# Summer Internship

# At

# IIHMR, Delhi (April 1 to May 31, 2020)

## A Report

## By

**Ritika Kadian**

## Post-graduate Diploma in Hospital and Health Management

## 2019-2021

IIHMR DELHI | INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH

# CONTENT


1. Certificate of Acknowledgement……..3
2. Certificate of Declaration……4
3. Certificate of Completion……..……5
4. Certificate of Approval……6
5. Feedback Form……7

❖ CASE STUDY ON SIR GANGA RAM HOSPITAL, NEW DELHI

6. Sir Ganga Ram Hospital – Organisational Structure & Operations ….....8
   i. Objectives ……..9
   ii. Methodology ……9
   iii. Introduction ……..10
   iv. Organogram……..10
   v. Leadership ……11
   vi. Communication Channels & Strategies ……12
   vii. Roles & Responsibilities of Team ……..12
   viii. Services and Programme Innovation & Path Breaking Initiatives ……13
   ix. Local & Global Reach……..15
7. Sir Ganga Ram Hospital – Role in Communicable & Non Communicable Disease..16
   Prevention……..16
   i. Tobacco Cessation Clinic……16
   ii. ENT Cancer Clinic……..16
   iii. Gynae Oncology Clinic……16
   iv. Diabetic Foot Care Centre……16
   v. Paediatrics Endocrinology Clinic ……....17
   vi. Hyperlipidaemia Prevention Clinic……...17
   vii. Yoga Life Style Clinic……18

❖ HEALTH SYSTEM RESPONSIVENESS OF EUROPEAN COUNTRIES AGAINST COVID-19 PANDEMIC (Research Paper)

i. Research Question……...20
ii. Introduction……....20
iii. Aim of Study…….....20
iv. Methodology…….....20
v. List of Indicators……..22
vi. Results…….....23
vii. Result tables…….....24-26
viii. Result graphs……....27-29
ix. Discussion…….....29

8. References……....30-31

# ACKNOWLEDGEMENT

**I would like to extend my heartiest thanks with a deep sense of gratitude and respect to my mentor, Dr. Sutapa Bandyopadhyay Neogi, who provided me immense help and guidance throughout the report preparation. I would like to thank her for providing me a vision about the research methods and by giving out regular critical reviews, motivation and inspiration throughout my work.**

**I am glad to acknowledge Prof. Shankar Das, Director, Prof (Dr.) Pradeep Panda Dean, Academic and Students' Affairs, and IIHMR, Delhi for incorporating right attitude into me towards learning and for helping and supporting whenever required.**

**Lastly, I would like to acknowledge my lovely parents and siblings for helping and supporting me in staying positive throughout the Lockdown period of COVID-19.**

**Ritika Kadian**

**Postgraduate Diploma in Hospital and Health Management**

**International Institute of Health Management Research**

**New Delhi**

# DECLARATION

I, **Ritika Kadian**, hereby declare that this Internship Assignments entitled

a. **Sir Ganga Ram Hospital – A case study**
b. **Health System Responsiveness of European Countries against COVID-19 Pandemic – Region Specific Comparative Study**;

is the outcome of my own study undertaken under the guidance of **Dr. Sutapa Bandyopadhyay Neogi**, IIHMR-New Delhi. It has not previously formed the basis for the award of any degree, diploma, or certificate of this Institute or of any other institute or university.

I have duly acknowledged all the sources used by me in the preparation of this field internship report.

**Date: July 4, 2020**

**Sign:** 

**Postgraduate Diploma in Hospital and Health Management**

**International Institute of Health Management Research**

**New Delhi**

# CERTIFICATE OF COMPLETION

The certificate is awarded to

**Name – RITIKA KADAIN (PG/19/071)**

In recognition of having successfully completed her/ his Internship in the department of

**Title** _____

and has successfully completed her/his Project on

**Health System Responsiveness of European Countries against COVID-19 Pandemic**

**Date**_____

**Organisation** _____

She/ He have found to be a committed, sincere and diligent student who has a strong drive & zeal for learning.

