - 6 doctors. Capacity of 30 beds;
- Obstetrics - Gynecology - 18 doctors. Capacity of 61 beds, including 5 in the maternal and fetal care unit;
- Otorhinolaryngology - 6 doctors including 2 in the oral and maxillofacial surgery unit. Capacity of 25 beds, including 5 in the oral and maxillofacial surgery unit;
- Medical Oncology - 9 doctors. Capacity of 25 beds including 5 in the palliative care unit and 5 in the radiotherapy unit;
- Orthopedics - Traumatology - 9 doctors, including 2 in the orthopedics traumatology research compartment. Capacity of 30 beds;

[28] https://bit.ly/2KnYeWW
[29] https://bit.ly/2KqKlYo
[30] (Ro. Unitatea de accidente vasculare cerebrale acute) Acute Stroke Unit

- ➔ Pediatrics - 6 doctors. Capacity of 44 beds, including 8 in the endocrinology and pediatric diabetes unit and 8 in the recovery, physical medicine and child balneology (neuro psychomotor recovery) unit;
- ➔ Pneumology - 7 doctors including 1 in the pneumology research compartment. Capacity of 25 beds, including 6 in acute therapy unit;
- ➔ Recovery, Physical Medicine and Balneology (Medical neurology recovery) - 7 doctors including 2 in the research compartment. Capacity of 33 beds;
- ➔ The Emergency Unit - 17 doctors. Capacity of 5 beds;
- ➔ The Transfusion Unit - 1 doctor. Capacity of 30 beds.
- ➔ Olanesti Clinic - 2 doctors. Capacity of 187 beds.

The Elias Hospital also has a the following **laboratories and general units**[31]:

- ➔ Medical radiology laboratory - 11 doctors including 2 in the Angiography, Cerebrovascular Angiography laboratory;
- ➔ Medical analysis laboratory - 5 doctors;
- ➔ Functional explorations laboratory - 1 doctor;
- ➔ Radiotherapy laboratory - 3 doctors;
- ➔ Pathological anatomy unit - 6 doctors;
- ➔ Psychology cabinet - 2 psychologists;
- ➔ Dentistry cabinet - 2 doctors;
- ➔ Closed circuit pharmacy - 3 pharmacists.

The leadership of the hospital is implemented in a two tier system.[32] The first contains the hospital's administrative board that provides the general vision on its activity, while the second is formed by the executive management.

In addition, the hospital also has scientific, ethical, and medical councils and offices on medical quality assurance, medical statistics, internal audit, IT, public procurement, and administrative officers.

Four managers lead the day to day operations of the hospital, as follows:

- **the hospital manager (equiv. of GM)** - the highest executive position;
- **the medical manager**;
- **the nurse manager**;
- **the financial manager (equiv. of CFO)**.

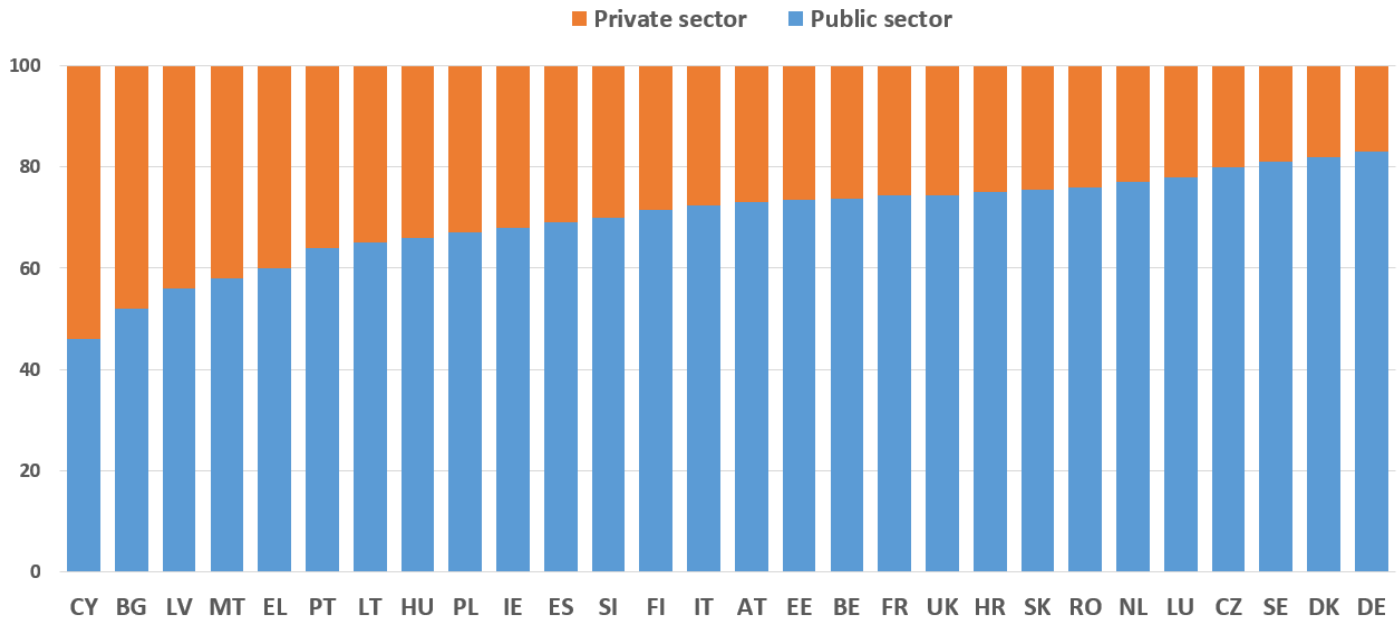
Generally, the executive positions, such as hospital manager[33] **(GM) are politically controlled and influenced, the GM does not (usually) possess a medical degree.**

Public hospitals continue to be the backbone of the health system in Romania, as well as in Europe. This translates into significant public investments in the health system. In two-thirds of the EU States, more than 70% of the health expenditure is financed from public sources.

2016 level data shows an expenditure graphical representation of public and private health systems in EU countries. A relatively high share of private health expenditures was observed in Cyprus

[31] https://bit.ly/3bwEyfB.
[32] https://bit.ly/2yzClS9.
[33] https://bit.ly/3bdgTR8 - example of job requirements for general manager position

(54%), Bulgaria (46%), Latvia (44%), Malta (43%) and Greece (approx. 41%). Although data[34] is slightly outdated, an overview is still relevant.



[34] https://bit.ly/34TlllX

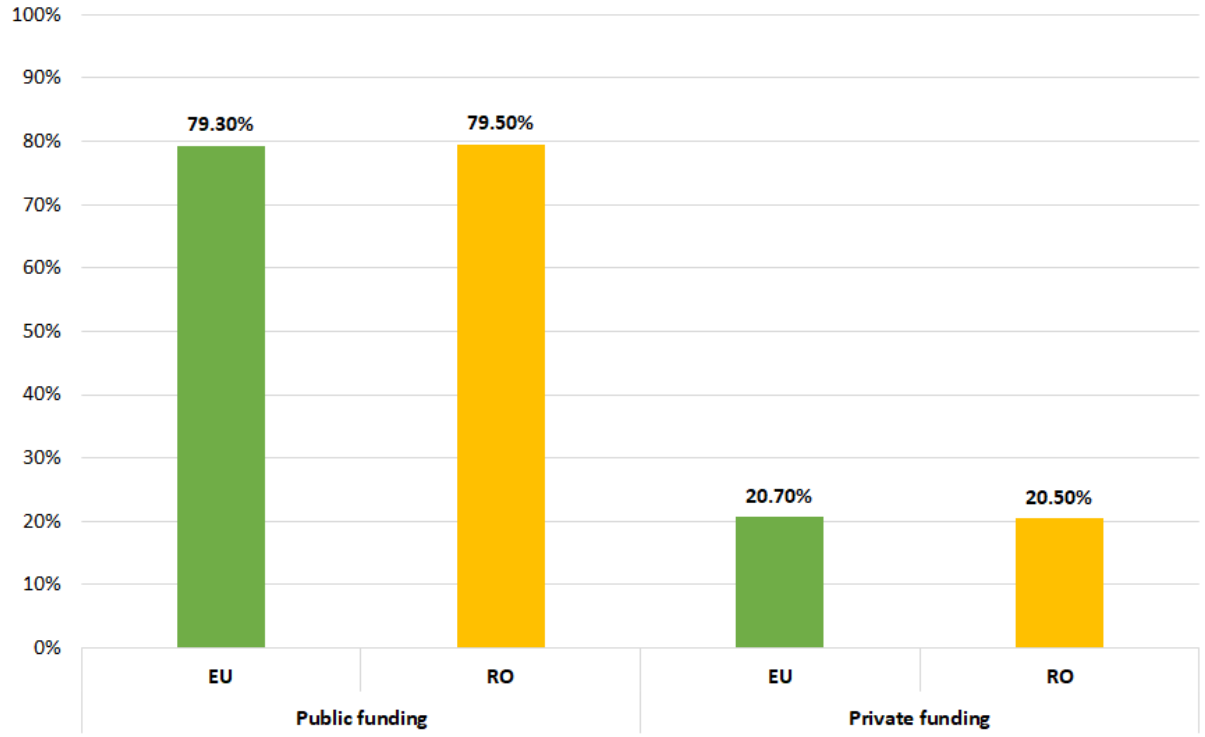
1.5. Private Hospitals (distribution and logistics)

In Romania, private hospitals have been included in national healthcare programs managed by the CNAS[35] ever since 2014.[36] While medical assistance is supposedly free of charge for Romanian active employees, **the public sector is regarded as not being trustworthy (despite the competence level) - media campaigns play a significant role in this regard.**

The private clinics have stepped in to provide a wide range of services, starting from blood tests up to complicated surgeries and procedures. **In 2018, the private medical services market reached a turnover amounting to 11 billion RON** (**approx. 2,275,000,000 EUR**).

> Comparatively, at the same time, cash flow in the public medical sector amounted to 40 billion RON (approx. 8,275,000,000 EUR).

Percentage of private and public contribution to the healthcare system[37]

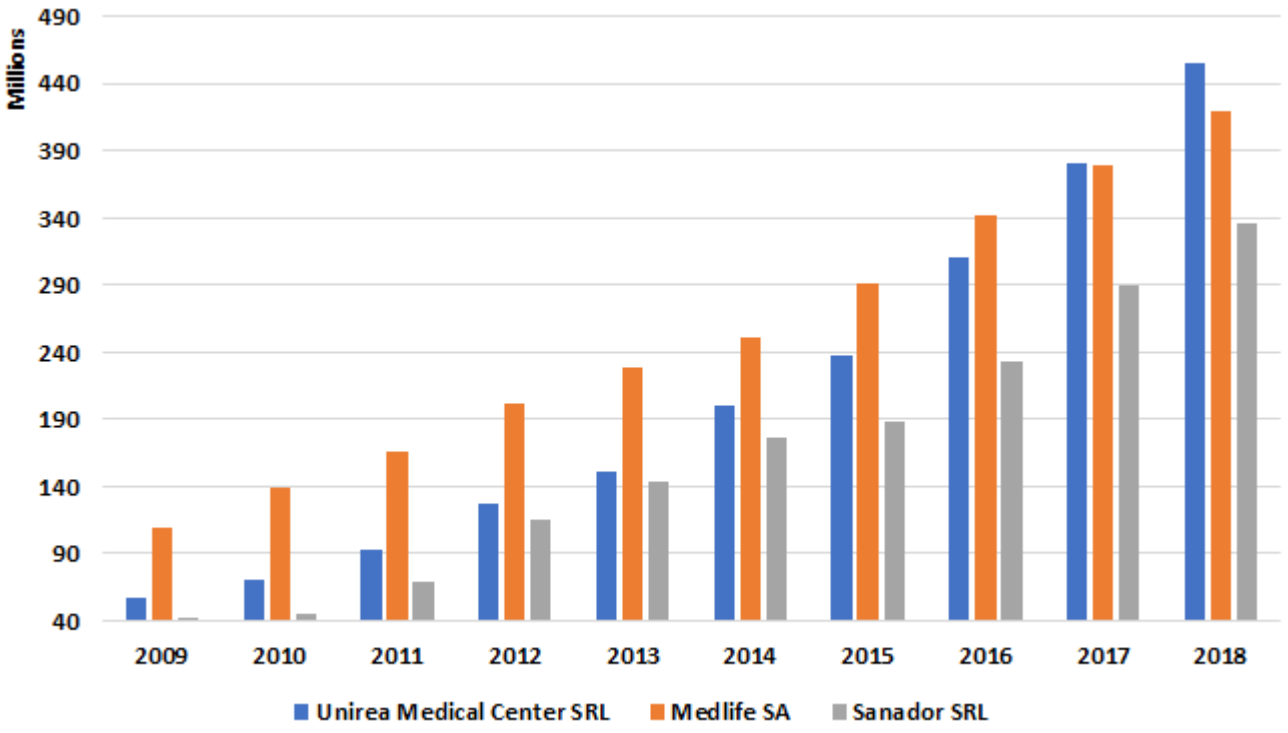


The 2017-2018 financial indicators show that 25% of the total earnings in the domain came from the top 10 private providers of healthcare.

The top most successful companies in the private medical area are[38]: **Unirea Medical Center SRL (Regina Maria), MedLife SA** and **Sanador SRL**, companies that from 2009 registered a constant turnover growth, as shown in the chart below.

[35] Ro. Casa Națională de Asigurări de Sănătate) National Health Insurance House
[36] https://bit.ly/3eMrULm
[37] https://bit.ly/3bvJi56
[38] https://bit.ly/39NkS5F.

Turnover growth for top 3 private medical companies active in Romania



On the other hand, the shares divided between the main players in the market are unequal and fragmented. Thus, the top 10 players in the market collect 25% of total revenue. This fragmentation appears rather natural, whilst the current crisis will continue to exacerbate the differentiation between large and small companies.

The private healthcare business is thus one of the most lucrative, paying off in long term investments.

Analysts and studies would also show that, as the population is aging, **the need for healthcare increases and the state might need to call upon private clinics to partially cover the request**.

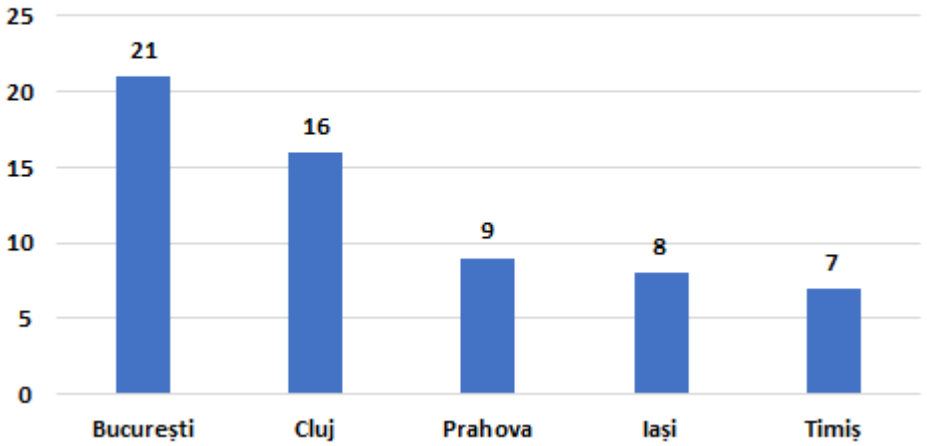
> Many public out-patient treatment centers, including those near hospitals, have been closed in recent years due to CNAS rates being low and to a poor administration of activities. While large private out-patient clinics with modern diagnostic and treatment equipment have been opened in Bucharest and large cities. Specialized ambulatory care is also currently available by private service providers who do not have a CNAS contract.

Significant amounts of money are needed to access these services, which means that people with low income (especially those in rural areas) would usually go straight to a public hospital ward when in need of treatment.[39]

In Romania at the end of 2018, there were 286 registered private hospitals and clinics, 61 of the largest being concentrated in Bucharest, Cluj, Prahova, Iasi, and Timis Counties.

Number of private hospitals top 5 counties - 2018

[39] https://bit.ly/3aPAjeL.



40

In a statement issued on February 20th, 2020[41] **Cristian Hotoboc, president of the Private Medical Service Providers Employers Association**, pointed out that **medical services offered in the private sector can no longer be provided at current rates settled by the state, as they do not correlate with the real market costs.**

He added that the authorities cover approximately €130 million (643415287.94 RON) yearly for medical interventions, conducted abroad, for Romanian citizens and that many of those interventions can be conducted within the Romania private medical sector.

[40] https://bit.ly/3dYy3Uy.
[41] https://bit.ly/39lVNc1.

1.6. Medical Staff

2018 official statistics, provided by authorities (INS),[42] indicated that **in Romania the total number of medical staff personnel was 276,754**. Between 2015-2018 **the number increased constantly with an average of 8,500 people**. A detailed statistic in the table below.

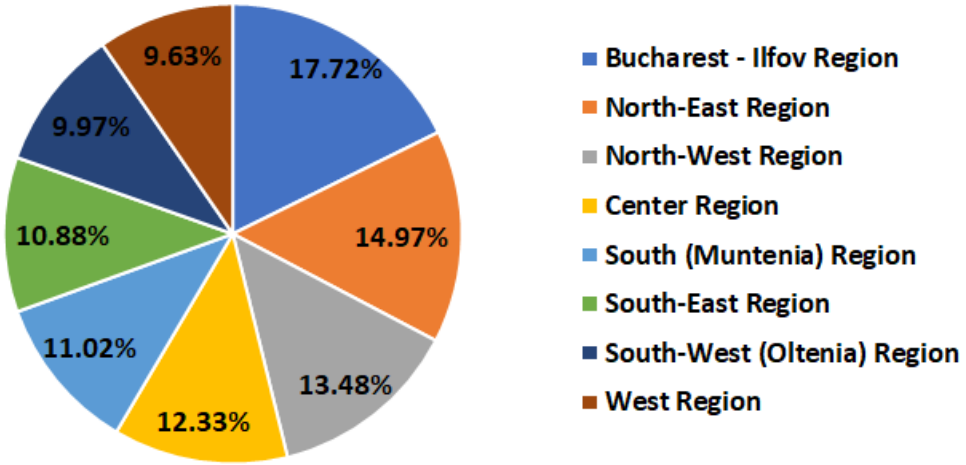
Medical Staff Category	2015	2016	2017	2018
Medical Doctors	56,110	57,304	58,583	60,585
Medical Assistant Personnel	132,415	136,572	141,821	145,912
Medical Support Personnel	62,857	66,256	69,353	70,257
Total	**251,382**	**260,132**	**269,757**	**276,754**

The Romanian medical staff is mainly divided in 3 major categories, namely:

- **Doctors** - All the medical doctors/physicians, regardless of specialisation, apart from dentists.
- **Medical Assistant Personnel -** The medical assistant personnel / nurses, with nurse/medical school education.
- **Medical Support Personnel -** The auxiliary staff including medical orderly, health-care workers, cleaning and hygiene maintenance personnel etc.

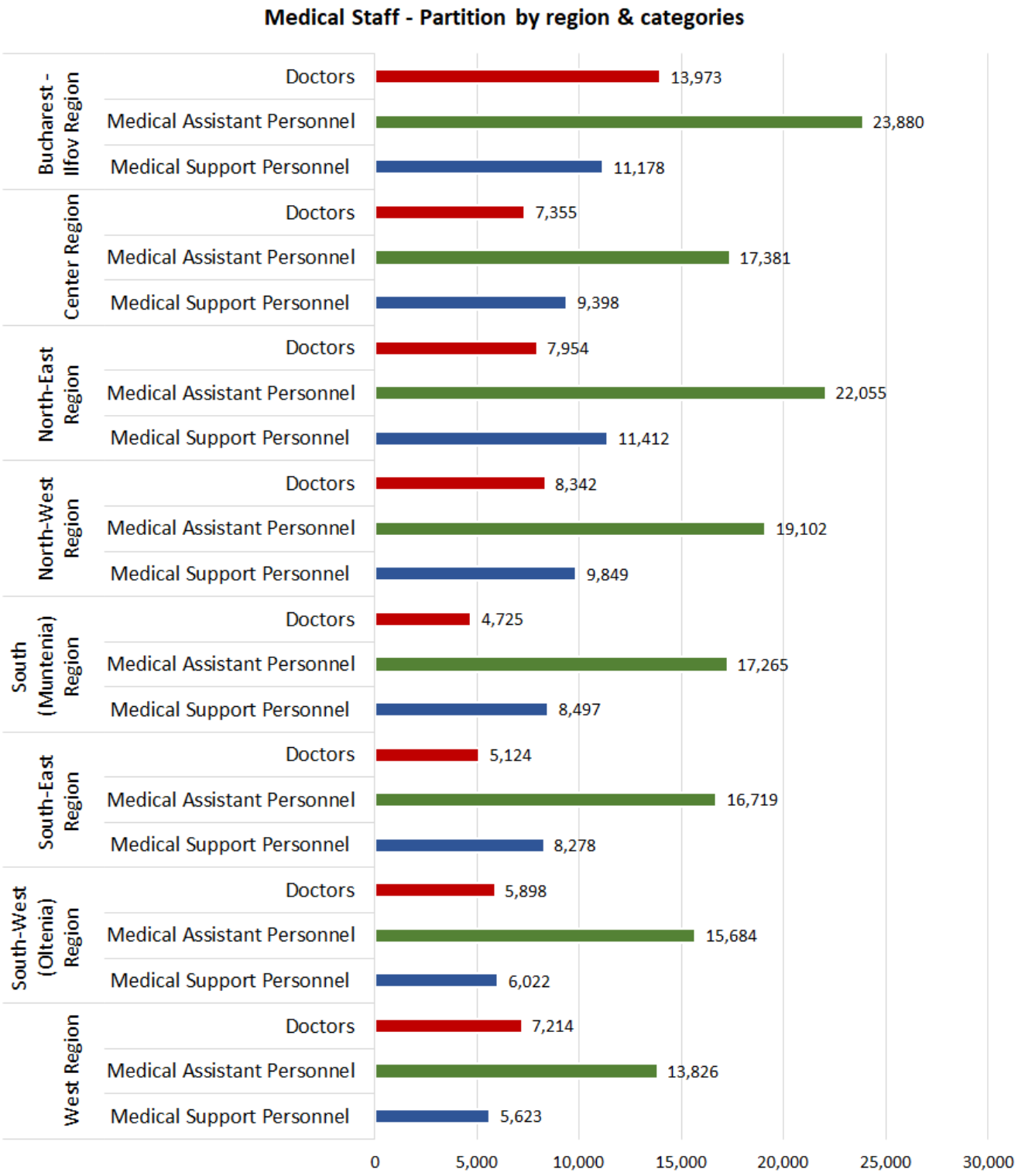
2018's geographical partition by region shows a roughly even distribution of the medical staff all over Romania. The highest percentage is in Bucharest - Ilfov Region, and is explained by the high level of inhabitants (around 2,5 million).

Medical staff regional distribution



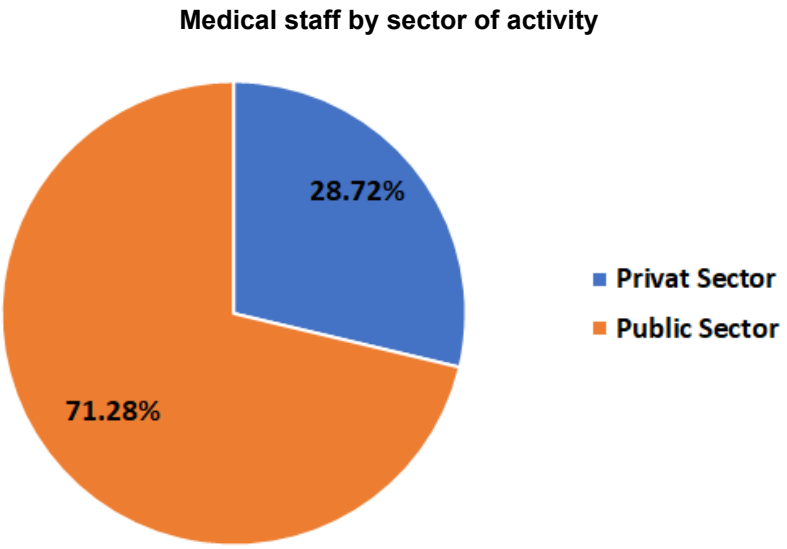
[42] https://bit.ly/3eFHylw

Same data per numbers and regions is presented in the chart below:

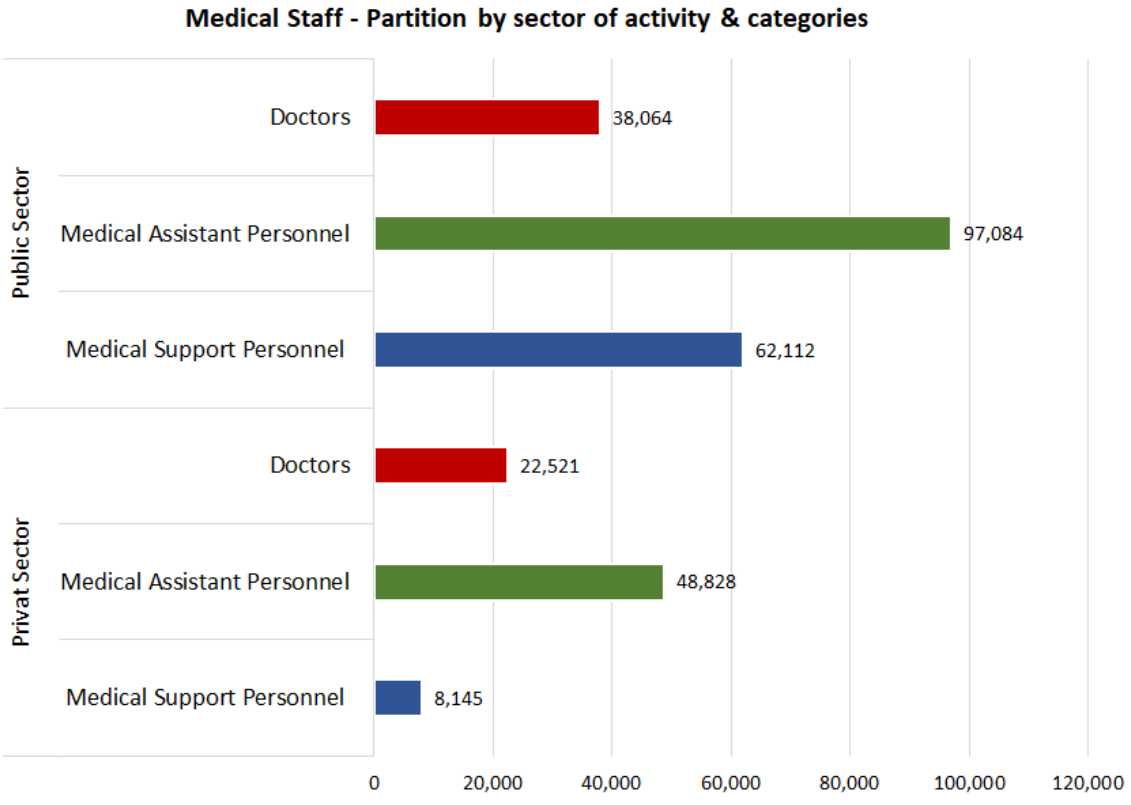


The public-private sector ratio indicates that **71.28% (197,260 individuals) of the medical staff work in the public health sector and 28.72% (79,494 individuals) in the private sector.**

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM



The public sector employs 62.83% of doctors, 66.54% of medical assistant personnel and 88.41% of medical support personnel. **The private sector** employs 37.17% of doctors, 33.46% of medical assistant personnel and 11.59% of medical support personnel. A detailed statistic in the chart below:



An overview regarding the **partition of medical staff in terms of counties, categories of personnel, and number of inhabitants per one medical personnel**[43] is presented in the table below:

[43] https://bit.ly/2KrEl1f

County	Inhabitants	Doctors	No. of inhabitants / doctor	Medical Assistant Personnel	No. of inhabitants /one M.A.P.	Medical Support Personnel	No. of inhabitants /one M.S.P
Alba	377,844	660	572	2,253	168	1,344	281
Arad	472,282	1,134	416	2,753	172	831	568
Arges	640,156	1,423	450	3,849	166	1,889	339
Bacau	744,734	1,120	665	3,502	213	1,824	408
Bihor	618,208	2,128	291	3,781	164	2,026	305
Bistrita-Nasaud	328,978	465	707	1,710	192	809	407
Botosani	453,171	638	710	2,858	159	1,276	355
Braila	348,981	524	666	2,405	145	1,152	303
Brasov	634,296	1,723	368	3,695	172	2,140	296
Bucharest	2,113,362	13,160	161	22,643	93	10,275	206
Buzau	470,954	646	729	3,124	151	1,314	358
Calarasi	312,835	322	972	1,355	231	719	435
Caras-Severin	322,243	555	581	1,730	186	728	443
Cluj	729,368	3,763	194	6,236	117	3,409	214
Constanța	768,049	2,126	361	4,507	170	2,134	360
Covasna	227,519	462	492	1,186	192	638	357
Dambovita	524,115	574	913	2,606	201	1,220	430
Dolj	694,234	3,121	222	6,828	102	2,184	318
Galati	628,276	965	651	3,376	186	1,792	351
Giurgiu	274,079	318	862	1,086	252	680	403
Gorj	361,676	783	462	2,317	156	954	379
Harghita	332,491	579	574	2,407	138	1,132	294
Hunedoara	462,236	1,149	402	2,968	156	1,446	320
Ialomita	290,082	340	853	1,310	221	487	596
Iasi	941,278	3,867	243	6,668	141	3,791	248
Ilfov	423,497	813	521	1,237	342	903	469
Maramures	523,828	906	578	3,928	133	1,610	325

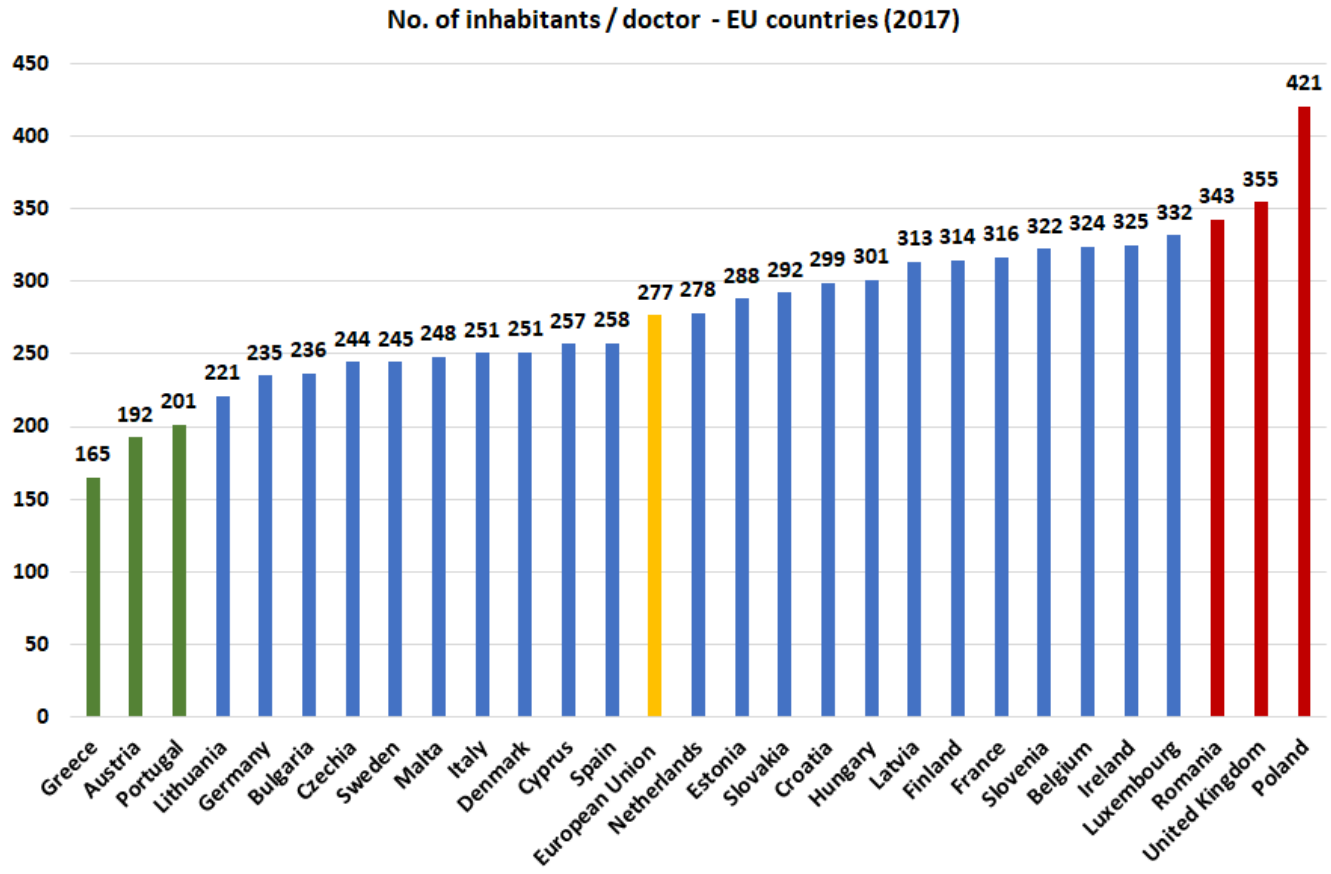
41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Mehedinti	282,601	495	571	1,700	166	622	454
Mures	594,413	2,570	231	4,655	128	2,566	232
Neamt	572,331	851	673	2,990	191	1,423	402
Olt	441,376	728	606	2,425	182	1,086	406
Prahova	799,395	1,193	670	5,151	155	2,578	310
Salaj	245,956	458	537	1,397	176	845	291
Satu Mare	389,172	622	626	2,050	190	1,150	338
Sibiu	466,839	1,361	343	3,185	147	1,578	296
Suceava	755,094	953	792	3,818	198	1,812	417
Teleorman	378,358	555	682	1,908	198	924	409
Timis	750,512	4,376	172	6,375	118	2,618	287
Tulcea	239,981	338	710	1,386	173	873	275
Valcea	399,119	771	518	2,414	165	1,176	339
Vaslui	491,640	525	936	2,219	222	1,286	382
Vrancea	387,994	525	739	1,921	202	1,013	383
Total	**22,213,553**	**60,585**	**367**	**145,912**	**152**	**70,257**	**316**

From an overall perspective, in the context of Covid-19, in Romania there is a **shortage of medical staff of 17.46%, totaling 39,573 positions** uncovered in the medical system. The most affected counties are Mehedinti - 37.45% (1,027 positions), Giurgiu - 28.78% (440 positions), Galați - 28.53% (1,819 positions), Olt - 28.37% (1,169 positions) și Vaslui - 25.7% (910 positions). In Bucharest, the share of the personnel deficit is 19.36%, totaling 7,822 positions.[44]

Eurostat[45] data regarding the number of inhabitants per doctor ratio, places **Romania in the third to last position, registering 343 inhabitants / doctor,**[46] while **the European average is 277 inhabitants / doctor**. Romania is followed by Great Britain (355 inhabitants / doctor) and Poland (421 inhabitants / doctor). The situation is presented in the graph below.

[44] https://bit.ly/3cHHW7M.
[45] https://bit.ly/2RXXWdL; https://bit.ly/34UhBRb.
[46] The ratio is calculated by Eurostat for a population of 19,643,949 inhabitants.



One of the most important issues for the Romanian Healthcare System is the medical staff migration.

According to a study conducted by the Romanian Association for Health Promotion (ARPS) on the national healthcare system **15,700 Romanian doctors work currently in European countries**[47] like: Germany, France, Belgium, Sweden, and Great Britain. Eurostat[48] data reveals that **in 2017 approximately 55,600 Romanian medical personnel were working abroad**.

In 2018 the Romanian government increased (almost doubled) the wages of doctors who work in the public healthcare system, but still the national effort went unnoticed. **The migration continued, with 2,312 doctors requesting the emmigration papers that same year.**[49]

This draws attention to an important long term problem for the Romanian government, the financial effort for training a good practitioner is high (6 years of studies, usually subsidized by the state). At the moment Romania is using up resources for training and development while other EU countries benefit from the "end product".

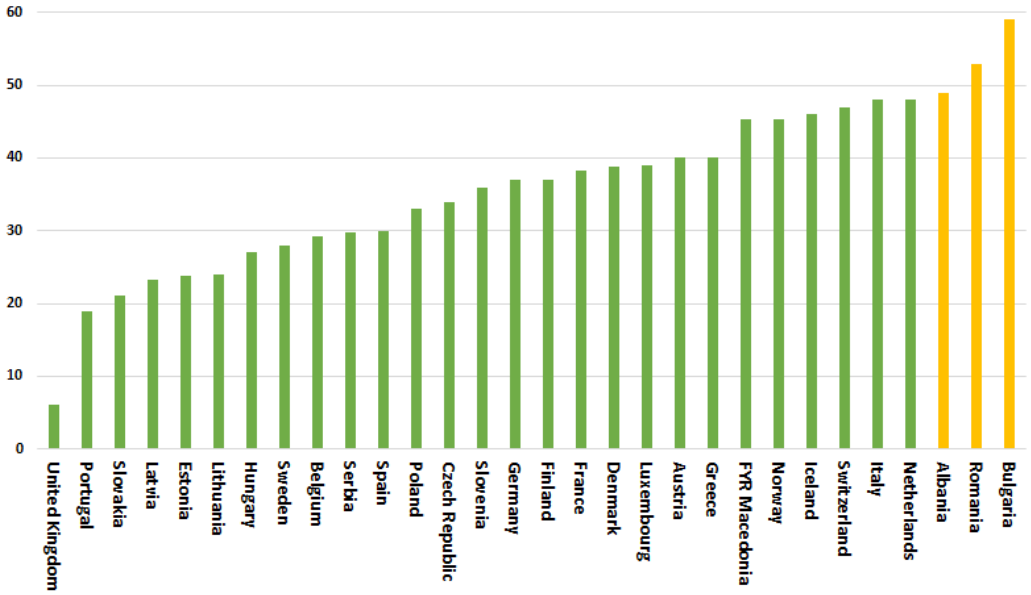
[47] https://bit.ly/2KrGhH2.
[48] https://bit.ly/3cEZDVc.
[49] https://bit.ly/39OeBGJ, page 78.

1.7. Romania's Healthcare System - Issues

According to the Euro Health Consumer Index (EHCI)[50] report, **a comparison of European healthcare systems** based on the *Patient rights, information and e-Health, Accessibility (Waiting time for treatment), Outcomes, Range and reach of services ("Generosity"), Prevention and Pharmaceuticals*, **Romania has been constantly rated at the bottom of the list**.

> The best score in the last 5 years was position 33 out of 35 in 2015, while the worst 35th out of 35 in 2016.

The latest EHCI report, for 2018 (published on February 25th, 2019), presents Romania in the 34th position out of 35, with 549 points (only one place and 5 points above Albania, the last in the ranking). The EHCI ranks Romania as 2nd in Europe in patient care costs percentage out of the total HC costs.[51]



> Romania's performance places the country in the 5th lowest position, for criteria such as: Patients being able to book HC appointments online; Doctors per 100,000 people; Cancer treatment accessibility; Nursing home & elderly care beds per 100,000 aged 65+; Infant 8 disease vaccination coverage (%).
>
> Also, it shows the national healthcare system in the **top 5 for: MRSA - % of hospital acquired infections being resistant;[52] Informal / Under-the-table payments to doctors; Infant mortality per 100 live births**.

Based on the Euro criteria defined for the EHCI reports, **Romania's most severe healthcare problems are related to**:

- Poor management in the public sector, including healthcare;
- Lack of an adequate structure of the medical system;

[50] https://bit.ly/39Hp86n, page 19; https://bit.ly/39QDyBf.
[51] WHO HfA database, July 2016
[52] This indicator measures the percentage of hospital-acquired strains being resistant (methicillin-resistant Staphylococcus aureus)

- Discrimination in healthcare (related to minority groups such as Roma).

Publicly available data indicated that in 2017,[53] the share of Romanian "adults with unmet needs for medical examination stood within the range of 3.0-5.0", depending on their origin (cities, towns/suburbs and rural areas). In particular, **the Romanian rural areas accounted for the second highest proportion of adults with unmet needs for medical examination in a country, with a score of approximately 6%**. A higher percentage was reported in only one other country; Greece at 11.7%.[54]

The above is not necessarily policy related but rather state authorities trying to overcome such setbacks. The sustainability offered by EU funding obtained by the Ministry of Regional Development and Public Administration is relevant. In 2019 relevant acquisitions were made.[55]

From the Gross domestic product (GDP) perspective on investment in the strategic sector, the country is about at **half the EU average with a 5% spending vs the 9.8% EU average**.[56] The situation could be improved and authorities are making an effort each year to allocate proper funding.

Representation of GDP allocations for the public healthcare systems in the EU (%)

The Public Healthcare System is financed mainly from public funds, with a share of more than ¾, similar to the EU average.

[53] according to the Eurostat regional yearbook 2019 edition
[54] https://bit.ly/2wejKdl page 43
[55] https://bit.ly/3c5ZeL8
[56] https://bit.ly/39OCPQZ, page 3

A significant uncertainty and issue in Romania is the informal / "under the table payments" that are still in place in the public medical sector. The amount is unknown, yet considered significant.[57] **State authorities are tackling the subject and have initiated anti-bribery campaigns**.[58]

The life expectancy in Romania is situated at 75.3 years (EU-28 average is 80.9 years).[59] From the behavioral risk perspective, challenges such as tobacco consumption (situated at 17% in Romania, as at the EU level), alcohol (situated at 14% in Romania vs the 6% at the EU level), as well as dietary risks (situated at 27% in Romania vs an 18% at the EU level) represent the cause of a significant number of deaths in the country. [60]

In 2003 The World Health Organisation (WHO) analyzed the overall efficiency of health systems in all WHO member states.

Romania ranks 99 out of 191 countries with an index of 0.645 (with France in first place with an index of 0.994 and Sierra Leone in last with an index of 0.000). The index was focused on the following five goals: The improvement in the health of the population, health inequality, the responsiveness of the health system to the legitimate expectations of the population, responsiveness-distribution, and fairness in financing the health system.[61]

> The World Health Organisation acts as a political structure, its members are not high level practitioners of medicine in any field, but rather political based delegates. For instance, the vote of a country such as Papua New Guinea is the equivalent of a vote from the USA or Germany.
>
> One should keep in mind that the level of innovation and research is different between these extreme examples. But based on "democratic principles" (one / one votes), certain results are accepted and experienced / implemented by the global population.

By no means does the World Health Organisation have any statal / economical attributes and means to directly interfere in the public policies of national states, their "recommendations" should be viewed as such, and implemented after a thorough independent analysis. Any evaluation from the World Health Organisation should be treated with precaution.

> There have been cases when certain Pharma companies executed lobby maneuvers in order to "declare global pandemics"[62] (e.g. H1N1 flu - common known as the "swine flu"[63] or H5N1 - commonly known as the "bird flu").[64] In all such cases, the World Health Organisation issued large scale warnings that created panic and benefits for Pharma companies.

Based on the above, the World Health Organisation statistics should be considered as valid per each country (or at least as a reference point), **but recommendations or pandemic referenced communication should be treated with the utmost care**. For private or state owned entities, such recommendations should be checked independently.

[57] Ibidem.
[58] https://bit.ly/34oNUHm.
[59] https://bit.ly/39OCPQZ
[60] Ibidem.
[61] https://bit.ly/2xO1CaI Annex 1.
[62] https://bit.ly/2XmDhmW
[63] https://bit.ly/3bYtKqi
[64] https://bit.ly/2V1ofAg

2. SARS-CoV-2 Crisis Management

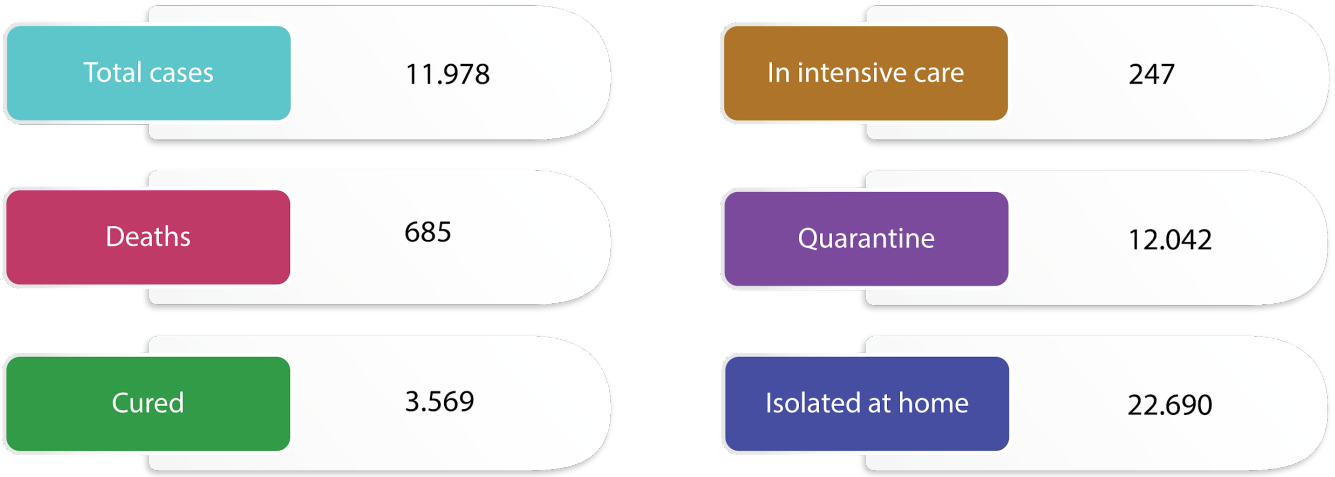
2.1. SARS-CoV-2 Spread

The first SARS-CoV-2 generated case, on Romania soil, was registered on the 26th of February 2020. The authorities were following an epidemiological investigation of an Italian citizen who travelled to Romania between 18th and 25th of February and was declared positive on his return to Italy.