We wish him/her all the best for future endeavours

**Dean- Academics & Student Affairs** **Mentor Name & Signature**

# CERTIFICATE OF APPROVAL

The following Summer Internship Project titled **"Health System Responsiveness of European Countries against COVID-19 Pandemic"** at **International Institute of Health Management Research** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the report only for the purpose it is submitted.

**Name of the Mentor: Dr. Sutapa Bandyopadhyay Neogi**

**Designation: Public Health Specialist**

**IIHMR, Delhi**

# FEEDBACK FORM

**Name of the Student: Ritika Kadian**

**Summer Internship Institution: International Institute of Health Management Research, New Delhi.**

**Area of Summer Internship:**

**Attendance:**

**Objectives met:**

**Deliverables:**

**Strengths:**

**Suggestions for Improvement:**

**Signature of the Officer-in-Charge (Internship)**

**Date:**

**Place:**

# CASE STUDY ON
# SIR GANGA RAM HOSPITAL, NEW DELHI

# ***Sir Ganga Ram Hospital, New Delhi – Organisational Structure & Operations***

**CONTENT:**


1. Objectives
2. Methodology
3. Introduction
4. Organogram
5. Leadership
6. Communication Channels and Strategies
7. Roles and Responsibilities of Team
8. Services & Programme Innovation and Path breaking Initiatives
9. Local and Global reach
10. References


## 1. OBJECTIVES:

- ✓ To learn about the organizational structure and operations of Sir Ganga Ram Hospital, New Delhi.
- ✓ To understand the Organogram of the hospital.
- ✓ To learn about the Leadership of the hospital.
- ✓ To learn about and understand the Communication Channels and Strategies of the hospital.
- ✓ To learn about the Roles and Responsibilities of the hospital.
- ✓ To understand the Services & Programme Innovation and Path breaking Initiatives of the hospital.
- ✓ To learn about the Local & Global Reach of the hospital.

## 2. METHODOLOGY:

**All the information mentioned in this case study has been studied through the website of Sir Ganga Ram Hospital (https://sgrh.com/). As the website of any organisation does not upload their HR Policies online, I was unable to mention them in this case study. In order to know about the HR Policies I even tried to contact the HR department phone numbers, but I was unable to connect with them as the calls were not received.**

## 3. INTRODUCTION:

Sir Ganga Ram Hospital, a 675-bed multi-speciality state-of-art Hospital, provides inclusive Healthcare India services, and is one of the renowned medical institutions of India. It has a reputation of providing the highest level of medical services in Delhi and neighbouring states as the hospital has maintained nearly 100% bed occupancy. The hospital was founded in 1921 at Lahore by Sir Ganga Ram (1851-1927) who was a civil engineer and leading humanitarian of those times. The foundation was laid by then Prime Minister of India Shri Jawahar Lal Nehru in April 1951 and inaugurated by him on 13 April 1954.

Sir Ganga Ram Hospital, with the wishes of its founder, continues to maintain its charitable spirit. The hospital utilises some of the funds generated for providing free healthcare to poor and deprived patients. All development activities of the hospital are financed through internal resources, with no financial assistance provided by government or any other external entities.The hospital is governed by a Board of Management compromising reputed medical consultants, some with an international standing as well. Sri Ganga Ram Trust Society governs and operates the Board of Management.

Sir Ganga Ram Hospital is dedicated to provide 20% beds of total strength to admission of native, poor and financially weaker section of the society. All facilities like boarding, lodging, investigations, medicine and operative procedures are free for these 20% beds. In addition to that the hospital is running regular OPDs for all disciplines where patients are seen free of charge (first come, first serve).

The Quality Team adapts a holistic approach to long term success that views continual improvement in all aspects of an organisation as a process and not as a short term goal. It aims to fundamentally convert the organisation through progressive changes in the attitude, practice, structure and system, keeping patient first and patient safety as its supreme objective.

## 4. ORGANOGRAM

The website of Sir Ganga Ram Hospital does not mention about the organogram or the organisational structure of the multi-speciality hospital, but from the administration chart (given in the website) it could be presumed that the hospital would have **a Functional Organisational structure.**

- In **Functional organisational Structure** the departments are grouped according to their functions like: General Administration, Medical Administration, Nursing Administration, Human Resources, Informational Technology, Finance and others. In this structure each department has a team of specialised men with a specialist head.
- **Advantages** – Functional Organisation has the advantage of specialization; and every individual concentrates on their own functions and gets expert advice and assistance.
- **Disadvantages** – Line of authority is not clear; and in absence of unity of commands, coordination and control may also hamper.

Sir Ganga Ram Hospital has a Board of Directors and this Board work various groups of specialized men and women under different departments. The Organogram could be seen in diagram 4.1

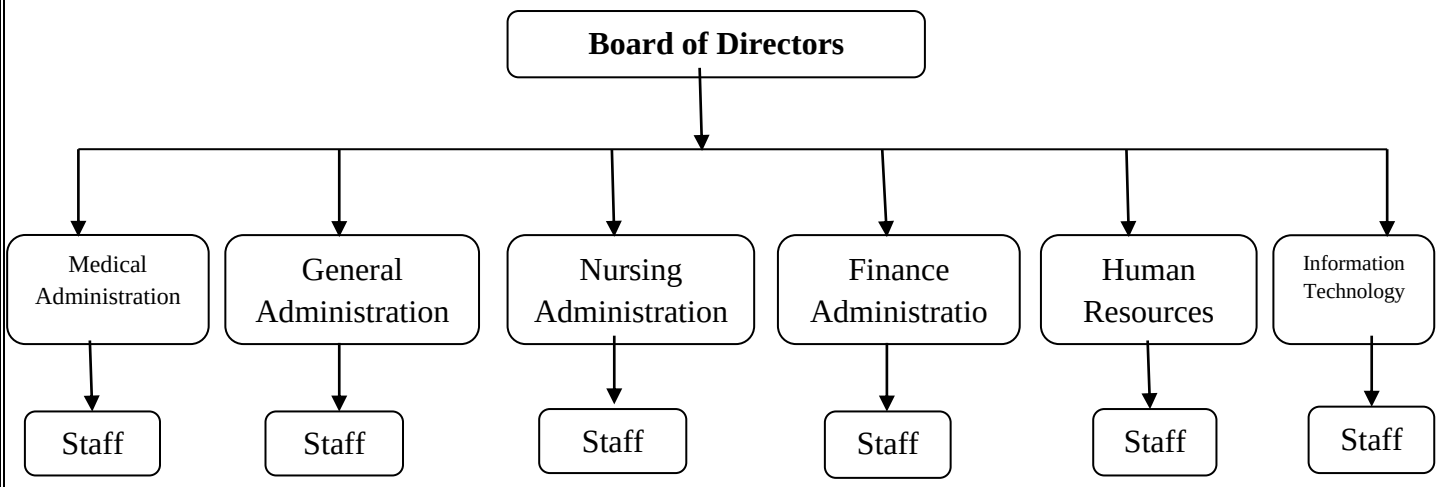



**Diagram 4.1 – Organogram**

## 5. LEADERSHIP

Sir Ganga Ram Hospital has some renowned doctors as leaders in its Top Management Panel.