Starting from this event, the number of infected persons has been rising everyday. **The virus has been "imported" from abroad mainly by the flow of Romanian seasonal workers who returned from Western Europe** and were not respecting quarantine measures.

According to official data from the 29th of April, in Romania 11,978 cases of people infected with SARS-CoV-2 have been confirmed, an increase of 363 new cases in one day. Of the positively confirmed cases, 3,569 were declared cured and discharged. While 685 people diagnosed with Covid-19 have died. The number of people in intensive care is 247, an increase of just 3 people compared to the day before.

Statistic details of the SARS-CoV-2 impact on Romania (April 29th, 2020)[65]

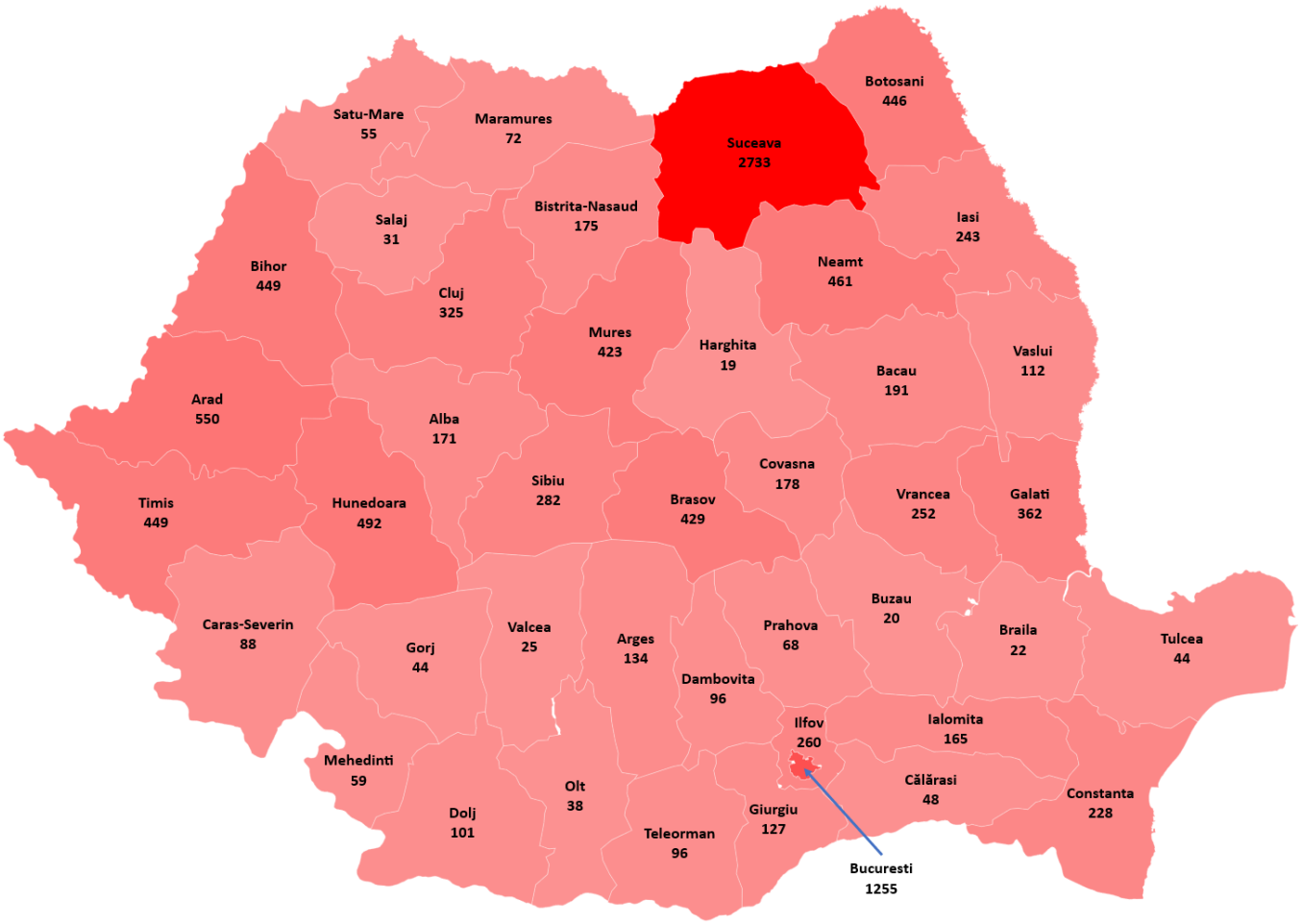


Bucharest and Suceava county are the nation's most affected areas, followed by Hunedoara, Bihor, Timiș, Arad, Brașov, Covasna și Botoșani. With the exception of the aforementioned, infections have approximately the same advancement across the entire state. Exempting Bucharest (due to its large population density), the major mishap of this crisis management is in Suceava. There, the situation is being addressed with the county's main hospital under military management until the situation is stabilised.[66]

The rest of data indicates that the collective effort of preventing the virus spread was efficient, numbers per county being relatively low after almost a 3 month timeframe of exposure to the virus.

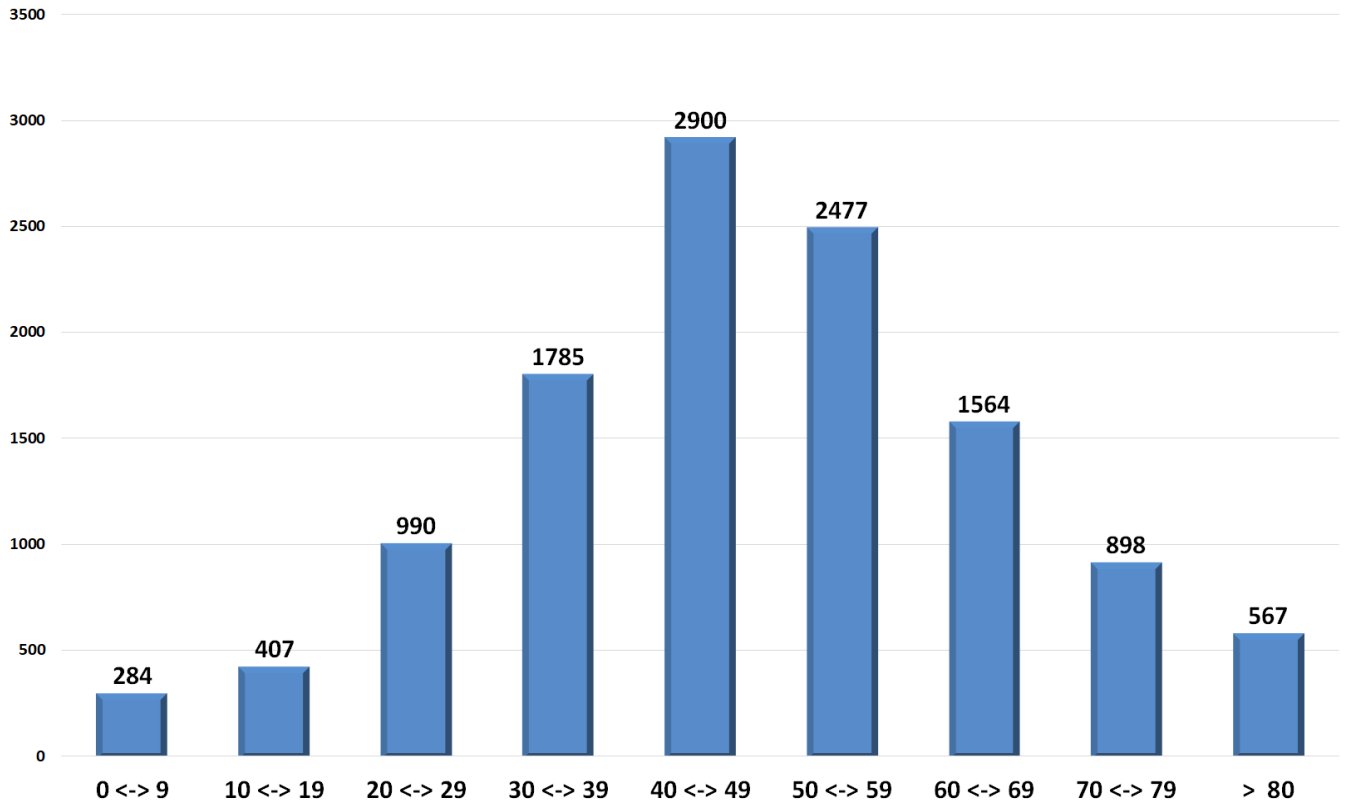
[65] https://bit.ly/3eE8vwp
[66] https://bit.ly/2V8ScP6.

Statistical representation of Covid-19 cases existing at national level (April 29th 2020)

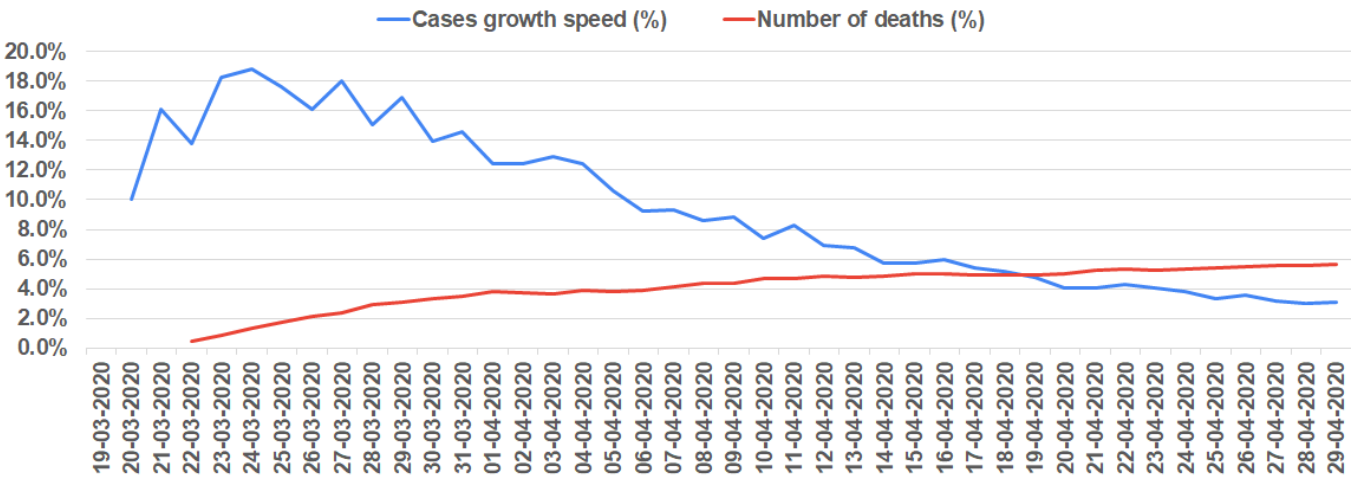


The exponential spread of the virus in Romania can be observed in the following graph (age oriented, data centralised until 29th of April)

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM



Measures taken to repel the virus seem to be effective, **close monitoring of the case growth speed indicating a steady decline**.

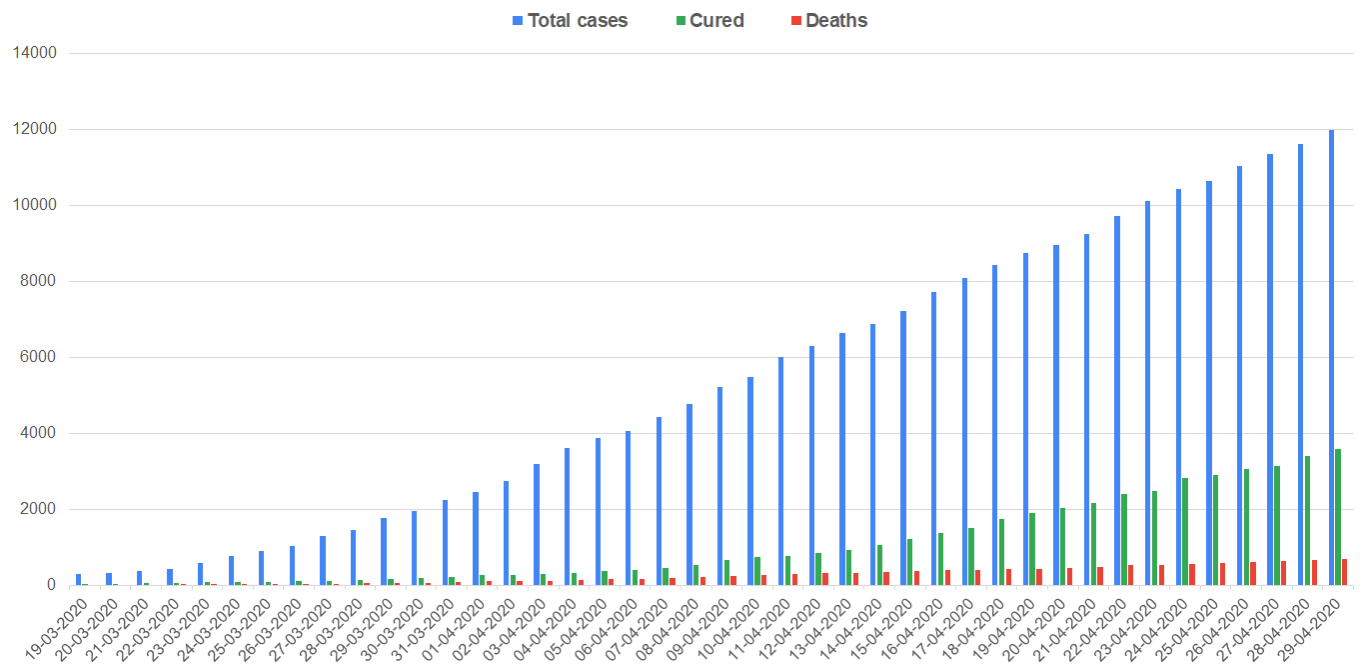


Analysing the aforementioned data, the effort put in by authorities and civil society kept the pandemic evolution away from sudden acceleration. The number of infections follows a normal trend (upwards), while the number of individuals cured and discharged is also on the rise.

The number of infected individuals is still on the rise, but the rate is not very accelerated. Also, the number of cured individuals is on a steady rise. Compared to the number of infected individuals, the death ratio is not severe.

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Statistical representation of Covid-19 spread at national level (April 29th, 2020)



The causes that contribute to the exponential spread of Covid-19 cases include:

- the massive influx of Romanians from highly Covid-19 affected areas in Europe;
- the lack of protocols related to quarantine and virus testing;
- the non-compliant behaviour of the returnees and their connection;
- the unprepared medical sector, lacking equipment and procedures.

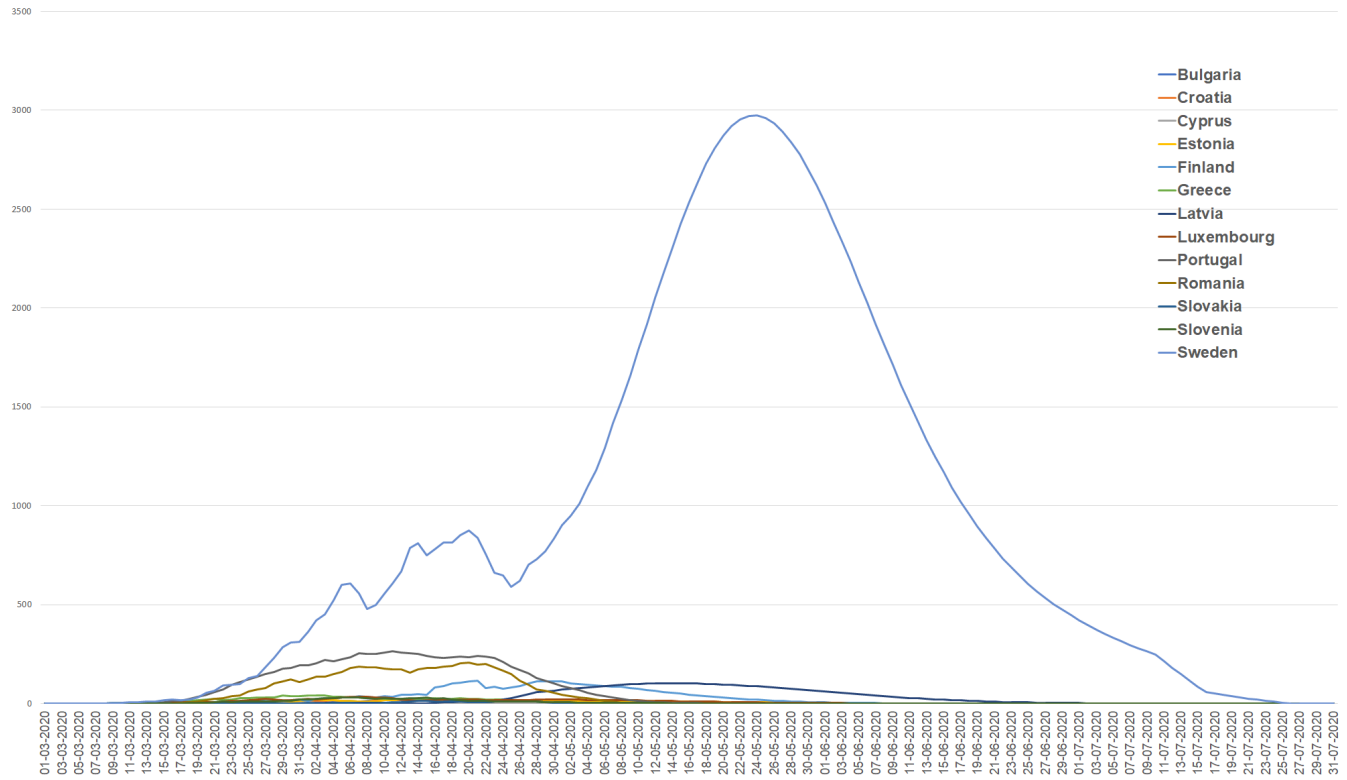
Covid-19 required critical care beds forecasts

We used a statistical model[67] that **forecasts the number of patients with a complicated form of Covid-19 around the world for predicting the needed ICU equipment**. The model uses statistical data from academica and health environments such as University of Washington, the American Hospital Association, and the World Health Organization.

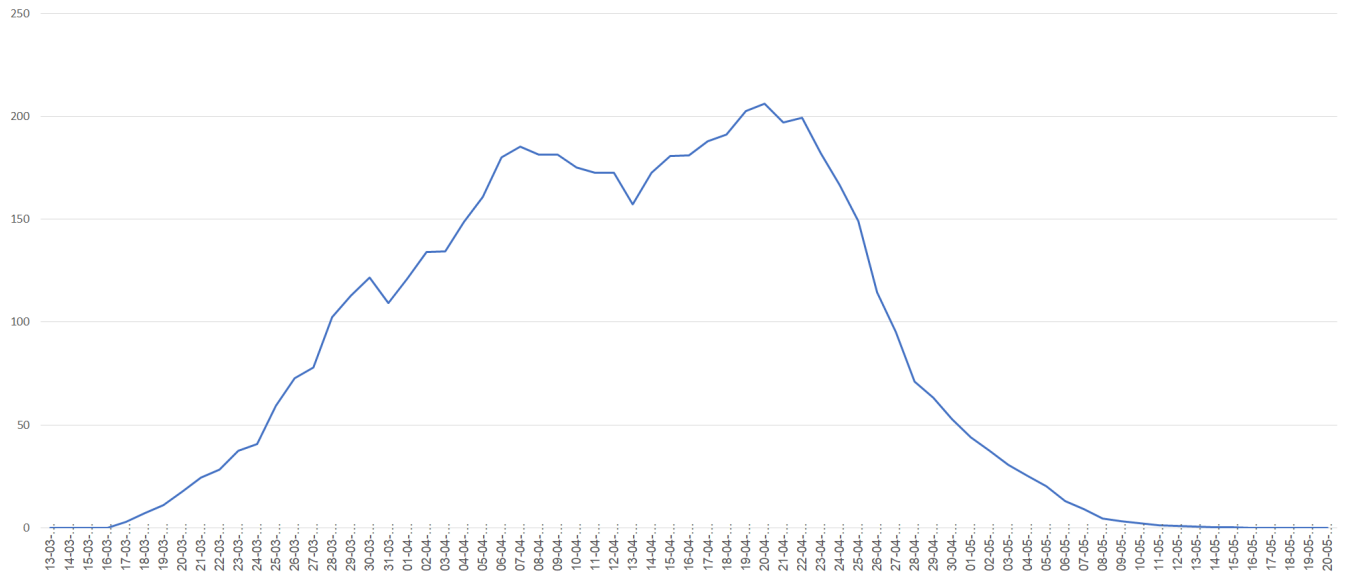
This model is addressed especially to government representatives and managers from the health care sector in order to help them estimate the needed resources and personnel, mainly in ICUs.

[67] https://bit.ly/2XvJPjt

The following chart shows the predicted evolution of the number of invasive ventilation that will be needed daily for some of the countries in Europe. It displays the average between the maximum and the minimum number of patients predicted for each day.



The predicted evolution highlighted soley for Romania in the graphic below displays a maximum value of 206 ventilated critical care in-patients per day in the second half of April (manageable by the current critical care infrastructure), followed by a decrease.



41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

2.2. Stages and Main Causes

In the analysis of the SARS-CoV-2 in Romania, there are **two stages to be taken into consideration**:

1. **First stage - "importing"** the virus from outside the country (period between February 26th and March 22nd / 23rd).
2. **Second stage** - **intra-community infection** (now in place).

At the moment no "point of origin" for a certain case may be established anymore and the virus is now "jumping" from one person to another.

In Romania, the spread of SARS-CoV-2 was mainly influenced by **three factors:**

1. **The external origin** of the disease - the very first case of SARS-CoV-2 infection was brought in Romania by a 71 years old Italian citizen from Cattolica / Rimini, who entered Romania on February 18th.[68] This Italian citizen is considered to be "Patient Zero" in Romania.

Furthermore, most of the initial cases were generated by Romanian citizens who came from abroad (mainly from already declared "red zones" at that time - Italy, Spain, Germany, United Kingdom, and Israel) and brought the infection into the country. Romania's first case of SARS-CoV-2 infection (reported on February 26th) was a 25 years old male from Targu Jiu, an employee of the aforementioned Italian citizen.

Since February 26th most of the Covid-19 cases in Romania were generated by Romanian citizens who returned from other European countries - mainly Italy and Spain, (countries with significant Romanian communities).

2. **The second factor** that heavily influenced the number and the spread of SARS-CoV-2 infection cases **is low responsibility and lack of compliance** by Romanian citizens, who did not isolate themselves or did not obey the quarantine enforced by authorities.

Also, **there were several serious cases when a dishonest attitude towards authorities generated large amounts of new infections.** After the measures enforced due to Presidential Decree no. 195[69] and follow-up Military Decrees, **there were a lot of Romanian citizens who did not comply** - leaving their homes without solid justification or being on the streets after the curfew (between 10:00 PM and 6:00 AM).

Noteworthy examples:

A. One of the most media-covered cases in Romania was that of Lupu Nelu, former deputy director of the Bucharest Police. He took a trip in Israel along with his mistress[70] and when he returned to Romania he did not mention that he had travelled abroad.

He was treated at the Ministry of Internal Affairs' GEROTA hospital and so he passed the infection to around 60 medical staff and patients there, effectively shutting down the hospital. Also, this patient

[68] https://bit.ly/2JABAKL
[69] https://bit.ly/3cEIQ4E
[70] https://bit.ly/345ABvm

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

infected family members which, on their end, infected their colleagues from Bucharest City Hall, Romanian Intelligence Service, and Bucharest's District 4 City Hall.

B. Another case indicating lack of social responsibility was that of a 26 years female from Hunedoara,[71] who returned on March 1st from Veneto province in Italy. She did not comply with the recommendation made by authorities to isolate herself at home. She visited several health facilities and, in the process, managed to spread the SARS-CoV-2 in Hunedoara County.

C. The situation of Vergil Chitac is yet another example widely covered in mass-media. Former Navy Admiral and current PNL member of the Senate, he took part in a NATO Parliamentary Assembly, got in touch with two French MP's (later diagnosed with Covid-19), returned to Romania and did not disclose the trip abroad.

Vergil Chitac did not go into isolation but attended two public events: a party celebrating Mother's Day (March 8th) in Constanța and a political meeting of the PNL. As a result, he caused the self-isolation of Romania's Prime Minister, Ludovic Orban, and several other key political figures of the ruling party.

3. **The third factor** that contributed and decisively influenced the spread of Covid-19 pandemic in Romania was **the inadequate level of "readiness"**. However, proper efforts were made and the spread seems to be contained as much as possible.

Even as the virus was spreading in China in January, **Romanian authorities (like all other European and North American authorities) did not implement harsh measures from the start.** From an economic perspective this course of action was good. Key political Romanian figures (like other European counterparts) treated Covid-19 as if it was *"just another form of the common cold, it will come and pass swiftly".*

Evaluations were made and it was clear there was a need for medical supplies. However, acquisitions were made in January or February 2020. In March, when the world wide market was already in a shortage of medical equipment (face masks, special protection suits, and ventilators used in ICU's for serious cases) it was already too late to set up a proper supply chain.

As of March 22nd / 23rd Romania entered the second stage of SARS-CoV-2 spread - intra-comunitar infection.

While in the first stage ("import" cases) the source of infection was easy to spot and, after an epidemiological survey, the contacts of those infected were swiftly identified, tested and, if necessary, isolated. **In this second stage the aforementioned steps are more difficult to implement.**

Other Romanian cases of mass infection were also provoked by import related causes. Such cases have been reported, for example, in **Suceava County, which has become the largest outbreak in Romania (holding a third of the all cases in the country) and which contains the first quarantined city.**

This came after two consecutive events:

A. "**Patient Zero**" in Suceava was a 71 years old male, who **returned from Lombardia / Italy.**[72]
B. The decision of former Suceava County Hospital's manager, Vasile Rimbu, to summon all hospital's staff to a meeting on March 23rd, generated a mass-spread of the virus.

[71] https://bit.ly/39BMsm5
[72] https://bit.ly/34djOqp

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Full-scale ignorance of recommendations and disobedience of individuals led to the quarantine of Tandarei (second city in Romania where this measure was enforced). The main cause of the enhanced spread of SARS-CoV-2 was the lack of compliance to the quarantine and self-isolation measures enforced by authorities displayed by inhabitants (most of whom returned from Western Europe - mainly Spain, Italy, and Germany).

After Suceava, **Arad County and the counties close to it became new hotspots of Covid-19 disease**. This was due to the fact that the area has met the biggest waves of Romanian citizens returning home from Western Europe.

As announced by Nelu Tataru, Minister of Health,[73] **Brasov and Constanța Counties are also severely influenced** by the same problem of Romanians returning from Western Europe and **are also labeled as "red zones".**

Constanța County was designated by Romanian authorities as a quarantine hotspot. The county is host to most of the people who came to Romania (mainly from Italy[74] and UK[75]) and were placed in quarantine. As they did not obey the rules of quarantine, the pandemic spread across the county. **Measures for containment were taken and authorities placed quarantine spots under military supervision**.

> Located on the Romanian seaside, Constanța county was chosen mainly because of the large number of hotels that are inactive in the cold season, and has the highest capabilities, in Romania, of hosting people.
>
> Brasov county, on the other hand, is known nationwide for its large community of Romanians working abroad (mainly in Germany, Spain and Italy) and, again, the external factor had a major impact on the situation there.

2.3. SARS-CoV-2 - National Strategy

In order to overcome the Covid-19 pandemic, the Ministry of Health devised a strategic plan called "The White Plan".[76] The main purpose of the strategy is to ensure the fast and customized (to the pandemic) growth of medical capabilities of the Romanian hospitals.

In parallel, the **National Committee for Special Emergency Situations established four scenarios**[77] **regarding the pandemic spread in Romania**, based on the number of cases and the way the virus spread, with different sets of measures.

[73] https://bit.ly/2Rh1zuO
[74] https://bit.ly/3aNXl5H and https://bit.ly/2XbE0r7
[75] https://bit.ly/2V4qsez
[76] https://bit.ly/2XVmkk3
[77] https://bit.ly/34WCJGa

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

No. Crt.	Infected persons	Interval	Main containment measures
1	1 - 25	26.02.2020 - 11.03.2020	• Self-isolation home for people coming from Italy, Iran and South Korea; • Quarantine for people coming from highly affected areas (Italy and China); • Epidemiological investigations of infected subjects; • Closure of schools.
2	26 -100	11.03.2020 - 14.03.2020	• Forbidding all public events with a presence of 100+ persons; • Ceasing of medicines / medical equipment export; • Expanded epidemiological investigations of infected subjects; • Introducing fines for non-compliance and misleading statements; • Offsetting the public servants' schedule to limit contacts.
3	101 - 2000	14.03.2020 - 31.03.2020	• Strict movement restrictions for population; • Closure of non-essential commercial facilities; • Quarantine organized at home and at institutionalised centers; • Covid-19 areas expanded to hospitals, other patients were moved; • Reporting travel history.
4	2000+	31.03.2020 - present	• Quarantine for highly affected areas (Suceava, Tandarei); • Prices for electrical and thermal energy, gas and fuel are capped; • Additional costs for non-compliant quarantined persons; • Sanitary measures in the community; • Simplified acquisitions procedures for needed equipment and components.

The "White Plan"[78] firstly defines the hospitals that would get involved in two phases for providing assistance for the SARS-CoV-2 positive patients and the network of support hospitals for mild cases. **Secondly, it regulates the protective measures**, human resource policy, prevention measures, and includes a guide for evaluating the risk of the medical staff being exposed to positive patients.

[78] https://bit.ly/2KqV5pq

- **The First Phase relies on the Infectious Diseases Hospitals and Departments which possess Intensive Care Units (ICUs), with a total capacity up to 2,000 critical care beds** for isolating the confirmed cases.

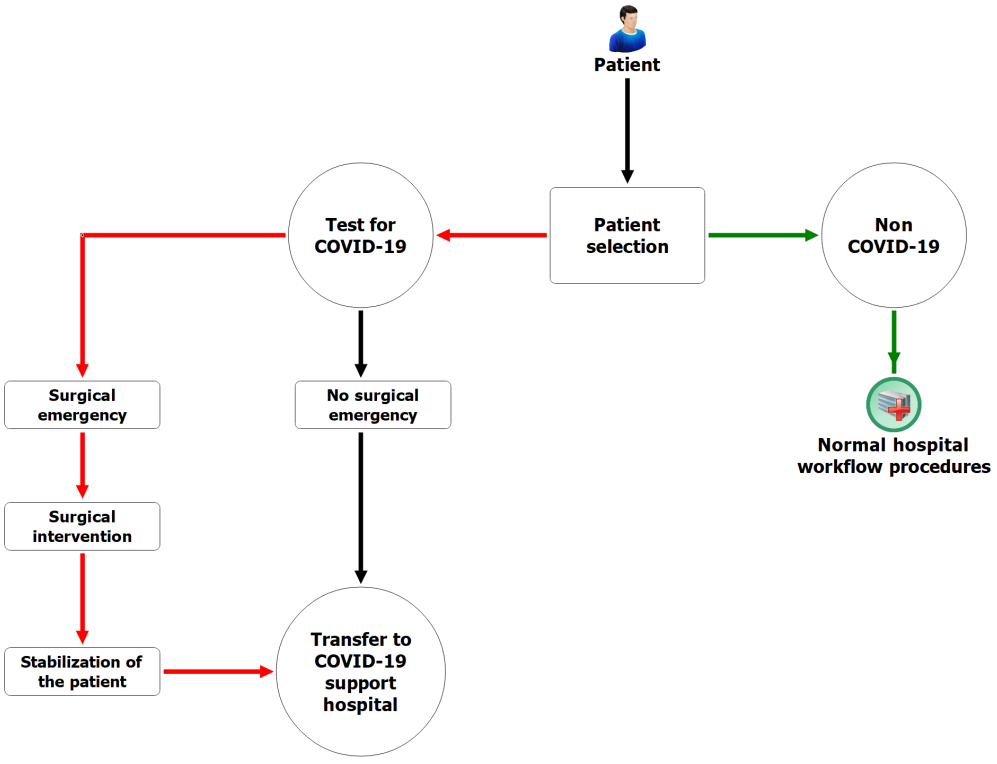
- **The Second Phase,** activated when the capacities of the Infectious Diseases Hospitals are exceeded, includes the usage of the pavilion system available in **the majority of the Pneumology Hospitals, adding 731 critical care beds** in the circuit.

The network of support hospitals has the general role of retrieving the asymptomatic patients and the ones with mild symptoms from the Phase I designated Hospitals or other facilities. In case the facilities include an ICU fitted with mechanical ventilators, they will also retrieve complicated cases.

In addition, **private hospitals with ICUs can be included in the circuit of treating Covid-19 patients, together with military modular hospitals** (e.g. in Constanța and Otopeni[79]) and **other modular pavilions** built temporarily as an extension of Phase I or II designated Hospitals.

For every county there will be **dedicated public hospitals and private centers providing dialysis to patients with Covid-19** who need such treatment. The strategy mentions also the **possibility of transferring doctors from one hospital to another, regardless the region** or destination and **the possibility of lending ventilators from non-Covid-19 designated facilities**.

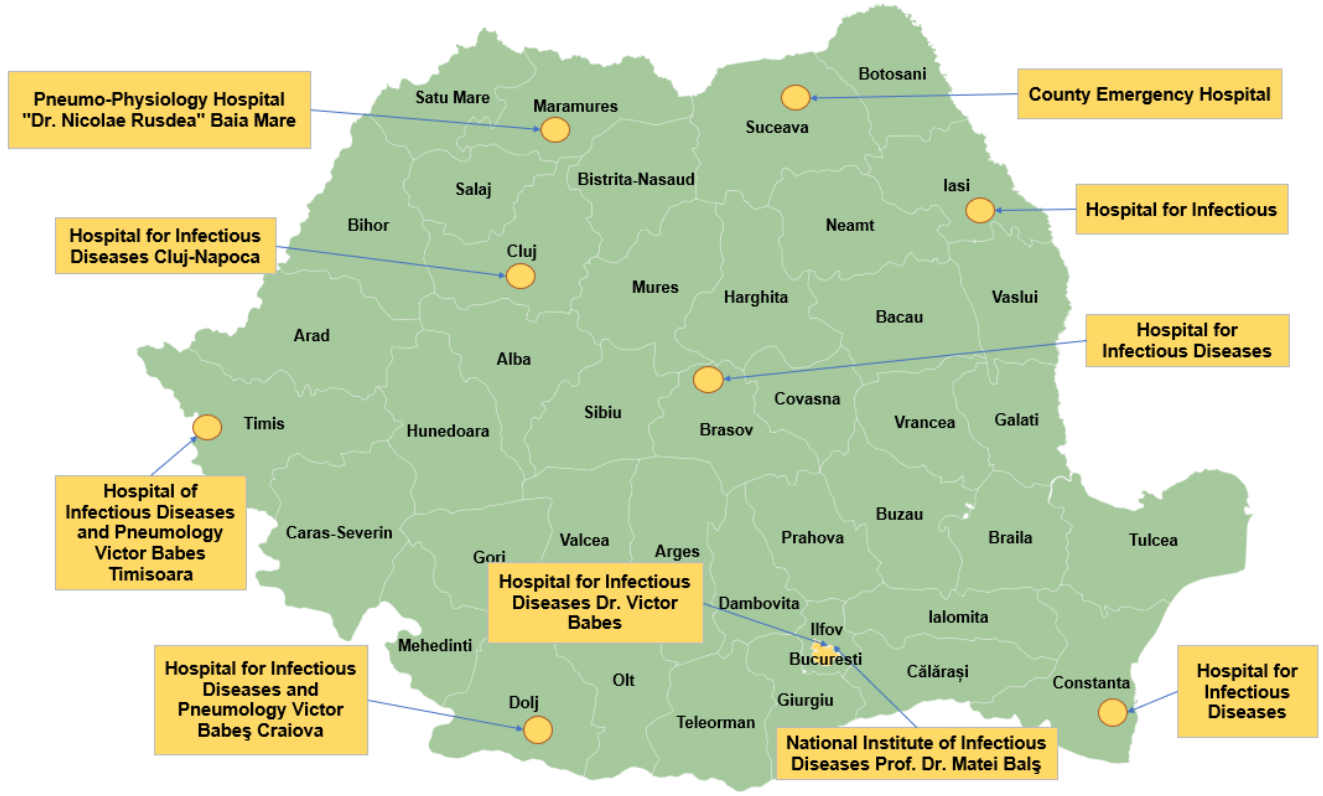
For a smooth distribution of the patients between facilities and safe containment of the virus spreading, a **clinical-epidemiological sorting mechanism[80] was established, as follows:**



[79] Campaign Military Hospital ROL II, external section of the Central Military Hospital, within the National Institute of Gerontology and Geriatrics "Ana Aslan" Otopeni
[80] https://bit.ly/2xOCP6O

2.3.1. Phase I Designated Hospitals

The location of Phase I designated hospitals specified in the "White Plan"[81] is described below.



The essential capacity and equipment of these facilities is detailed in the table below:

Phase I Hospitals (Category)	County	Number of critical care beds	Number of ventilators
Hospital for Infectious Diseases (II M)	Brasov	0* *37 in the county	0* *16 in the county
National Institute of Infectious Diseases Prof. Dr. Matei Balş (I M)	Bucharest	40	40
Hospital for Infectious Diseases Dr. Victor Babes (II M)	Bucharest	9	7

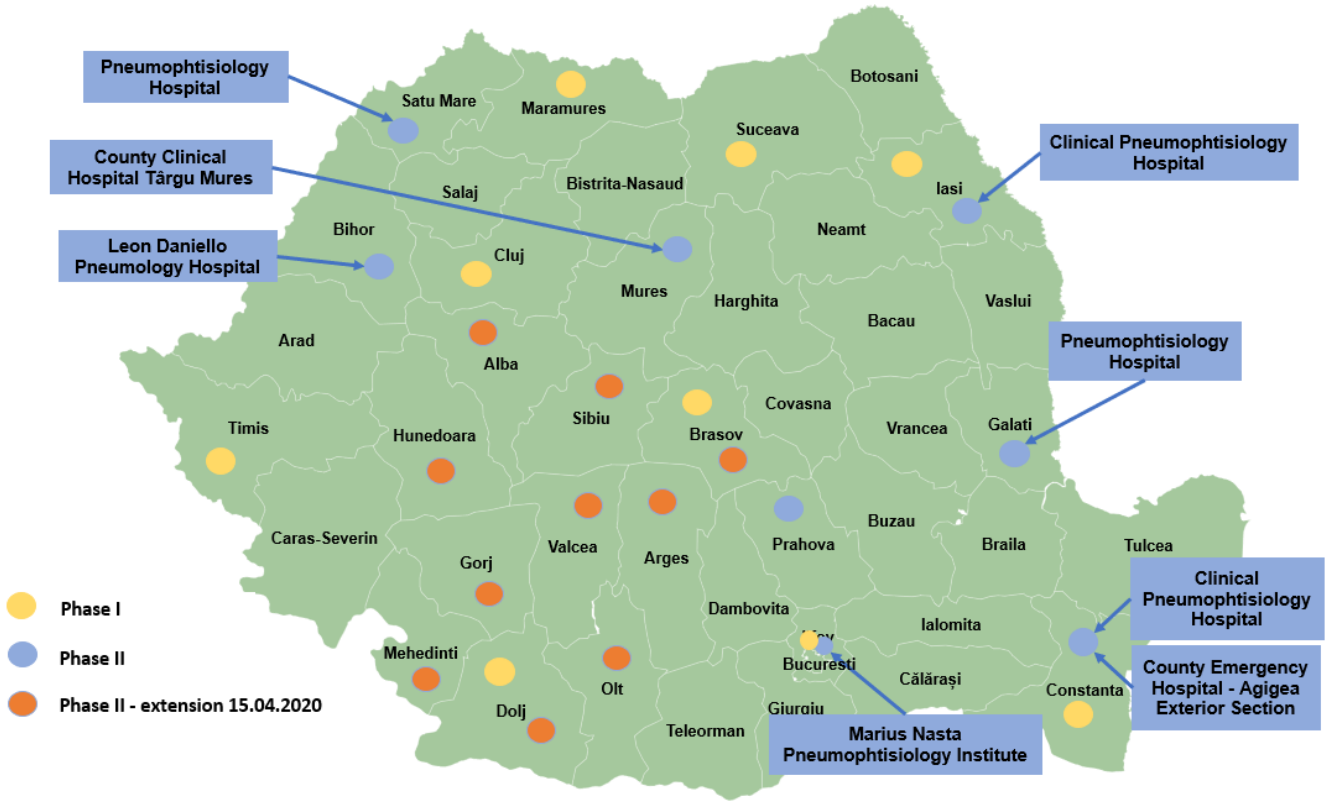
[81] https://bit.ly/2yCem4t

Hospital for Infectious Diseases Cluj-Napoca (II M)	Cluj	0* *109 in the county	0* *41 in the county
Hospital for Infectious Diseases (II M)	Constanța	0* *66 in the county	0* *35 in the county
Hospital for Infectious Diseases and Pneumology Victor Babeş Craiova (II M)	Dolj	10	5
Hospital for Infectious Diseases (II M)	Iasi	0* *98 in the county	0* *72 in the county
County Emergency Hospital Sf. Ioan cel Nou (II M)	Suceava	42	42
Hospital of Infectious Diseases and Pneumology Victor Babes Timisoara (II M)	Timiș	21	10
Infectious Diseases and Psychiatry Hospital Baia Mare (II M)	Maramureș	0* *25 in the county	0* *25 in the county

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

2.3.2. Phase II Designated Hospitals

The location of Phase II designated hospitals specified in the "White Plan"[82] is geo mapped as follows:



The essential capacity and equipment of these facilities is detailed in the table below:

Phase II Hospitals (Category)	County	Number of critical care beds	Number of ventilators
Alba Iulia Emergency Hospital - Infectious Diseases Section (III)	Alba	28	16
Pneumophtisiology Hospital Aiud (V)	Alba	0* *35 in the county	0* *16 in the county
City Hospital Abrud (IV)	Alba	2	1
Pneumophtisiology Hospital Campulung (V)	Arges	0* *60 in the county	0* *20 in the county

[82] https://bit.ly/2yCem4t

Pneumophtisiology Hospital Valea Iarului (V)	Arges	0* *60 in the county	0* *20 in the county
Marius Nasta Pneumophtisiology Institute (I M)	Bucharest	24	6
Central Military Universitary Hospital - ROL 2 formation (I)	Bucharest	24	24
Pneumophtisiology Clinical Hospital (II M)	Brasov	0* *37 in the county	0* *21 in the county
Psychiatry and Neurology Clinical Hospital (II M)	Brasov	0* *37 in the county	0* *21 in the county
General CF Hospital (IV)	Brasov	0* *37 in the county	0* *21 in the county
Leon Daniello Pneumology Hospital (II M)	Cluj	0* *109 in the county	0* *41 in the county
County Emergency Hospital - Agigea Exterior Section (I)	Constanta	35* *in all sections	31* *in all sections
Clinical Pneumophtisiology Hospital (II M)	Constanța	0* *66 in the county	0* *35 in the county
Military Emergency Hospital - Modular Medical Section (III)	Constanta	6	6
Municipal Hospital Bailesti - Infectious Diseases Compartment (IV)	Dolj	0* *75 in the county	0* *52 in the county
City Hospital Dabuleni (IV)	Dolj	0* *75 in the county	0* *52 in the county

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Clinical Pneumophtisiology Hospital (II M)	Iasi	0* *98 in the county	0* *72 in the county
Pneumophtisiology Hospital (V)	Galati	0* *90 in the county	0* *28 in the county
Infectious Diseases Clinical Hospital (V)	Galati	0* *90 in the county	0* *28 in the county
County Emergency Hospital Tg. Jiu- Infectious Diseases Section (III)	Gorj	40	13
County Emergency Hospital Deva - Infectious Diseases Section (III)	Hunedoara	0* *31 in the county	0* *10 in the county
County Emergency Hospital Drobeta-Turnu Severin - Infectious Diseases Section (III)	Mehedinti	30	12
County Clinical Hospital Targu Mures (II)	Mures	44	11
County Emergency Hospital Slatina - Infectious Diseases Section (III)	Olt	38	9
County Emergency Hospital Ploiesti - Infectious Disease and Pneumology Sections (III)	Prahova	46	20
Pneumophtisiology Hospital (V)	Satu Mare	0* *21 in the county	NA
Pediatric Clinical Hospital (II M)	Sibiu	0* *43 in the county	0* *23 in the county
County Emergency Hospital Valcea - Infectious Diseases Section (III)	Valcea	16	6

Pneumophtisiology Hospital Mihailesti (V)	Valcea	0* *în județ 16	0* *în județ 6

2.3.3. Support Hospitals

The support hospitals specified in the "White Plan" are spread across all the counties of Romania and include:

- County Emergency Hospitals;
- City Hospitals;
- Dialysis Centers;
- Maternity Hospitals;
- Pediatric and Pneumophtisiology Hospitals.