- *Trustees*–
  i. Shri Ashok Chandra – Chairman
  ii. Shri Shiv Ram – Vice Chairman
  iii. Mrs. Sujata Sharma – Honorary Secretary
  iv. Mrs. Hema Siddartha Chand – Honorary Treasurer
  v. Mrs. Vinita Chopra – Honorary Jt. Secretary

- *Board of Directors-*
  i. Dr. D.S. Rana – Chairman
  ii. Dr. S.P. Byotra – Vice Chairman
  iii. Dr. Ajay Swaroop – Honorary Secretary-cum-Treasurer
  iv. Dr. Jayshree Sood – Honorary Jt. Secretary

- *Medical Administration-*
  i. Dr. Reena Kumar (MBBS, MHA-AIIMS) – Addl. Director Medical Services
  ii. Dr. (Brig.) S.Katoch (MBBS, MD, Hospital Administration PGDM) – Addl. Director Medical
  iii. Dr. Sunita Sunda (MBBS, PGDHHM, MBA- HCA) – Jt. Medical Superintendent
  iv. Dr. Suchita Katoch (MBBS, MBA-HCA) – Jt. Medical Superintendent
  v. Dr. Ruby Sahney (MD, MHA, MPH) – Deputy MS

- *Finance Administration-*
  i. Mrs. Radha Gupta – Finance Controller
  ii. Mr. Rakesh Bansal – Senior Accounts Officer
  iii. Mr. Ekta Gupta – Senior Finance Executive

- *Nursing Administration-*
  i. Mrs. Karuna N.Karnik – Deputy Nursing Superintendent
  ii. Mrs. R.Sapra – Principal, School of Nursing

## 6. COMMUNICATION CHANNELS AND STRATEGIES

Sir Ganga Ram Hospital has various communication channels:

i. Face book – https://www.facebook.com/OfficialSGRH
ii. Twitter - https://twitter.com/sgrhindia
iii. LinkedIn - https://www.linkedin.com/in/sir-ganga-ram-hospital-india-a05421167/
iv. CMRP Journal – Current Medicine Research and Practice https://www.sciencedirect.com/journal/current-medicine-research-and-practice

➢ **Strategies:**

- **Mission-** Sir Ganga Ram hospital is committed to provide world class healthcare, teaching, training and research by a team of highly qualified doctors, dedicated nurses, Para-medical and non-medical staff with the help of state-of-the-art diagnostic, therapeutic services in a comfortable caring and safe environment at an affordable cost to all sections of society including free treatment to the economically weaker section as per vision of the founder.

- **Vision-** To be leaders in healthcare delivery, medical education, training & research and to meet the changing expectations of the community.

- **Future Plans-** Sir Ganga Ram Hospital, with its wide range of achievements and activities, have some future plans as follows:

**i.** To set up a well equipped Cancer centre with all modern equipments including deep X-ray therapy, linear accelerator, treatment planner, bone-marrow transplant treatment.
**ii.** To upgrade and advance the facilities in Gastroenterology, surgical Gastroenterology, Neurology, Neurosurgery, Vascular surgery, IVF and Joint replacement centre.
**iii.** Addition of a new building in order to provide more space for OPDs - private & general, better office space and hence for more free beds.
**iv.** A state of art auditorium.
**v.** A whole new block for contemporarily designed operation theatres to replace existing ones and for a fully equipped post operative Intensive Care Unit.
**vi.** Construction of a multi storey Automatic Car Parking area.

## 7. ROLES AND RESPONSIBILITIES OF TEAM

Sir Ganga Ram Hospital is a tertiary care and charitable generous super-specialty hospital, with firm assurance towards excellence in providing quality, ethical and affordable healthcare to all sections of society with equal stress on integral components of medical education and research. These commitments are achieved by:

a) Attracting more prominent medical professionals, who would develop each specialty as a Centre of Excellence in its field.
b) Treating each and every patient with respect, empathy and dignity.
c) Providing free-in and free-outpatient medical facilities to the economically weaker sections of the society and organising community outreach programmes and camps to increase awareness.
d) Conducting research, providing academics and providing structural training to medical and paramedical professionals and post-graduate students.
e) Acting and working in accordance with all legal requirements.
f) Ensuring occupational health and safety standards and protecting our environment.
g) Complying with requirements of NABH, NABL – ISO15189:2007, ISO 901:2008, ISO 14001:2004 and ISO 18001:2007.
h) Working towards constant quality improvement, patient safety and patient satisfaction.