The authorities **decided not to include the main emergency hospitals in the first stages of support**, in order to be able to solve other emergencies, without posing the risk of spreading the virus to non-infected patients. Nevertheless, the main emergency hospitals are generally the ones that have the necessary equipment for treating complicated Covid-19 cases (critical care beds and mechanical ventilators).

Moreover, **the usual habit of Romanians is to appeal to these emergency hospitals for checks or interventions, thus these facilities are prone to deal with infected patients.** The essential equipment of these facilities[83], in the context, is detailed in the table below:

Support Hospitals (Category)	County	Number of critical care beds	Number of ventilators
Blaj Municipal Hospital (IV)	Alba	0* *in the county 35	0* *in the county 16
County Hospital - Pneumology External Section (II)	Arad	54	24
Ineu City hospital (IV)	Arad	5	1
Campaign Hospital - Expo Arad ()	Arad	0* *in the county 59	0* *in the county 25
MedLife Hospital Genesys Arad (IV)	Arad	NA	NA

[83] https://bit.ly/2yCem4t

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

City Hospital Saint Spiridon Mioveni (IV)	Arges	0* *in the county 60	0* *in the county 20
Pitesti County Emergency Hospital - Infectious Diseases section (III)	Arges	0* *in the county 60	0* *in the county 20
Campulung Municipal Hospital - Infectious Diseases Section and Pediatrics Section (IV)	Arges	0* *in the county 60	0* *in the county 20
Pitesti Pediatric Hospital (IV)	Arges	15	3
Municipal Hospital "Saint Hierarch Dr. Luca" Onesti (III)	Bacau	0* *in the county 67	0* *in the county 31
Municipal Hospital Oradea (II)	Bihor	0* *in the county 63	0* *in the county 40
Bistrita County Emergency Hospital (III)	Bistrita-Nasaud	20	20
City Hospital Nasaud (IV)	Bistrita-Nasaud	0* *in the county 20	0* *in the county 20
Botosani County Emergency Hospital (III)	Botosani	40	16
Braila County Emergency Hospital - Corp B, C, E (III)	Braila	73	32
Braila Pneumophysiology Hospital - Pavilion A (V)	Braila	0* *in the county 73	0* *in the county 32
Saint Pantelimon Psychiatric Hospital - Section 3 (V)	Braila	0* *in the county 73	0* *in the county 32
Ramnicu Sarat Municipal Hospital (IV)	Buzau	0* *in the county 50	0* *in the county 11

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

County Emergency Hospital Sfantu Gheorghe (III)	Brasov	0* *in the county 37	0* *in the county 21
County Emergency Hospital (II)	Brasov	30	20
Caransebes Municipal Hospital (III)	Caras Severin	15	2
Oltenita Municipal Hospital (IV)	Calarasi	0* *in the county 45	0* *in the county 25
Infectious Diseases Hospital - Suceag Section (II M)	Cluj	4* *in the county 109	0* *in the county 41
Pneumophtisiology Clinical Hospital - ICU Section (II M)	Cluj	5	NA
Emergency Clinical Hospital Cluj - Section 1 (I)	Cluj	26 (total 30)	17
Recovery Hospital (II M)	Cluj	10	2
Municipal Hospital (II)	Cluj	24	8
Medgidia Municipal Hospital (III)	Constanța	15	2
County Hospital Sfantu Gheorghe (III)	Covasna	0* *în județ 11	0* *în județ 2
City Hospital Pucioasa - Central Pavillion (IV)	Dambovita	0* *in the county 30	0* *in the county 16
Targoviste County Emergency Hospital (III)	Dambovita	30	16
CFR Galati Hospital (IV)	Galati	0* *in the county 90	0* *in the county 28

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Pediatric Emergency Hospital (II M)	Galati	15	6
Spitalul Municipal “Anton Cincu" Tecuci (IV)	Galati	15	3
Municipal Clinical Hospital Philanthropy - sections Sarari and Corneliu Coposu (IV)	Dolj	0* *in the county 75	0* *in the county 52
CF Craiova Hospital - General Surgery (IV)	Dolj	0* *in the county 75	0* *in the county 52
Clinical Hospital of Neuropsychiatry Craiova (II M)	Dolj	0* *in the county 75	0* *in the county 52
Emergency County Clinical Hospital Craiova (II)	Dolj	65	47
Bolintin Vale City Hospital (IV)	Giurgiu	6	2
Emergency Hospital Tg. Carbunesti (III)	Gorj	15	3
Odorheiu Secuiesc Municipal Hospital (III)	Harghita	NA	NA
Emergency County Hospital Deva (III)	Hunedoara	0* *in the county 31	0* *in the county 10
Hunedoara Municipal Hospital (III)	Hunedoara	0* *in the county 31	0* *in the county 10
Orastie Municipal Hospital (IV)	Hunedoara	0* *in the county 31	0* *in the county 10
Lupeni Municipal Hospital (IV)	Hunedoara	0* *in the county 31	0* *in the county 10
Vulcan Municipal Hospital	Hunedoara	0*	0*

(IV)		*in the county 31	*in the county 10
Fetesti Municipal Hospital (IV)	Ialomita	0* *in the county 15	0* *in the county 7
Clinical Hospital of Neurosurgery Nicolae Oblu (II M)	Iasi	0* *in the county 98	0* *in the county 72
CF Iasi Clinic Hospital (IV)	Iasi	0* *in the county 98	0* *in the county 98
Pneumophtisiology Hospital Baia Mare (V)	Maramures	0* *in the county 25	0* *in the county 25
Orsova Municipal Hospital (IV)	Mehedinti	0* *in the county 38	0* *in the county 13
Baia de Arama City Hospital (IV)	Mehedinti	0* *in the county 38	0* *in the county 13
Mures County Clinical Hospital (II)	Mures	20	11
Emergency County Clinical Hospital Tg. Mures (I)	Mures	66	53
Sighisoara Municipal Hospital - Pneumology Department (IV)	Mures	0* *in the county 110	0* *in the county 64
Emergency County Hospital Piatra Neamt (III)	Neamt	25	9
Pneumophtisiology Hospital Bisericani (V)	Neamt	0* *in the county 25	0* *in the county 9
Caracal Municipal Hospital (IV)	Olt	0* *in the county 38	0* *in the county 9
Campina Municipal Hospital (IV)	Prahova	0* *in the county 56	0* *in the county 28

Emergency County Hospital Ploiesti (III)	Prahova	46	20
CF Hospital Ploiesti (IV)	Prahova	0* *in the county 56	0* *in the county 28
Carei Municipal Hospital (IV)	Satu Mare	0* *in the county 21	0* *in the county NA
Zalau County Emergency Hospital - Exterior Section Infectious Diseases and Pneumology (III)	Salaj	18	12
The City Hospital Simleul Silvanei (IV)	Salaj	0* *in the county 18	0* *in the county 12
Emergency County Clinical Hospital Sibiu (II)	Sibiu	43	23
County Emergency Hospital Suceava (II M)	Suceava	42	42
Raduti Municipal Hospital (IV)	Suceava	0* *in the county 42	0* *in the county 42
Caritas Municipal Hospital Rosiorii de Verde (IV)	Teleorman	12	1
Municipal Hospital Lugoj (IV)	Timis	15	5
Municipal Hospital Timisoara (II)	Timis	42	7
CF 2 Hospital Timisoara (IV)	Timis	8	8
Tulcea County Hospital - Infectious Diseases Section (III)	Tulcea	21	10

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Barlad Municipal Hospital (III)	Vaslui	0* *in the county 20	0* *in the county 10
Horezu City Hospital (IV)	Valcea	0* *in the county 16	0* *in the county 6
Municipal Hospital Adjud (IV)	Vrancea	10	1
Clinic Hospital Colentina (II)	Bucharest	49	27
Monza Metropolitan Hospital (V)	Bucharest	12	12

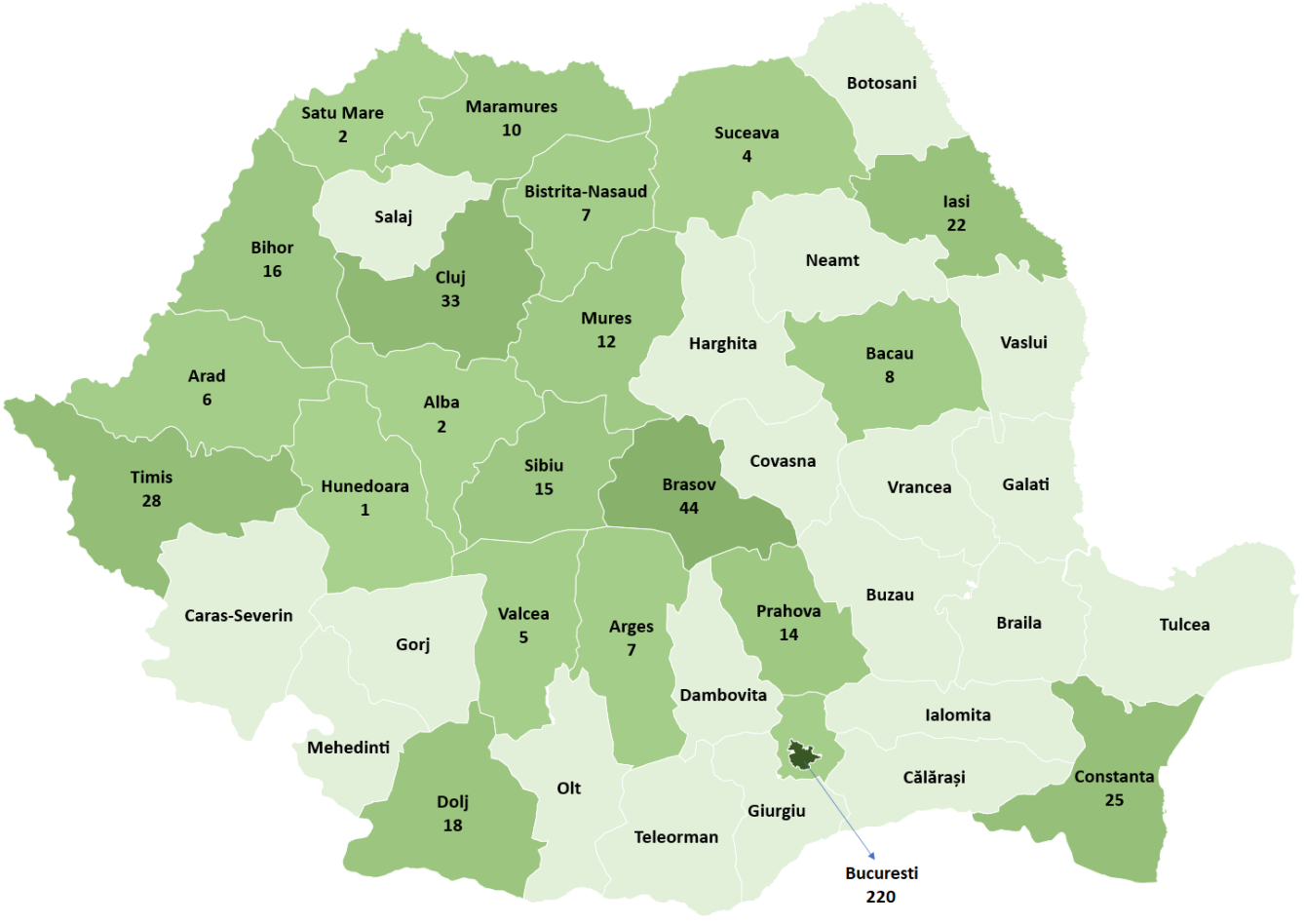
41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

2.3.4. Private Hospitals

On March 11th, an official statement by the Minister of Health at the time, Victor Costache,[84] stated that, **if and when the public health system in the country would become overwhelmed by the Covid-19 pandemic, private hospitals would need to be called in**. The former Minister added that private hospitals host approx. 300 beds in the Intensive Care Units, as well as doctors and nurses that are a valuable resource in fighting the virus.

The statement was reinforced afterwards by Cristian Hobotoc, president of the Private Medical Service Providers Employers Association,[85] who stated that **the private sector is ready to allocate beds in Intensive Care Units.**

Territorial distribution of Intensive care beds available in the private sector[86]



On March 24th, the County Council of Cluj decided to take control of the private hospital "Polaris" located in Baciu commune[87] (only while Romania was in a State of Emergency). The facility was designated as a dedicated hospital in the county for treating SARS-CoV-2 infected patients.

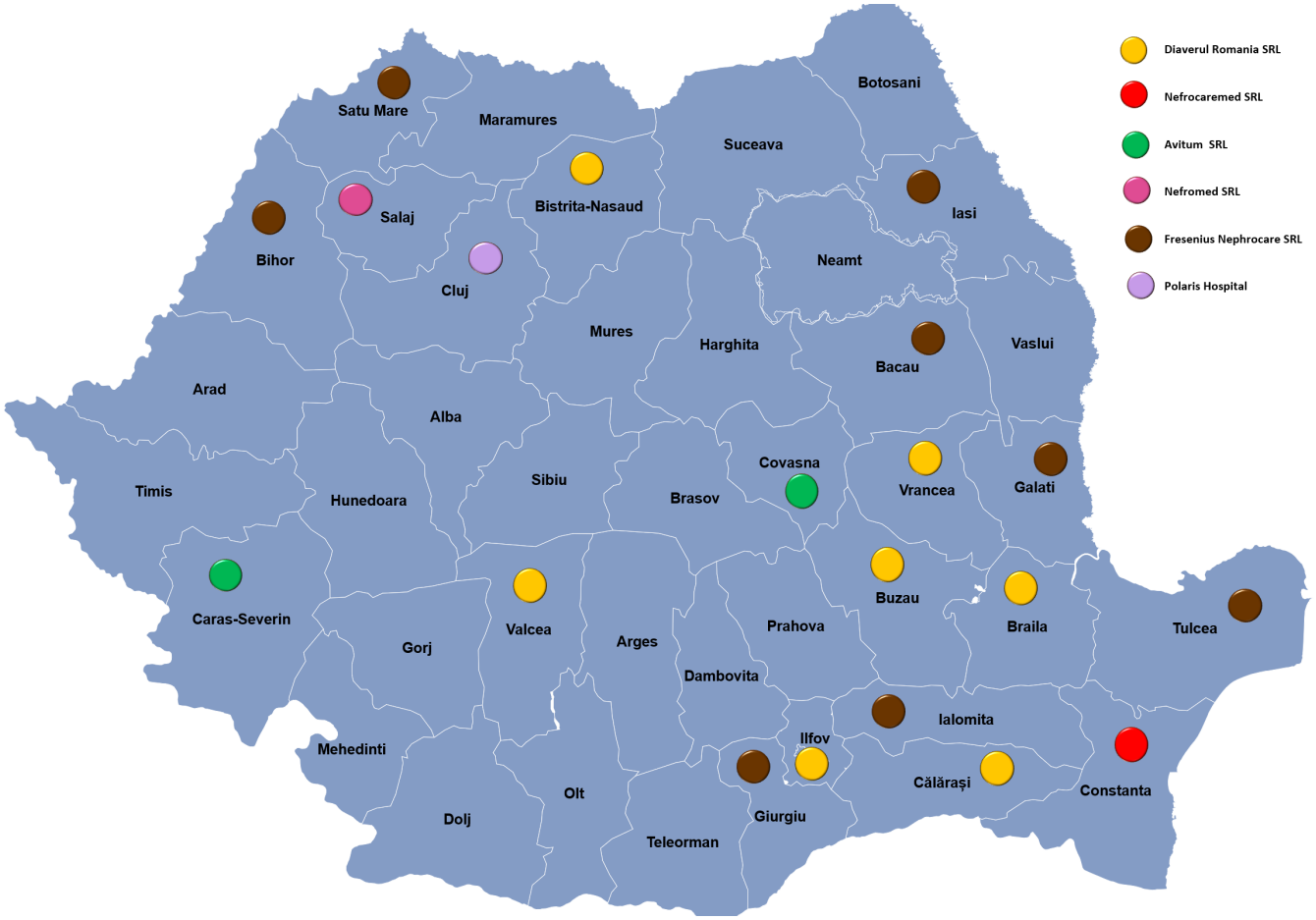
The hospital is located in the immediate proximity of the city Cluj Napoca and has a capacity of 180 beds.

[84] https://bit.ly/2ULgkrV.
[85] https://bit.ly/2Xp5aev.
[86] https://bit.ly/3eFHylw
[87] https://bit.ly/34j3AfA.

This is the first time for a decision like this in Romania and came on the heels of the local Infectious Diseases County Hospital in Cluj being unable to provide needed care for all the infected. In the near future, more takeovers of private hospitals' might follow, as the developments unfold and more cases of SARS-CoV-2 infections are identified. **The authorities provide compensation in such cases, so no major economic harm comes to the private owned entities**.

> On April 5th, Luca Militello, CEO of Monza Hospital in Bucharest, stated that all of the 50 beds, 12 of which are intensive care equipped, will be at the authorities disposal. The management of the private hospital has already initiated procedural talks with the National Insurance House and other competent institutions regarding accreditations according to State of Emergency requirements.[88]

According to the order issued by the Health Ministry on March 31st, 2020, aside from Polaris hospital in Cluj, there are several private dialysis facilities to be included in the action plan regarding preparation of medical facilities for Covid-19 pandemic, as shown below:[89]



[88] https://bit.ly/2JJGsNS.
[89] https://bit.ly/2X9FUIZ.

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

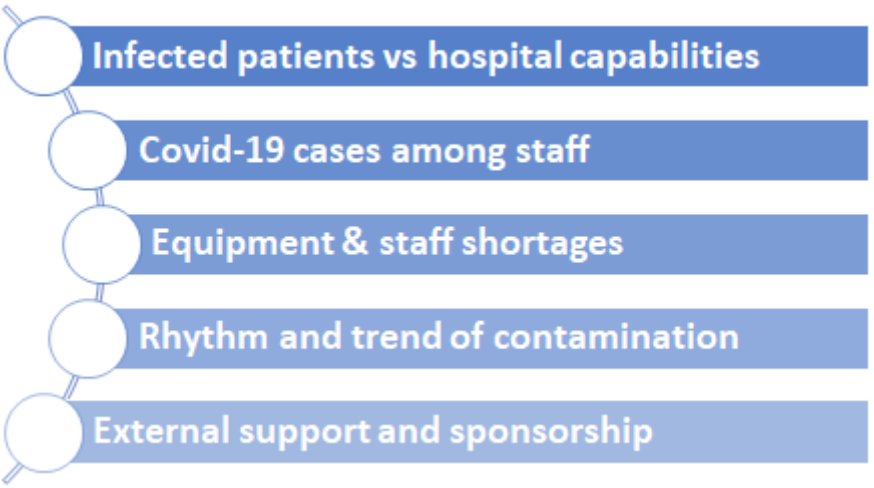
2.4. Problems Encountered

2.4.1. General Issues

Ever since February 26th, when the first case of SARS-CoV-2 generated infection was officially reported in Romania, **hospitals in the country started to face major challenges.**

The highest amount of risk and pressure falls on the bigger hospitals in the country that are providing medical care for patients in large Romanian cities.

The specific amount of risk and pressure on medical system depends on several complex criterias:

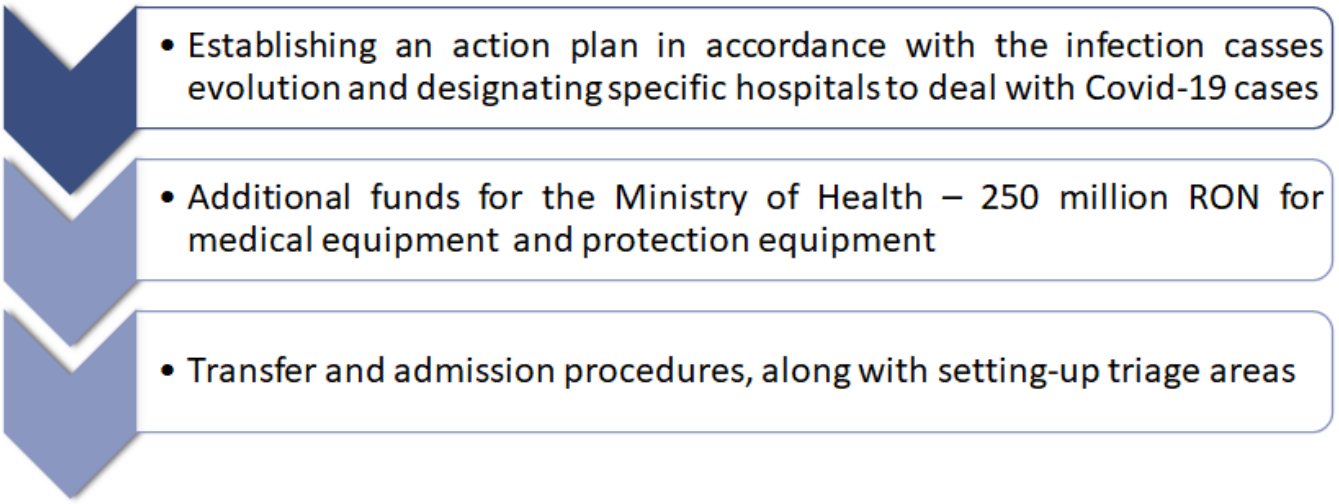


At the beginning of the pandemic, there was only one testing laboratory which was equipped to handle such a respiratory disease. By 27th of March another 28 were opened and fully functioning across the country.[90] **The total capacity of testing, at the same date, was approximately 4,000 PCR[91] tests per day**. The number of daily tests was constantly increased by the authorities, the latest official statements confirm 6,000 PCR tests per day.[92]

> However, **in at least 4 county hospitals in the country - Hunedoara, Teleorman, Satu Mare, Caraş-Severin - on March 31st, 2020, there was still no specialized equipment to test patients**.[93]
>
> Another situation was reported in Targu Jiu, where the hospital has a PCR unit (GeneXpert type), but the management did not purchase the SARS-CoV-2 testing kit and so failed to test the population. A criminal file was opened on the manager, Dumitru Vienescu.[94]

[90] https://bit.ly/3bZJ2uS
[91] Polymerase chain reaction test, detecting SARS-CoV-2
[92] https://bit.ly/3bYTvHh
[93] https://bit.ly/2wp5v5K
[94] https://bit.ly/2ULfJGS

According to national strategy and needs, the following **measures were taken to face the Covid-19 pandemic**:



On a general note, the healthcare system's response was frail when the SARS-CoV-2 crisis started, as Romanian hospitals were confronted with:

- Insufficient human resource to start with (adding to this many resignations from the medical staff because of the missing preventive measures);[95]
- Weak infrastructure, especially regarding critical care beds and suitable epidemic protocols;
- Insufficient test kits and lack of vital equipment and materials: disinfectants; protection masks, and overalls, as well as isolation stretchers and mechanical ventilator machines.