## 8. SERVICES AND PROGRAMME INNOVATION & PATH BREAKING INITIATIVES

- **Achievements:**

Sir Ganga Ram hospital believes that their biggest achievement lies in the happiness and satisfaction of their patients. The hospital has achieved success in terms of academics and research:-

1) Very first whole body CT scan unit in Delhi.

2) Department of Nephrology and Renal Transplantation: One of the leading centres of country with active dialysis programme. Pioneers in CAPD programme in India. Major renal transplantation centre with over 650 live related transplants in 10 years.

3) Department of Minimal Access Surgery: First dedicated unit of South Asia. One of the surgeons holds international distinction of the largest number of endoscopic surgical procedures done by the single individual.

4) Department of Vascular Surgery: First dedicated vascular surgery Indian unit in North/Central India with a large number of arterial bypass and endarterectomy procedures.

5) Department of Orthopaedics Surgery: Distinction of having first bone bank in India.

6) Department of Surgical Gastroenterology: India's first unit in the private sector performing complex surgical procedures on the Pancreas, Liver and Gastro-intestinal Tract.

7) Department of Ophthalmology: Pioneers in phacoemulsification technique under topical anaesthesia.

8) In Vitro Fertilization Unit: Established in 1991, this unit has the highest success rates in the country with pregnancy rates of 25%.

9) Department of Paediatrics and Paediatric Surgery: First department in private sector to develop paediatric sub-speciality services. The neonatology unit is the busiest in the private sector.

10) Department of Homeopathy: Furthering the concept of holistic medicine, Sir Ganga Ram Hospital started a department which is one of its kind in a multi-speciality private hospital.

11) Department of Genetics: It is the leading unit in the country performing genetic studies and providing counselling.

12) Department of Gastroenterology: Leading centre performing wide array of endoscopic procedures.

13) Department of Cardiac Surgery: Dharam Vira Heart Centre has one of the highest incidences of Off Pump Surgeries in the country at 96.2%of total coronary artery bypass surgeries, including total arterial revascularisation, sequential arterial grafting and "Y" and "T" grafts.

14) Department of Academics: In order to keep abreast with the latest developments in the field of medicine and to impart the latest information to students and consultants, the hospital created the department to raise standards of training, patient care and research.

- **Welfare Activities:**

**i.** Sir Ganga Ram Hospital continues to maintain its charitable character with the wishes of its founder. As mentioned in the introduction, the hospital is dedicated to provide 20% beds of the total strength of admissions to financially weaker sections of the society.

**ii.** The funds generated from the hospital are partially utilised to provide free healthcare services to the poor patients. The government or any other external bodies are not involved in the hospitals funding and the hospital is hence financed from the internal resources only.

**iii.** Sir Ganga Ram Hospital also has a specialised outpatient department for all disciplines in which patients are not charged and are seen free of cost (these facilities are strictly provided on first come-first basis)

- **Virtual OPD:**

A virtual OPD has also been started, in order to provide care to the patients. Sir Ganga Ram Hospital's virtual OPD is a web medical consultation service that gives access to the best doctors in the medical talent and technique through a simple online registration process. Similar to a medical clinic, one can now consult a specialist doctor on the virtual OPD clinic (especially at such times of Global Pandemic)

Benefits:

i. Quality medical care is just a click away.
ii. Consult the finest doctors from home or office.
iii. Saves time, expense on travel and also saves from unwanted medical infections.
iv. Convenient and comfortable Medical consultation.
v. Consultation of treatments from India's renowned doctors.
vi. Hassel free and simple registration process.

## 9. LOCAL AND GLOBAL REACH

**Local -** Sir Ganga Ram Hospital is locally recognised by various organisations and institutions including Corporations/ Public sector/ Private sector/ insurance/ TPA companies/ Diplomatic missions. Some of the organisations are:

- ✓ Air India Ltd.
- ✓ Bank of Baroda
- ✓ Bharat Petroleum Ltd.
- ✓ Cement Corporation of India
- ✓ Oil & Natural Gas Corporation of India
- ✓ Reliance Industries Ltd.
- ✓ HDFC Ergo Ltd.
- ✓ Reserve Bank of India
- ✓ Apollo Munich Health Insurance

….and many more - https://sgrh.com/corporate-tpa-empanelled

**Global –** For International or Foreign patients, the hospital has a separate "Medical Visa" facility. As per guidelines from Directorate of Health Services, Government of NCT of Delhi, all the foreign patients are required to guarantee the complete details by the consultant regarding the following:

**A. VISA for treatment –**The patient must have the "MED VISA" as the government of India has initiated a separate category of VISA called the "MEDICAL VISA" or the "MED VISA" (for patients) and the "MEDICAL ATTENDANT VISA" or the "MEDX VISA" (for only 2 accompanists). This VISA is extendable as per the duration of the treatment.

**B. Registration –** All the "MED VISA" and the "MEDX VISA" must be registered with Foreign Regional Registration Office (FRRO) within 14 days of arrival (this duration may differ with different countries).

**C. "C-Form" for Inpatients** – The hospital is also legally bound to provide particulars of their foreign patients in the prescribed "C-Form" to the FRRO, Delhi. It is the duty of the hospital to direct the foreign patients to register themselves with the FRRO, Delhi and also to send their "C-Form".

**D. VISA Extension** – VISA Extension should be directed or advised only any only by the treating Doctor (on his letter head) duly signed by him and countersigned by the Medical Superintendent of the hospital.

## ***Sir Ganga Ram Hospital – Role in Communicable & Non-Communicable Disease Prevention***

Sir Ganga Ram Hospital has a number of **Specialty Clinics**, mainly for the non communicable disease prevention. Some of them are mentioned as follows:

1. **Tobacco Cessation Clinic –** Sir Ganga Ram Hospital has a specialised service called the Tobacco Cessation Centre wherein smoking/tobacco habituated and addicted people are assisted and supported to quit tobacco. Sir Ganga Ram Hospital is the first hospital in India that provides a programme like this for the treatment of a crucial problem like **'Tobacco dependence'.** Tobacco Cessation Centre provides a Structured Tobacco Control Programme in which the patients are helped and supported to quit their addictions to smoking/tobacco effectively and to also maintain a long term or even a permanent asceticism.
   According to some researchers, seven out of ten smokers want to quit their habits, but cannot because of their addiction to nicotine, which is similar to that of an addiction to heroin or cocaine. Dependency on nicotine makes it difficult for a smoker or tobacco user to quit smoking or chewing tobacco and hence 97% quit attempts end up in a huge failure.
   Sir Ganga Ram Hospital Tobacco Cessation Centre provides a structured care intervention with steps to help people to quit tobacco. The interventions have a range of intensities according to the need and response of the smoker, which includes counselling sessions to help smokers change their habits and also periodic assistance during their attempts to quit tobacco. This treatment consists of 7-8 intensive therapeutic sessions (for a period of 2 weeks) with pharmacotherapy (medicines) to reduce or control the withdrawals. Thus, this treatment essentially looks after two supreme aspects of refraining: Quitting and Relapse prevention.
   **Who can enrol? –**
   - **a.** Smokers who smoke – cigarettes, bidis, hukkas, pipe, cigars, etc.
   - **b.** Tobacco chewers who use – khaini, gutka, pan masala, zarda, paan with tobacco, etc.