The authorities addressed the human resources problem by **opening new positions within the Health Ministry, respectively 1,000 jobs to reinforce Public Sanitation Departments and ambulance services**. At the same time recent public statements issued by the President and Prime-Minister revealed the intention of allocating extra funds for granting medical staff extra earnings during the state of emergency (eg: **proposed amount of 500 EUR per employee**).

Aside from human resource problems, **the Government has been confronted with a series of "infected hospitals"** that affected the medical activity even more; i.e. Suceava County hospital. The authorities detach a military management team to take direct management of acquisitions and medical activities, and implement epidemic procedures.[96]

Regarding acquisitions, the authorities reported that a series of important contracts were signed and the needed materials are "en route".

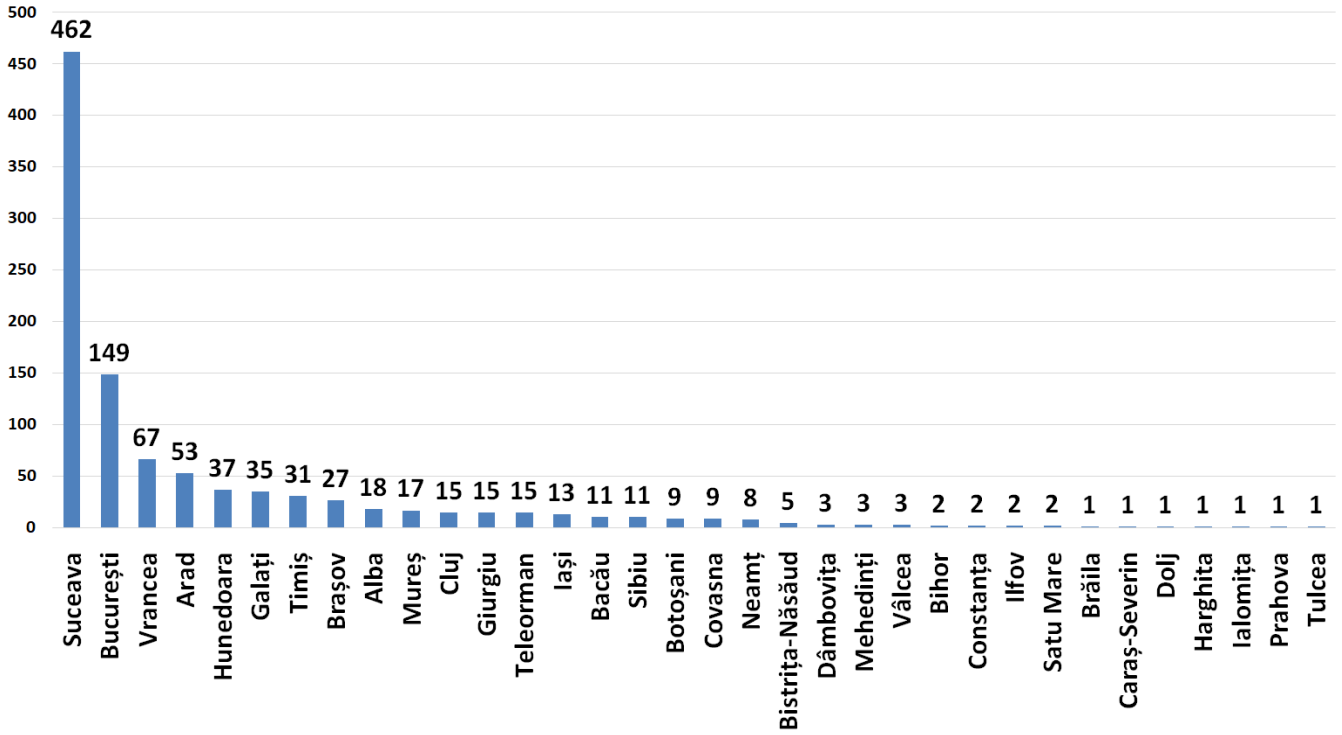
Support actions were taken by the NGO sector as well. "Daruieste Viata Association" along with 119 other NGOs have signed an open letter that urges more transparency regarding the real situation of the medical system.[97] They also organized fundraisings and donated necessary equipment and items to medical facilities.

[95] https://bit.ly/2V8ue6o
[96] https://bit.ly/2V5sQ4J
[97] https://bit.ly/2UNGPNt

2.4.2. Infected Medical Staff

On 18th of April, official data made public by the Health Ministry showed a total number of **1,031 infected medical staff**.[98]

County distribution of the infected medical staff (April 18th, 2020)



The situation regarding the number of infected medical staff is constantly changing on a daily basis, given the increase in testing capacity and higher level of transparency in reporting activities. **By far the most serious issue is in Suceava County**, mainly due to very poor procedures, initial faulty management, and decision making.

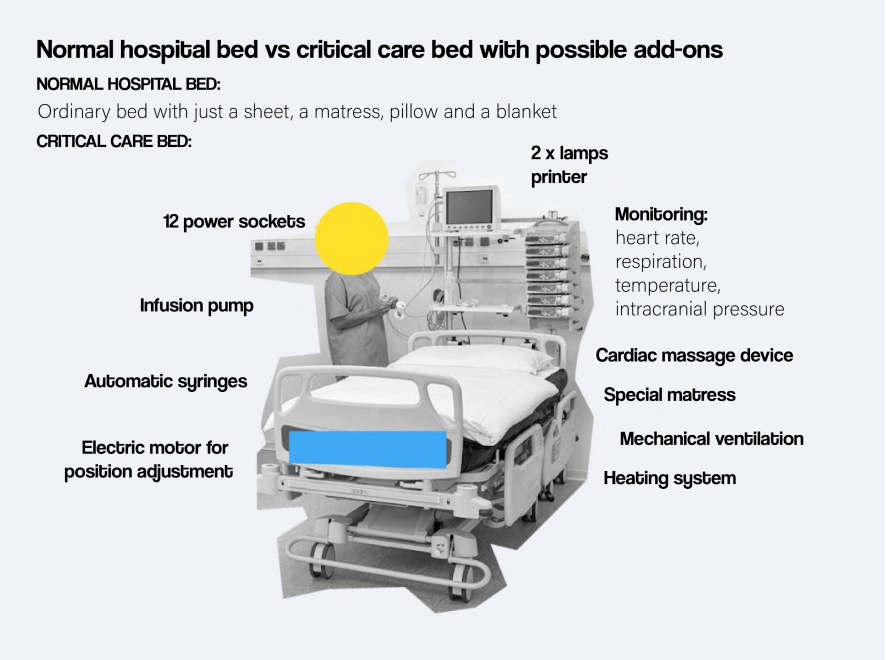
> The Suceava hospital was closed on March 25th for 48 hours, to completely disinfect, after which activity was resumed to examine and direct patients with mild pathologies to other hospitals and then work specifically to treat Covid-19 patients. It was reopened under military administration and supervision, and is expected to return to original management by the 2nd of April.

[98] https://bit.ly/2Yi2WxO

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

2.4.3. Resources Needed

Critical care beds are decisive in the battle against Covid-19. For patients needing intensive care and mechanical ventilation these are the last resort.



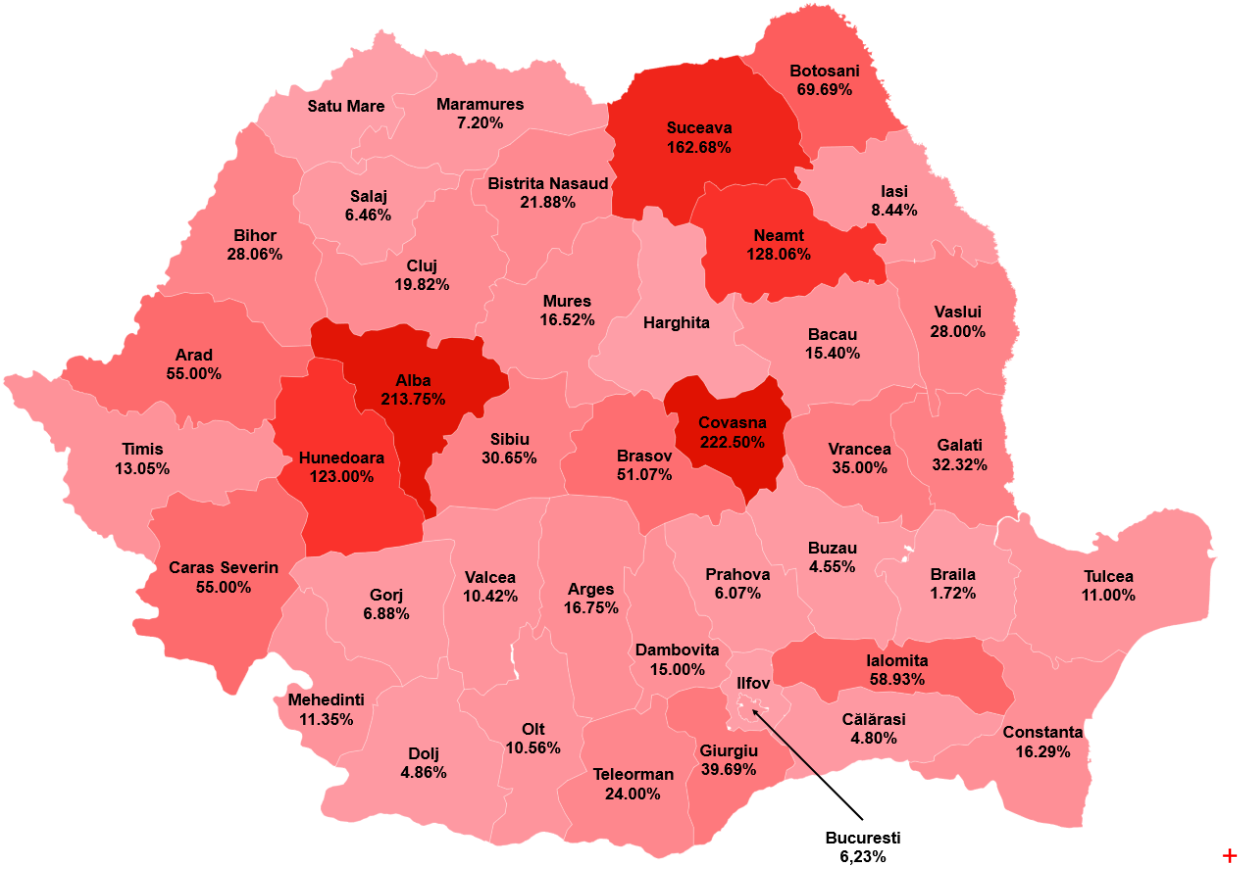
The essential components of an intensive care bed are the injectors, fans, and monitors. Nevertheless, a significant number of the officially reported ICU beds do not have one or more of these components nor the specialized personnel to operate them.

Based on geo mapping, some counties experience a shortage (overutilization) of ventilators, while others are still in a relative "green zone". **Analysing statistical data,[99] approximately 2.5% of the SARS-CoV-2 infected need this type of medical attention**.

Local human sources revealed that **Romanian authorities took measures on redistribution of patients from "hotspots" to other areas.** Even though these actions might be seen as a avoidance factor for SARS-CoV-2 dispersion, this is not the case. Patient redistribution is seen as a means of "saving lives" and the National Healthcare System is adapting. **The patients transferred are known and monitored, safeguards being put in place**.

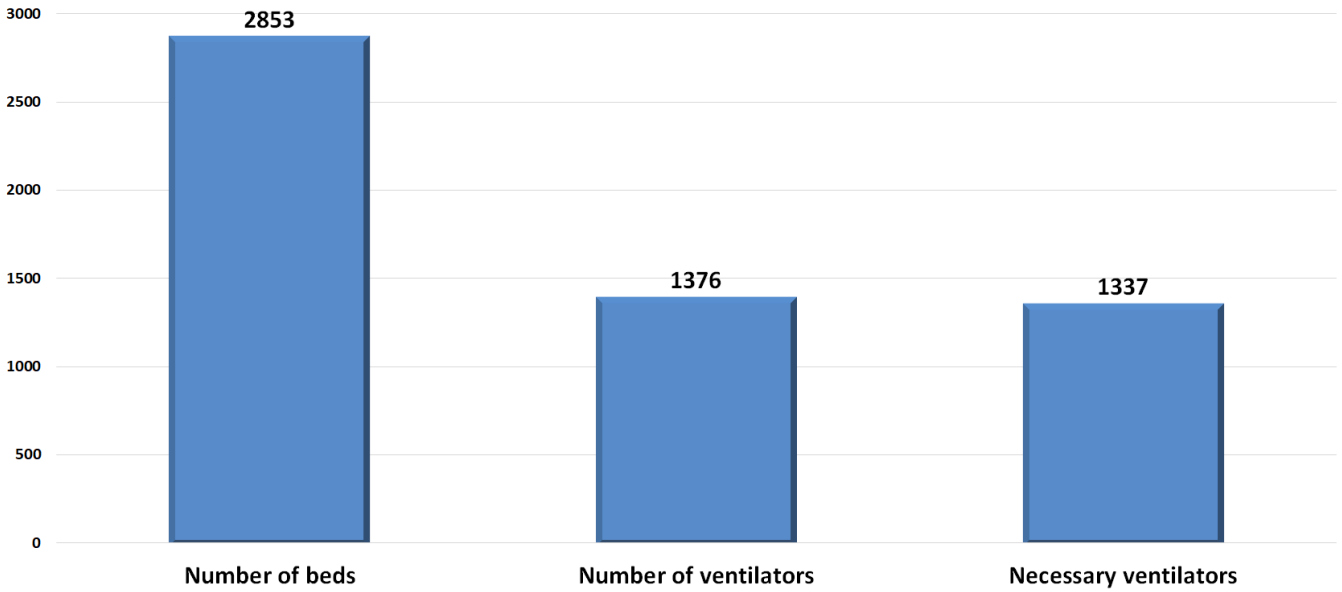
[99] https://bit.ly/3aplwp7, https://bit.ly/2xNo9Vm

The rate of critical care beds with mechanical ventilator utilization per county (April 29th, 2020)[100]



From a statistical point of view, based on EU standards **Romania is rated at the top for number of critical care beds, alongside Germany and Austria with a total of 2,853.**

Critical care equipment national distribution and estimated needs



[100]Calculation based on data obtained from the medical environment, correlated to the infection rate registered until 29.04.2020 (without considering the number of deceased or cured cases). For Harghita, Ilfov and Satu Mare Counties the calculation was not possible due to insufficient data.

Some additional remarks:

1. Romania continues to have **a high rate of hospitalization** with the healthcare system preferring hospitalization rather than prevention / treatment assistance at home. After the fall of communism the number of hospitals and care beds was high, functioning in a fragmented healthcare system and with insufficient development of services;

2. A complete critical care bed can include, among others, medical equipment such as **mechanical ventilation system**, monitoring equipment, defibrillator, electrocardiograph, injectomats and dialysis machine (not all the critical care beds mentioned above are equipped with);

3. **It is unknown if the critical care beds are in a good condition from a technical point of view**, which brings some uncertainty over this matter;

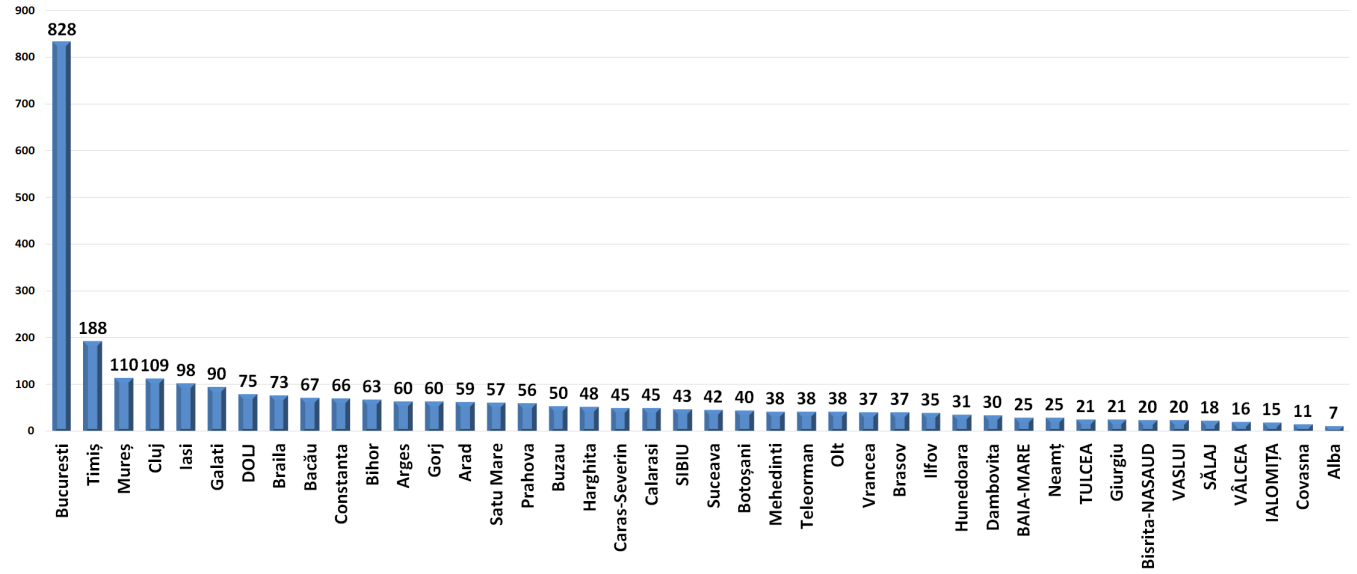
4. In some hospitals **critical care beds are not used due to lack of qualified staff (ex. Cluj County Hospital)**;

5. There are also situations when **these beds are currently being purchased.**

In the fight against Covid-19, **Romania has 1,376 critical care beds that have mechanical ventilators**.

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Distribution of critical care beds per county



This lack of resources is not only an issue for Romania, other European countries such as Germany, Italy, and Spain are dealing with a shortage of medical equipment and critical care beds with pulmonary ventilation required in the treatment of patients infected with SARS-CoV-2.

> There are a series of recently developed platforms[101] that can centralise the needs of the medical system. www.thefutureisnow.ro, was launched by Adrenallina Media Association, where interested parties may find up to date information regarding equipment or medical materials needed in public hospitals across the country.
>
> Other examples are RoSurse and Necesar Spital, online sites that focus on protective equipment and act as a marketplace that links hospitals with providers or donors.

Measures taken aside, due to the global context and delays in the supply chain, **doctors and nurses continue to complain about the lack of equipment, especially protective ones.**[102]

Romanian companies that can adapt their production lines and produce protective medical materials, medical equipment, or biocides useful to hospital staff can send their proposals to the following structures:

1. **Protective materials and equipment:**
   - Research Agency for Military Techniques and Technologies;
   - CBRN1 Scientific Research Centre for Defence and Ecology Colonel Claudiu Lazaroaie, phone: +40721.568.038, fax: 0213.322.115, email: office@nbce.ro.
2. **Medical devices:**
   - Research Agency for Military Techniques and Technologies: Colonel Claudiu Lazaroaie, phone: +40721.568.038, fax: 0213.322.115, email: office@nbce.ro.

[101] https://bit.ly/2JIso79.
[102] https://bit.ly/34gYLDb.

3. **Biocides:**

- National Institute of Medical-Military Research and Development "Cantacuzino": conf.univ.dr. Anda Baicus, Scientific Director, telephone: +40740.213.102, fax: 0213.069.307, email: abaicus@cantacuzino.ro.
- CBRN Defence and Ecology Scientific Research Centre: Colonel Claudiu LIST, phone: +40721.568.038, fax: 0213.322.115, email: office@nbce.ro. He is the contact point responsible for the analysis of favourable dossiers with a consultative opinion on issuing the authorisation by the Medical-military scientific Research Center. Final approval will come from: Colonel Dr. Bogdan Patrinichi, phone:+40726.733.072, fax: +40213.156.453, email: patrinichi@yahoo.com.

2.5. Insiders' Concerns and Actions

While the messages disseminated by all authorities aim to maintain public calm and show that the situation is under control, insider voices, both **medical staff and patients, and their relatives, speak of a different reality which tends to be, at times, dramatic.** To avoid further scandals and public campaigns against the way the situation is managed, **some hospitals imposed an internal secrecy policy over work related details**, warning their employees to respect it or to expect repercussions.

Since the first wave of resignations, authorities have implemented strategies to deter medical staff from leaving. **The government's feedback and plans resulted in a higher degree of pressure on the psychics of doctors and assistants.**

Furthermore, **the general opinion of the unadvised public shifted and began to add more weight on the health system employees**, people being determined to blame and denigrate part of the medical staff for their reaction.[103]

> It is not clear **if there is a gap of information between central authorities, local ones and the actual situations in the medical facilities**. The **Strategic Communication Group** and its members, who are managing the Emergency Situation in Romania seem to erroneously consider that medical staff's protests and resignations are mostly based on the fear of getting contaminated with SARS-CoV-2.

Most of the negative reactions of the medical staff throughout the country were based on the lack of protective equipment, poor implementation of protocols, or absence of them. Nevertheless, the bad management situation implemented by the local Departments of Public Health, administrative authorities and, in some cases, hospitals' management took its toll on the public health system.

The table below, based on testimonies from patients and hospital staff, shows the reality in Romanian and the continued spreading of **SARS-CoV-2 s and temporary closure of hospitals' sections**.

[103] https://bit.ly/2XkCtPz (example)

Operational issues	Cause	Consequence
Potential infected patients treated like no-threat	Hospitals' management refusal to test the patients, even if they came from a highly infected country; The Departments of Public Health (DPH) refused to test patients, referring to the protocol during the 1st Reaction Scenario.	Closure of emergency receiving section of hospitals; Quarantine measures for a number of doctors; Spreading the virus in the facilities and communities; Limiting operational capacity of facilities.
Late or no medical staff testing	Lack of testing capacity; Late response from the DPH; Corruption in the DPH resulted in prioritizing the tests of "local VIPs" and closer patients; DPH and Regional Authorities blocked or discouraged the medical staff testing because of reputational fear and the facility quarantine fear; Overwhelmed epidemiologists.	Spreading the virus in the facilities and communities; Limiting operational capacity of facilities.
Denying support for 1st response facilities	Lack of cooperation between facilities from nearby territorial units; Fear of spreading infection deterred managers to refuse cases and request to be delisted from the support list	Decreasing the response capacity of one facility; Generating a reliability issue in the response system; Inability to appropriately treat complicated cases.
Secrecy policy among institutions	DPH is not informing paramedic service of the confirmed cases they handled	Endangering paramedic staff and limiting the response capacity; Spreading the virus in the communities.
Resource issues	**Cause**	**Consequence**
Lack of protective equipment stocks	No special attention was given to this aspect until the crisis was imminent (low anticipative efforts); Delays caused by logistical issues generated by the high worldwide request	Spreading the virus in the facilities and communities; Limiting operational capacity of facilities; Generating an unsafe

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

	for this type of goods.	operational environment and related fears to the personnel.
Insufficient funds for facilities purchases	Insufficient fund allocations to medical facilities; Mismanagement of funds by facilities' management.	Lack of staff protection and facility disinfection; Operating in an unsafe environment; Spreading the virus in the facilities and communities; Facilities oriented to get funds through donation request campaigns.
Insufficient protective equipment provided	Insufficient number of pieces were provided to the facilities, not in correlation with the needs and personnel number, due to lack of sufficient stocks.	There is staff not properly protected; Management tends to keep the equipment until their facilities will get more involved in the fight against SARS-CoV-2; Staff is at risk of getting infected; Spreading the virus in the facilities and communities.
Underestimating the danger of infected patients at non-prioritized facilities	The central decision makers provided lower or no amounts of protective equipment to facilities not involved in the current stage of the emergency plan, considering that no infected patient will arrive there; While patient testing is very selective, more people come from highly affected areas and the protocols are unknown or missing, it is highly possible that patients can arrive there.	Spreading the virus in the facilities and communities; Generate frustration and fear among the employees who are in touch with reality and its dangers; Limiting operational capacity of facilities.
Theft of equipment from stocks / donations	Poor control over the stocks due to generalised increased corruption in the facilities; Medical staff takes the products home to use for own / family purpose (because they are needed, hard to find and expensive to buy); Key position employees used the items	Generating an unsafe operational environment; Spreading the virus in the facilities and communities; Limiting operational capacity of facilities.

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

	to make speculative business, putting them on the market to gain benefits.

Testimonies from medical staff and facilities' management representatives highlight **the main reasons why medical staff are protesting or resigning**, underlining the flaws in the system.

Reaction of medical staff	Cause
Protest in front of the facilities	Lack of protective equipment; Lack of medical supplies; Lack of procedures.
Expressing disagreement and frustration in mass media or on social media	Biased management of situation (leading to spreading the virus in the facility); Lack of protective equipment; Lack of medical supplies; Lack of procedures.
Resignation	Approximately 75% of the cases refer to pensioner doctors' decision to end the collaboration contract with the facilities (if infected, there is a high chance of mortality); Sporadic cases when the reason is the fear of the virus; There are cases of threats of resignation, initiated by the medical personnel in order to highlight their exposure to risk generated by the lack of protective equipment.

In addition, there are cases when medical staff complain about the working conditions generated by this crisis, the high risk of getting infected, and that **some of their colleagues opted to go on sick leave** to avoid working in this period.

The medical staff identified several necessary items that need to be addressed by the decision makers in order to increase the efficiency of the fight against SARS-CoV-2: higher transparency of decisions, coherent measures of medical facilities involvement in the response plan, and the following practical issues:

- to ensure **transparency of equipment stock and distribution**;
- to provide the **adequate protection equipment to all medical staff** (irrespective of the facility's role in the response plan);
- to provide **accommodation** to medical staff working directly with infected patients;
- to provide **dedicated means of transport** for medical staff to not endanger the life of other public transport users;
- to implement emergency **reorganisation plans for the hospitals circuits** and provide **training** for using them correctly;

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

- **to test the medical staff regularly and with priority**.

To cover all the demands, **sustained efforts are needed to identify suppliers of protective equipment and assets.** The final goal is to increase the testing capacity and solve the logistical **problems** (delay of delivery and containment of the pandemic).

Nevertheless, considering the development of the SARS-CoV-2 spread in Romania, medical staff advise that **it is mandatory to acquire more critical care beds and mechanical ventilators. These items should be spread at least across the hospitals designated for the first two phases and the support ones, located in highly infected areas.**

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

3. Public Acquisition Processes (regular and exceptional)

Analysis of the public procurement process pointed out **a significant difference between two stages** - prior to the Covid-19 pandemic and after the Presidential State of Emergency was declared.

Before March 16th, 2020 contracts were generally awarded to the bidders offering the lowest price for medical equipment. **After the end of March, the time of delivery became the most important element**. Several medical facilities required help in terms of finding suppliers.

Based on public data and information received from people involved worldwide in governmental efforts to contain the pandemic, we noticed that **Governments across the globe "were in a hurry to get their hands on medicines, medical materials, and equipment"**. This was due to the fact that lives were at stake, the prices of consumables became almost irrelevant. The people needed to be safeguarded in a matter of hours or days and this became the first priority.

3.1 Covid-19 Pandemic Impact on Public Tenders

3.1.1. Regular Public Tenders Workflow

In the Romanian Healthcare System, a **Contracting Authority**, which is a state owned entity, is the authorizing officer/credit principal administering the respective purchase. According to Law number 95/2006 article 190 on the health reform, public **hospitals are public institutions financed entirely from their own revenues and operate on the financial autonomy principal.**

> In reality, state subsidies keep them afloat. Revenues come from the amount of income received from medical / other services provided on a contract basis.

A contracting authority may be:[104]

- any of the central or local public authorities and institutions, as well as their structures which have been delegated the capacity of authorizing officer and which have established competences in the field of public procurement;
- public law bodies;
- associations formed by one or more contracting authorities from those referred to in the previous two points.

The public hospital revenues and expenditures budget is drafted by its steering committee ("leadership") based on the proposals from the Sections and Compartments heads.[105] Public medical facilities have the following main sources of income:[106]

- Revenues from public sources, such as those from the Ministry of Health or from other Ministries with their own health system;
- Revenues obtained from the public health insurance system – the National Health Insurance House (CNAS) and county houses (the most important are obtained through the Single National Social Health Insurance Fund - FNUASS);
- Revenues transferred by other local / county public authorities

[104] In accordance with art. 4 para. 1 from law no. 98 / 2016
[105] In accordance with art. 201 from law no. 95 / 2006
[106] In accordance with art. 193 from law no. 95 / 2006

- Revenues from European or international grants and funds
- Direct payments (e.g. co-payment)
- Other sources of income (donations, bequests, research contracts, investment associations in the medical and pharmaceutical fields, etc.)

Periodically a framework contract, regulating the relationship between hospitals and the National Health Insurance Agency (CNAS) while also establishing the basic service packages, is signed by the head of CNAS and the Ministry of Health. Mostly they offer recapitalization on "the active substances defrayed and the price supported by the state for each hospitalization day / per individual".[107]

Local authorities can also support hospitals through direct subsidies and / or investments. Subsidies can be used for long term investments or for necessary medical services, **the decision of their destination rests on the hospital manager**.[108] Public authorities can also make direct investments, without announcing the specific amounts to the hospital budgets. Allowing direct selection of beneficiaries, despite quality.

Hospitals are funded based on different criterias, those under the Ministry of health focus on occupancy rate. While Municipality or County owned hospitals / healthcare clinics, are not bound by a single/sole rule.

Mayors and County Council Presidents, as authorizing officers / credit principals, are not limited in their budgetary allocations by the hospital occupancy rate. Decision of investment is an absolute direct prerogative.

One of the first steps taken by the Romanian authorities, in the context of the Covid-19 pandemic, was to place a **six month freeze on the export of medicines and health products related to the prevention, diagnosis, and treatment of COVID-19, as well as the National Catalog of prices for medicines authorized for the Romanian market. The measure was published in the Official Gazette on March 12.**[109]

Also, **the rules governing the public procurement made by hospitals were suspended**. Prior to Presidential decree no. 195 from March 16th, 2020, the public health sector followed the public acquisitions procedures.

With the aforementioned decree in place, **the "direct awards" came to replace all the regular procedures previously used. This creates opportunity for business owners who already have a chain of supply and demand.**

> **The procurement process is regulated by Law number 98 / May 19th, 2016 on Public Procurement.** Its purpose is to improve the public procurement system in Romania by transposing new European directives into national legislation, by reforming the institutional framework and by ensuring the functionality of the system.

[107] An example of such an understanding - https://bit.ly/2xSxETy
[108] In accordance with art. 199 from law no. 95 / 2006
[109] https://bit.ly/3brEXQA.

> The **principles** underlying the award of a public procurement contract are: **nondiscrimination, equal treatment, mutual recognition, transparency, proportionality, the efficient use of funds, and accountability.**[110]

For guidance and understanding of the system, we refer to the following: The Electronic Public Procurement System[111] (SEAP) which was implemented in 2006. In order to ensure a better use of public expenditure and to provide an enhanced transparency of the public procurement process this platform represents a sole integrated IT infrastructure offering Romanian public institutions the possibility to purchase needed products.

> A natural step in the evolution of the public procurement process occurred **in April 2018 when the "new SEAP" - a new version of the existing platform was launched. Named SICAP, it stands for Collaborative Information System for a High Performance Environment in Public Procurement.**
>
> The new system enjoys the latest technologies, a friendly and easy interface, structured data and advanced search criteria.
>
> This public procurement system is perfectly aligned with the requirements related to the new legislative forms published into the Official Journal of the European Union (JOUE).
>
> These forms and regulations were used to implement the ex-ante verifications used by the National Agency for Public Procurement (ANAP), while also being integrated with key public procurement institutions. Such entities were, per example, the National Council for Complaints Solving (CNSC)
>
> SICAP is an integrated system that assures total transparency on Romanian public procurement to the National Integrity Agency (ANI), the Competition Council (CC) and the National Anticorruption Directorate (DNA). Also, the Court of Accounts has the right to verify public procurement spendings.[112] All these entities are at liberty to investigate, to a certain extent, the "public auction domain".

The procedures published on SEAP are categorized into: notices of intent, invitation to participate, notices of participation, simplified notices of participation, concession notices, notices of contest of solutions, and the corresponding notices of award. SEAP also contains information on direct procurements initiated from the electronic catalog, along with award notifications and centralized direct procurement notifications.

Prior to launching the award procedure, **the Contracting Authority may conduct a market consultation process, as part of the public / sector procurement preparation process.**[113] The consultation is initiated through a notice published in SEAP, granted that the acquisition targets elements of high technical, financial, or contractual complexity.[114]

Given the estimated value of the procurement contract, the complexity of the contract / framework agreement to be awarded, and the fulfillment of the specific conditions for the application of certain award procedures, the contracting authority may choose one of the public procurement procedures.[115]

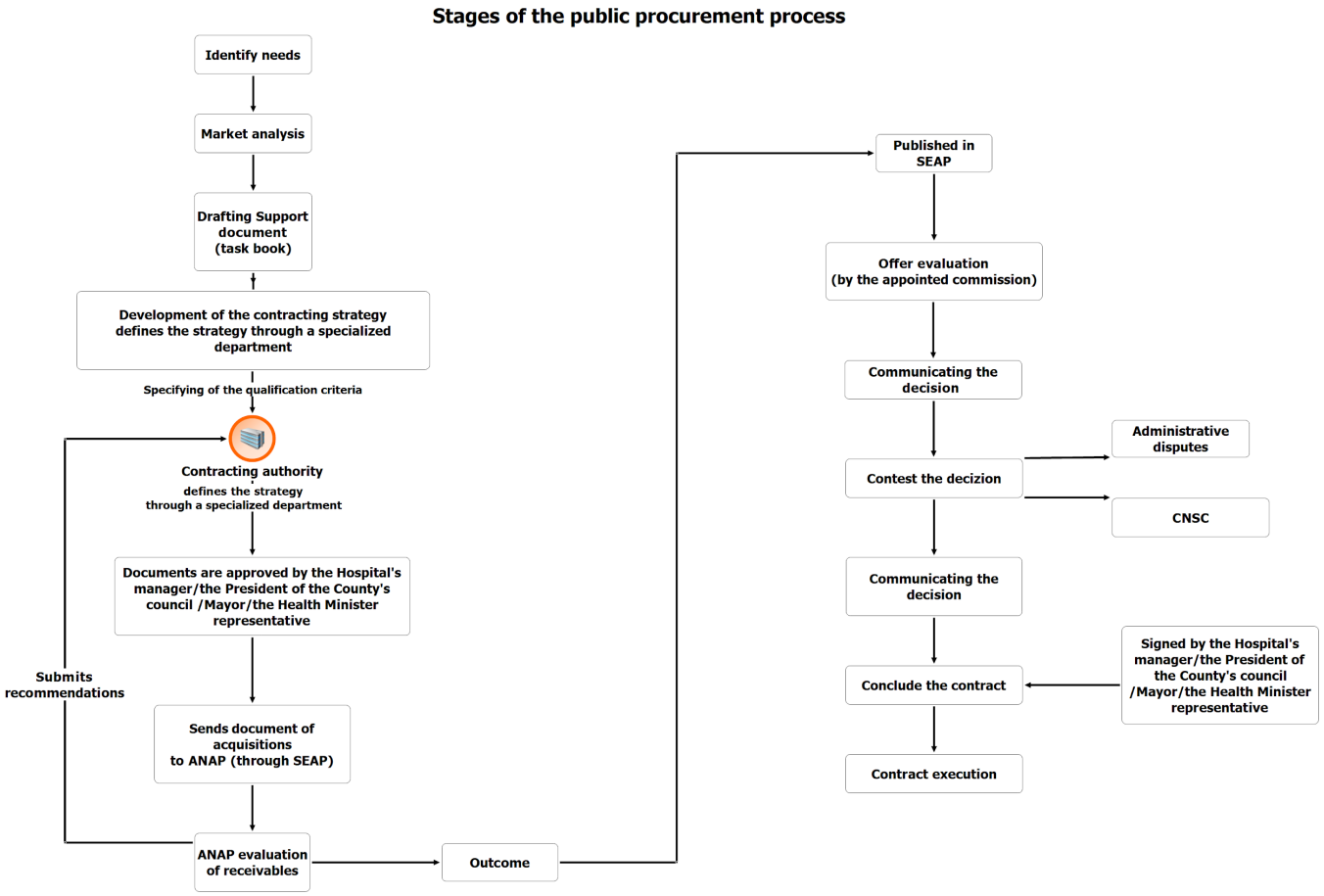
[110] In accordance to art.2 para.2 from law no. 98 / 2016
[111] https://bit.ly/2y2eqe5
[112] https://bit.ly/2Kv5uR2
[113] In accordance to art.139 from law no. 98 / 2016
[114] In accordance to art. 18 from law 98 / 2016 Methodological Norms
[115] In accordance to art. 17 para.1 from law 98 / 2016 Methodological Norms

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Among the aforementioned criteria, the interpretation of the notion of **"the most economically advantageous offer"** is highlighted. Thus, in accordance with the provisions of Directive 2014/24 / EU, such a notion represents one that ensures **"the best price-quality ratio".** [116]

Bidders are informed of the decision within 3 days from its issuance, at this point any losing competitor may appeal, pausing the distribution of awards, if they believe the decision to be unjust.[117] The appeal can be submitted either directly to the administrative courts or to the National Council for Complaints Solving (CNSC).

After the (eventual) appeals are solved, the procurement contract is signed by the representative of the contracting authority (the hospital manager / the president of the County Council / Mayor / Minister of Health) and the bidder declared winner.



3.1.2. State of Emergency Public Tenders Workflow

The state of emergency declaration due to the Covid-19 pandemic pushed state authorities to adopt **a new set of rules aimed at fastening the acquisition of medical equipment and materials, as well as medicines.** The possibility of the National Centralized Procurement Office (ONAC) to grant

[116] https://bit.ly/3bvpPBE.
[117] In accordance to art.215 para.1 from law no. 98 / 2016

framework agreements covering emergency product stocks, through an unpublished negotiation, was permitted (Governmental Ordinance no. 11/2020 amended by Law no. 20/2020).

On March 16, 2020, through Romanian Presidential Decree no. 195/2020, the right of the contracting authorities/entities (hospitals, ministries, public health departments) to directly purchase materials, medicines, and/or equipment needed to combat the Covid-19 pandemic was given, and the general threshold of 135,060 RON, excluding VAT, was removed (stipulated by Law no. 98/2016, article 7 para.5).

Following the issuance of this decree, the National Agency for Public Procurement (ANAP) held a press conference[118] where it explained that **during the state of emergency (and for the procurement needed to combat the COVID-19 epidemic), public procurement is carried out without the application of public procurement provisions provided for in Law 98 of 2016**.

> Decree no. 195 limits the application period of these legislative measures, taking into consideration their public procurement objective (materials, medicines and/or equipment needed to combat the Covid-19 pandemic), and issuing contracting authority.

Local authorities do not have the right to apply the direct procurement procedure, stipulated under Decree no. 195/2020. The aforementioned authorities may, on the other hand, apply direct acquisition for values not exceeding 135,060 RON (in compliance with Law no. 98 of 2016).

Acquisition Right Holders[119]:

Decree no. 195 sets different regulations on the acquisition process of equipment, materials, or medicines during the state of emergency, as follows:

- **Departments of Public Health** have the ability to purchase materials, through direct acquisition, but not equipment and medicines;
- **Sanitary Units** have the ability to purchase materials and medicines, through direct acquisition, but not equipment;
- **Central public authorities** have the possibility / right to purchase materials and equipment, but not medicines;
- **Legal entities in which the state is a majority shareholder** have the opportunity / right to purchase materials and equipment, but not medicines;
- **Ministries that have inhouse healthcare systems** have the right to conduct direct purchase of equipment, materials, or medicines.

Direct Acquisition Procedures:[120]

Following the issuance of Decree no. 195/2020 **a simplified procedure for tenders was put in place** (sole purpose: contracting medical equipment and other materials necessary in the fight against Covid-19). The procedure is “fast paced” and is initiated only by the completion / forwarding of a document highlighting the state of emergency.

[118] https://bit.ly/2VEgL84.
[119] In accordance to art. 28 from Presidential Decree no. 195 / 2020
[120] Following Presidential Decree no. 195 / 2020

Negotiation without publication / direct purchase may be used by any contracting authority for any public procurement necessary to fight the Covid-19 pandemic. However, three cumulative conditions[121] must be met:

- It is a strictly necessary measure;
- It is used during the periods when classic procedures cannot be accomplished due to extreme urgent reasons;
- The reasons for extreme urgency are determined by unpredictable events and are not due in any way to the action / inaction of the contracting authority.

The negotiation procedure without prior publication is launched by **sending an invitation to participate in the negotiations**, along with the award documentation, to one or, whenever possible, to several operators. Thereafter, **the contracting authority has the obligation to submit to SEAP the award notice, within 30 days from the conclusion of the public procurement contract/framework agreement.**[122]

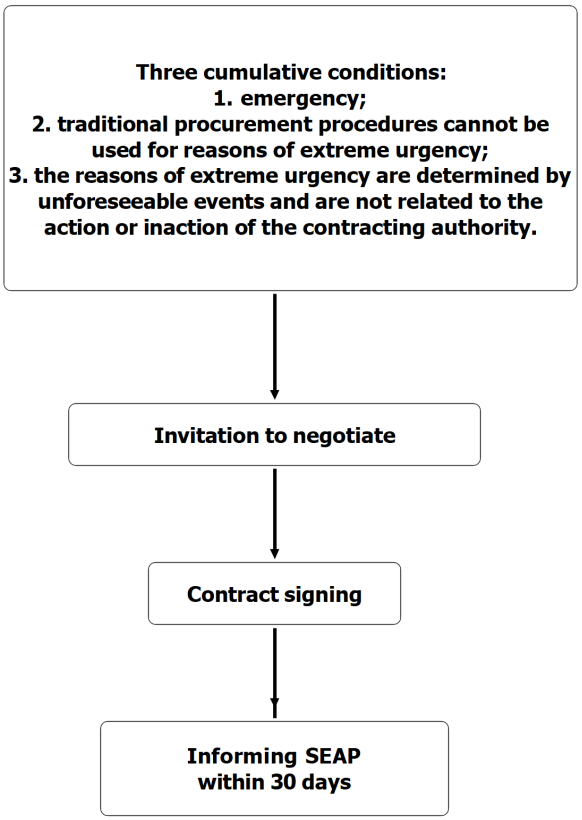
Considering the pre existing situation in the Romanian medical facilities, the state of emergency and the Presidential Decree no. 195/2020, **the use of the Unpublished Negotiation (Negotiation without publication) is recommended for the acquisition of equipment, materials, and medicines required in the medical system**.

In this regard, on April 1st, 2020, a set of recommendations and clarifications was published by the European Commission.[123] The European Commission, with respect to the use of the public procurement framework in SARS-CoV-2 related emergency situations, specifies that **EU directives do not contain procedural constraints, while also emphasizing on the negotiation without publication procedure**. **Effectively this creates a business opportunity for certain economic agents**.

Alternative for direct acquisitions, is the negotiation without publication process. In such cases authorities may acquire goods and services **without prior price requests on the market**.

[121] Article 104 para. (1) lit. c) of Law no. 98/2016
[122] Art. 94 of the Methodological Norms for the application of Law no. 98 / 2016 and art.145 of Law no.98 / 2016
[123] https://bit.ly/3c48eAv.

The following schematic depicts the simplified procedure.



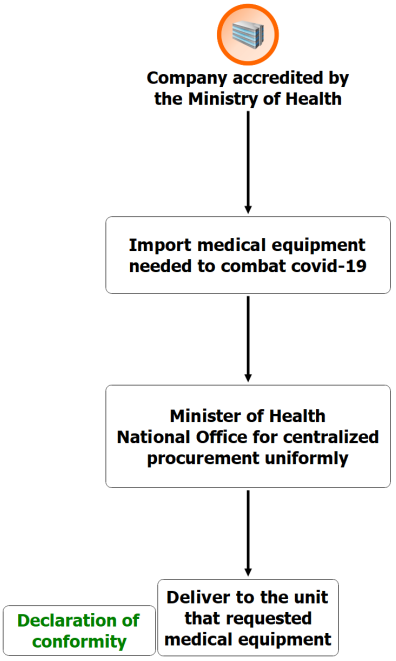
41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Medical equipment import. Sale or donation purposes:

The import of medical equipment is regulated by the Application Norms of Law no. 95/2006 regarding the reform in the health sector. These were issued on September 6th, 2019 and refer to the medical devices procurement.

The National Agency for Medicines and Medical Devices (ANMDM) is the specialized structure that applies the policies issued by the Ministry of Health in the field of medical devices. **ANMDM keeps a database containing all health care operators.**

Schematic representation of the import process:



A sponsorship/donation containing medical equipment of foreign origin can be performed via two distinct approaches:

A. Through **a company approved by the Ministry of Health.** Such a company shall thus import and deliver the medical equipment to the medical facility stated by the applicant;

B. Through a **monetary donation or sponsorship**. In this case, five steps must be followed:

1. A sponsorship contract is concluded with the beneficiary, in the form provided by Law no. 32/1994 / a donation contract is concluded with the beneficiary, in accordance with the provisions of article no. 985 of the Civil Code;

2. The amounts are transferred to the beneficiary (the medical facility), along with the specified purpose for the funds;

3. The Ministry of Health - ANMDM / National Office for Centralized Procurement / Unifarm SA issues an order to the external equipment supplier;

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

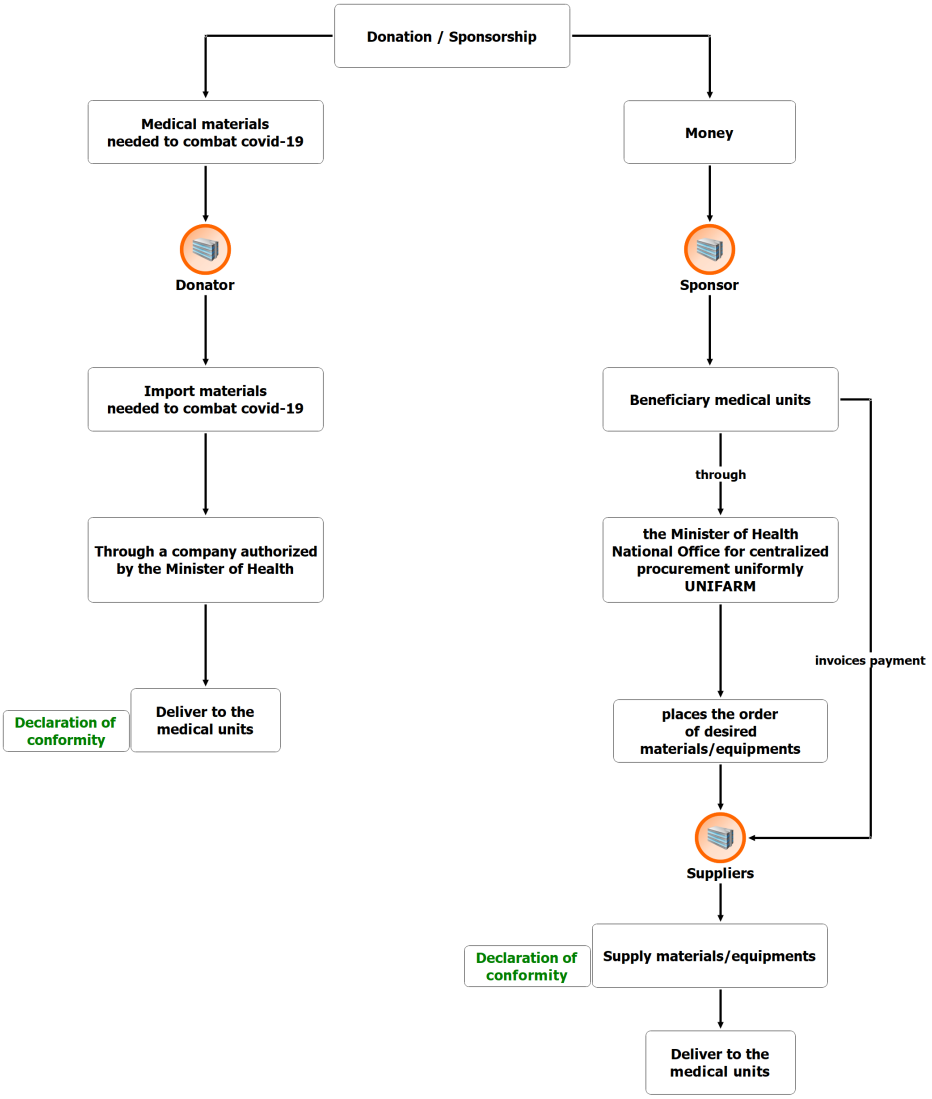
4. The equipment is delivered. During the transport period, the medical equipment must be accompanied solely by the CMR - document that justifies the purchase and the origin of the equipment, until the accounting documents are drawn up;

5. Drawing up the accounting documents related to the commercial relationship.

The importer can sell / donate first class medical equipment to medical facilities, only if they are accompanied by a Declaration of Conformity.

For Class I medical devices, the Declaration of Conformity must contain information on the identity of the manufacturer, the raw material used, the risk class in which they fall and the standards complied with.

Schematic representation of the donation / sponsorship process:



According to human sources approached within central administrative units, **the Emergency Department (DSU) is centralising all the medical equipment and medicines necessities, whilst contracting foreign suppliers to order these products.**

Health minister Order no. 537 of March 31st, 2020 for the completion of Order no. 1009/2016 regarding the registration of medical devices in the national database, applies to low classes of equipment. According to the aforementioned, **the registration of these medical devices is exempted**, shall they ensure the prevention and treatment of the illnesses triggered in the state of emergency context.

The Romanian Standardization Association (ASRO) offers free temporary access to Romanian standards for products indispensable in the current situation: simple filter masks, medical gloves, and protective clothing to all those interested. Romanian standards are identical to those in the European Union.

> In addition to this, those interested in carrying out laboratory tests / verifications regarding products they intend to place on the market, may address requests to the institutions nominated by the Military Ordinance no. 4 issued on March 29th, 2020.
>
> For the approval / authorization of medical devices during the state of emergency the following institutions may aid in the process: the Research Agency for Military Techniques and Technologies, the Medical-Military Scientific Research Center and the CBRN1 Defense and Scientific Research Center for CBRN1 Defense and Ecology.

Government Order no. 537 of March 31, 2020 is based upon Recommendation (EU) 2020/403 of March 13, 2020 on conformity assessment and market surveillance procedures issued by the European Commission. The Commission invites all economic agents, and notified bodies and market surveillance authorities, to use all available measures to support the efforts to secure the necessary medical devices with the amendment that **these measures should not have a negative impact on the general health and safety level**.

Business opportunities are being seized by several entities through the conversion of production lines.

Given the Covid-19 pandemic, sources from the business environment indicated that, **recently, there have been several requests from the domestic producers to obtain technical specifications and information on the raw material used and the lists with the suppliers of raw materials / subassemblies**. They may start the production process of medical products.

> In this regard, the ANMDM issued a statement mentioning that it does not possess the requested confidential information, while the equipment is being placed on the market under the responsibility of the manufacturer, based on the EC declaration of conformity.
>
> The requirements regarding the design, manufacture and market placement of medical devices are regulated by Governmental Ordinance no. 54/2009, which transposes the EU Council's Directive 93/42/EEC on medical devices.

Even though, as a whole, the Romanian Healthcare System is coping with the Covid-19 pandemic, some legislative faults could be beneficial to interested parties. **In terms of acquisitions, "State of Emergency" procedures might facilitate frauds**. **This does not represent a system vulnerability, but rather "loopholes" that are postulated by private entities / individuals.**

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

3.2. Short Case Studies

1. **Acquisition of protection gear:**

A contract for acquisition of 1,750,000 FFP2 and FFP3 protection masks, with a total value of 56,016,250 RON (around €11.5 million) was obtained by a company from Uzunu commune, Giurgiu county. **The aforementioned company lacks experience in the health protection equipment domain**.

Publicly available data indicates that this led to serious consequences in the political field**,** including the alleged contribution to the Health Minister resigning**.**[124]

Our extensive research indicated that the contract beneficiary, Romwine and Cofee SRL (Fiscal Code 40789583), has its headquarters in Uzunu Village / Calugareni, 12 Invatatorului Street, Giurgiu County. The sole shareholder and company director is Maria Cristian (born on July 17th, 1963), a kitchen worker at "Hanul Calugarenilor" (low level job).

The restaurant is owned by Robertino-Catalin Hideg (born on November 19th, 1969), a well-known investor in the private medical sector, owner of Sanimed International Impex SRL (Fiscal Code 15995515). Robertino-Catalin Hideg admitted the connection with Romwine and Cofee SRL / Maria Cristian while being interviewed by Silviu Manastire (B1 TV station national broadcast).

Furthermore, Hideg admitted that Romwine and Cofee SRL is part of Sanimed International Grup SRL (Fiscal code 13756449), despite the lack of public / official records confirming this.

Robertino-Catalin Hideg's social media accounts indicate his friendship with Cornelia Nagy, the latter being connected with all three profiles belonging to the Nagy family. Cornelia Nagy is the President of Centralized Acquisitions National Office (ONAC), governmental body responsible with direct awards during the pandemic period.

> Additional open sources analysis pointed out that Robertino-Catalin Hideg is in close relations with both the Social Democrat Party (PSD), through Niculae Badalau, Giurgiu County senator and with the National Liberal Party (PNL), through Andrei Baciu, state secretary within the Health Ministry (former Health Minister proposal in Dacian Ciolos' cabinet).

State authorities, mainly **the National Anticorruption Directorate, took a stand in this regard and the issue is being investigated.**[125]

2. **Unjustified price increase / market speculation:**

A fraud attempt involving OK Medical SRL (Fiscal Code 33860605)[126], allegedly represented by Mihail Lala.[127] This attempt was aimed at **deceiving clients into buying a so-called "COVID Rapid Test"**.

> According to public records, Mihail Lala has no official involvement in this company, which is steered by Daniel-Niculae Bartus and Iuliana Dogaru, acting on behalf of the sole shareholder, Rom Medical Services

[124] https://bit.ly/2UVilAT.
[125] https://bit.ly/2JG9zl7
[126] https://bit.ly/3dLOzqN
[127] https://bit.ly/2UXHN8C

LLC, Florida, US (Fiscal code L14000172259). The company has logistical assets deployed in Romania and is headquartered at 39-41 Nicolae Filipescu Street, Floor 5, Bucharest, Sector 2, Romania.

Publicly available data revealed that Mihail Lala has previously emerged to public opinion's attention (in December 2019), when he announced that, along with an Israeli company and in partnership with Politehnica Bucharest University, plans to develop an earthquake prediction project, capable of notifying it 8 hours prior to its occurrence.[128]

Clients were requested to pay 179 RON (approximately $40) for a test and were advised to repeat the test two or three times for "certainty". Due to massive negative comments regarding the price, the company immediately dropped it to 98 RON (approximately $22).

The so-called "COVID Rapid Tests", imported from China, were produced by Core Technology Co., Ltd, Beijing[129] and available online for prices ranging from $4 to $4.8.

The testes were initially designed to test AIDS / HIV and had prices ranging from 0.90 RON to 2.70 RON ($0.20 - $0.60).

Romanian authorities (Prosecutor's Office and Police) intervened and confiscated around 10,500 tests from OK Medical SRL at locations in: Bucharest, Galati, Cluj-Napoca, and Constanța.[130]

3.3. Additional Measures

In addition to the above, **green light was given, under extraordinary regulations, to local companies to resume or start production of "special goods"** vital to overcome the current Covid-19 pandemic.

Perfume and body care producer **Farmec from Cluj-Napoca switched from its current production to making biocidal products and disinfectants**. As we speak, the monthly production of 500 metric tons is already contracted until June, 2020 - mainly by state authorities.

The **Ministry of Defense** managed to design and produce an **Evacuation System for Personnel Infected with Biological Agents (BIOEVAC)**, cheaper than those imported.[131]

Two companies from the Romanian defense industry, **Pro-Optica and Romanian Optical Enterprise (IOR)**, **designed and will soon start producing a thermal scanner.** This might be used for separating access flux for people with higher temperature or to issue warnings in case body temperature exceeds the fever limit.

All of the above may represent business opportunities for export. Given the low cost of production, once Romania has moved on from the SARS-CoV-2 crisis, other countries might require the subject items of interest.

Minister of Economy, Virgil Popescu, mentioned the desire and intent to convince the manufacturer **Dacia - Renault to convert part of its production in order to produce mechanical ventilators**,

[128] https://bit.ly/2ytAeiG
[129] https://bit.ly/2JwqyWR
[130] https://bit.ly/2R5JboE
[131] https://bit.ly/2wiyY19

needed in ICUs to treat the severe cases of SARS-CoV-2. This intention is following international trends.[132]

> Other initiatives were those of "printing" mechanical ventilators, using 3D printer technology or producing facial masks at the Braiconf textile factory.[133]

Data obtained from people involved in the processes indicates that production cycle changes are being currently evaluated in the Romanian Defense industry companies (e.g. **ROMARM)**. Production of protection gear in ROMARM has already been approved.[134]

[132] https://bit.ly/3bWmjjC
[133] https://bit.ly/3aKDbtu
[134] https://bit.ly/2UYgBYZ

4. Conclusions

The Romanian Healthcare System is controlled by the state, through the Ministry of Health and its related institutions, while most of the medical facilities' income, in addition to governmental funds, is raised from the services provided and settled by CNAS.[135]

The backbone of this system is the network of 515 hospitals, evenly distributed throughout the territory and directly proportional to the population size covered.

Most hospitals are not multidisciplinary, this fact bringing advantages in situations, such as the current pandemic. They are administered by a general manager,[136] who usually lacks medical training and is often politically appointed, and a medical director, with medical training.

In Romania the private branch of the healthcare system is currently developing, presently accounting for less than a quarter of the national system.

Due to the insufficiently modernized infrastructure and the population's increased needs for medical services (caused by an advancing elderly population), the state has to settle through CNAS medical services provided by private units, while also boosting their profitability rate. **However, there is still a large gap between the private system medical diversity and the one in the public facilities (with the latter containing a higher number of services).**

The increased demand for medical services translates to an increased demand for medicines, therefore resulting in **a good business potential for the already vast pharmaceutical sector**.

Romanian medical facilities have approximately 276,000 employees, with an yearly average of approx. 8,500 new persons in the system. Nonetheless, **medical personnel are constantly faced with the dilemma of remaining in Romania or immigrating to foreign states where they would obtain higher incomes and better working conditions**. Up to present, around 15,000 doctors have left Romania, which has led to an average of 343 inhabitants / doctor, much higher than the European average of 277 inhabitants / doctor.[137] According to official statistics, this means almost a **17%**[138] **deficit of medical personnel in Romania**.

According to trustworthy statistics and assessments, **the Romanian Healthcare System is one of the least efficient in the EU**, facing various problems ranging from underfunding, inefficient management, insufficient equipment, high risk of infections, lack of accessibility, discrimination, and lack of prevention efforts.

[135] (Rp. Casa Națională de Asigurări de Sănătate) National Health Insurance House
[136] https://bit.ly/3bdgTR8 - example of job requirements for general manager position
[137] https://bit.ly/2RXXWdL; https://bit.ly/34UhBRb
[138] https://bit.ly/3cHHW7M

4.1.Risks & Vulnerabilities

The pressure generated by SARS-CoV-2 and its accompanying illness is managed by the Romanian Healthcare System through the "White Plan", complementary measures being taken at the societal level, according to the scenarios defined by the authorities.

Developed by the Ministry of Health, the plan designates the Covid infected treatment hospitals by stages (stage I - infectious disease hospitals, stage II - pneumology hospitals, and after the plan update also emergency / pluridisciplinar hospitals), along with the support hospitals, mainly intended for asymptomatic or mild Covid-19 infections, and private hospitals.

While the virus was spreading throughout Romania, **the efficiency of the "White Plan" was limited by the vulnerabilities of the healthcare system**, including inefficient communication in the decision-making chain (central - local), low response level, protocol non-compliance, social distancing norm violations (especially by those returning in the country from areas seriously affected by the pandemic, such as Spain, Italy, and Germany).

Infrastructure vulnerabilities, such as insufficient hospital endowment, especially of the intensive care units (1,337 ventilators continue to be needed to equip each intensive care bed in the country) **and the lack of separate circuits in multidisciplinary hospitals generates multiple risks**, from virus spreading to healthy patients to the impossibility of treating all patients who require mechanical ventilation (vital aspect for approx. 2.5% of the infected individuals, who develop severe forms of Covid-19).

Ignoring the problems generated by some health system employees, such as poor management, lack or delayed protocol creation (of clear and efficient content), protocol non-compliance, ignorance, irresponsibility, and improper use of the protective equipment have **turned into vulnerabilities that dragged on through the years and surfaced in these critical moments**.

The main risk, derived from these behaviors, is the virus spreading among healthcare professionals and, further, to their families and in the community.

These problematic aspects were aggravated by the patients' tradition to use emergency / multidisciplinary hospitals for any type of medical issues, thus generating a large flow of patients to these facilities. This, along with the fact that support hospitals did not have protection equipment, led to the creation of local / regional outbreaks of Covid-19, along with the quarantine of many such facilities.

The lack of preventive action at the authorities' level, generated by the lack of funds and the existence of fictitious stocks, made the necessary equipment procurement orders delayed, at a time when a significant number of worldwide requests were already in place.

Isolated protests by the medical staff and even (a very limited number of) resignations were generated by the lack of protective equipment in the medical facilities.

Because the Romanian Healthcare System was at risk of being overwhelmed by the Covid-19 pandemic if the necessary equipment and vital technique were not provided in a timely manner to the medical facilities, **the authorities decided to implement a social distancing policy**. **The results are**

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

generally positive, but the demand for equipment and technique is still present, until the end of the crisis.

4.2. Opportunities

Both the Romanian authorities and the medical industry companies, or industries capable of providing support in the fight against the pandemic, can use the advantages offered by the Presidential decree establishing the state of emergency, to benefit themselves and the community. This can be achieved by using the newly established advantages: **direct acquisitions without a minimum threshold and the implementation of the unpublished negotiation procedure.**

Direct acquisitions can be made in a simplified procedure, without taking into account the regular minimum value threshold. ONAC, DSP, health units, central public authorities, legal entities in which the state is a majority shareholder, and ministries with their own health system are the sole entities entitled to use this procurement measure in the simplified manner.

The unpublished negotiation procedure can also be used by public authorities, including those exempt above. The cumulative observance of three legal conditions is required: the existence of strict necessity, the use of classic procedures is not possible due to extremely urgent reasons, and these reasons must be determined by unforeseeable events (provable in the Covid-19 pandemic case), that are not attributable to the contracting authority.

The current state of affairs, which includes the benefit of simplified procurement procedures, is favourable both for conducting on-spot transactions and for establishing medium to long-term business relationships.

It is necessary to operate communication channels, both centrally and locally, between private companies able to provide solutions for the needs of the health system (such as of protective equipment, biocidal substances, intensive care equipment or other complementary elements - modular bodies / tents / additional critical care beds) and medical facilities / emergency situation management bodies.

Companies that can convert their production capabilities to provide the equipment needed to manage the pandemic should act similarly, by establishing communication channels and identifying the needs of the health system. Such examples can already be found at a national level, in established cases (companies from the defense industry, textiles, etc.), as well as in ongoing discussions (companies of the auto industry). This is a win-win opportunity, with the product payment being made by the beneficiaries, while, and most importantly, obtaining the fastest delivery possible.

The supply of new, non-certified products / equipment, also benefits from a simplified approval procedure, carried out with the support of the Ministry of Defense, in order to aid businesses to produce and supply the necessary merchandise in due time.

Donations / sponsorships of either money or equipment of internal origin can be fulfilled directly to medical units. On the other hand, shall the equipment be of foreign origin, then two approaches might apply: first, its import is performed through a company licensed by the Ministry of Health, followed by the direct delivery to the medical facility or second, through a donation / sponsorship contract, followed

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

by the procedure continuation by state institutions. The delivery of the equipment should be accompanied by a declaration of conformity.

Private companies can initiate corporate social responsibility (CSR)[139] campaigns, providing support to the state institutions involved in fighting the pandemic, while also capitalizing their actions for marketing purposes.

Entities from the NGO sector[140] are actively involved in campaigns that support medical facilities, by purchasing useful goods. Such actions are extremely useful for the product suppliers too, increasing their profitability.

The context of the current crisis allows an analysis and reassessment of the Romanian Healthcare System, to be performed both by the authorities and the private investors, thus allowing the identification of improvement / consolidated points, as well as of the business opportunities capable of supporting the medical system.

4.3. Action plans

The cooperation between state authorities and private entities should be intensified, with the situation carefully assessed, by both sectors from multiple central and local sources.

Geographical evolution of the pandemic and the local availability must be considered by **the authorities when prioritizing their resource allocations**. At the same time, the **companies** interested in providing services and / or merchandise must carefully monitor the development of the situation and demonstrate a proactive behavior.

The process of obtaining contracts is more accessible than ever during the state of emergency period, especially if the existing technical attributes and know-how are in line with market requirements.

Private companies must understand that **the main concern in today's public contracts is the delivery guarantee and the merchandise obtainment, and not necessarily the price.** Notwithstanding, after the conclusion of the current situation, contracts shall be verified and **over-evaluated transactions shall subsequently be scrutinized by the authorities, including potentially by the anti-corruption ones.**

On the other hand, **state public procurement decisions must be based upon effective analyzes and a comprehensive and correct understanding of the value of the products,** to ensure an optimal public spending.

The state must focus on **the strict separation of the hospital circuits** in the facilities provided in the "White Plan", so as to reduce the contamination risk to healthy patients.

Both public and private actors must implement public policies or business plans to facilitate operational stability and future development, as well as post-pandemic economic recovery.

[139] Corporate Social Responsibility
[140] Non-governmental organisation

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM

Information is key and it is essential to obtain personalized reports on the impact of the crisis in each field of interest so as to support management and development decisions. The constant flow of information will provide sustainability, which can keep businesses and the workforce active and productive.

Companies should evaluate their potential and market position and identify manners in which they can adapt their activity, products, and services to overcome the present crisis. **Private companies that will convert their production lines** to provide the necessary elements for the medical sector have the chance to obtain significant contracts and also **to reduce their employees' exposure to unemployment.**

The reaction speed and the ability to adapt are the most important factors that companies should consider to minimize losses or maximize profits in the context of the Covid-19 pandemic. Analysing one's own challenges, as well as those that impact market / sector competitors, along with the crisis evolution and public correspondent measures, may be **the key to optimal results in a disturbing period.**

INTERDILIGENCE expresses its availability for further cooperation on diverse topics related to business intelligence and risk management, ranging but not limited to: business risk assessment, market / industry analysis, economic investigations, "big data" analytics and "ediscovery", intelligence assessment and scenario building in negotiations, relational systems analysis and multidisciplinary solutions design, investigations and analysis regarding public manipulation through fake news spreading.

41-43 ANA DAVILA STREET, BUCHAREST | +40 731 837 448 | CONTACT@INTERDILIGENCE.COM