2. **ENT Cancer Clinic –**ENT Cancer Clinic provides facilities for early diagnosis, prevention and treatment of **Head and Neck Cancers** like – throat cancer (including Larynx and Hypopharynx cancer), oral cancer (including tongue cancer), thyroid cancer, salivary gland cancer, paranasal sinuses cancer and others related to head and neck.
   Patients suffering from the following can come to the ENT Cancer Clinic:
   - **a.** Patients suffering from long term chronic ulcer or any growth in oral cavity.
   - **b.** Patients suffering from any sort of voice-change or having difficulty in swallowing or chewing.
   - **c.** Patients with thyroid gland tumours.
   - **d.** Patients with paranasal sinus tumours.
   - **e.** Patients with salivary gland tumours.

   The ENT Cancer Clinic is headed by Dr. Sangeet K.Agarwal (MBBS, DLO, DNB- ENT – HNS), a fellow Head and Neck Onco-Surgeon.

3. **Gynae-oncology Clinic –** This clinic provides facilities for early diagnosis, prevention and treatment of genital tract malignancies such as carcinoma cervix, uterus, ovaries, etc.
   The clinic lays special emphasis on the screening of genital tract cancers with tests like PAP smear, HPV testing and colopscopy.
   The treatment and management in this clinic is being done in collaboration with onco-surgeons and onco-physicians under one roof. Long term follow-ups, psychological and social rehabilitation services are also being provides here.
4. **Diabetic Foot Care Centre –** Sir Ganga Ram hospital started a Diabetic Foot Care Centre with a goal of providing best possible diagnosis and treatment of diabetes, to play a global role as a working example for other healthcare organisations and also to improve diabetic foot services throughout the globe. The staff at this centre is expert of foot and wound care.

**Setting-** Multidisciplinary foot team in a large teaching hospital.
**Aim –** Prevention and specialized curative care of complex cases; provide training to teach other centres.
**Goal –** The overall goal is to minimize amputation rates even in very advanced and complex foot problems. As a specialised foot centre, perhaps there is a responsibility to set up an organization that can prevent not only diabetic foot ulcers and amputations in local setting, but can also play a more regional, perhaps even national or international role.
The staff at the Diabetic Foot Centre is involved in:

- **a.** Detection and examination of foot problems like – corns, athletes foot, nail problems, callus, etc.
- **b.** Preventive care which emphasises on awareness and educating about footwear, foot care and trauma prevention.
- **c.** Prevention of diabetic foot ulcers and amputations in local setting.
- **d.** Organizing workshops and meetings to educate about self-care for ulcers and infections and also to provide trainings in diabetic foot care.
- **e.** Treating all types of ulcers, foot problems, using hydrotherapy and ultrasonic debridment and negative suction wound care therapy systems used for domiciliary management to heal diabetic foot ulcers.
- **f.** Attending and presenting international meetings and receiving foreign patients.
- **g.** Offering training opportunities and conducting clinical research.
- **h.** Collaborating with corporate interests for funding services.
- **i.** Crafting prevention and treatment programmes in collaboration with other specialised centres.
- **j.** Developing guidelines.

5. **Paediatrics Endocrinology Clinic –** Paediatrics Endocrinology and Diabetes Clinic is a clinic build for the children who have :
    - **a.** Growth abnormalities like height problems.
    - **b.** Puberty related disorders and problems.
    - **c.** Hirsutism which leads to excessive hair growth on face and other parts of body.
    - **d.** Gynaecomastia – breast enlargement in boys.
    - **e.** Thyroid disorders.
    - **f.** Obesity related problems.
    - **g.** Abnormal genetilia in children.
    - **h.** Adrenal disorders like CAH.
    - **i.** Addison's disease and Cushing's disease.
    - **j.** Diabetes Mellitus.

    Children with these problems and disorders undergo complete evaluation and nutritional & lifestyle related advices are given to the parents and children. Education for Diabetes is also provided for these families, about the illness and about how to monitor the blood glucose levels, how to give insulin shots, etc.

6. **Hyperlipidaemia Prevention Clinic –** Hyperlipidaemia is a condition when there is an increased amount of lipids in the blood than the desirable counts. This could lead to develop a high risk of heart diseases, strokes and obesity.
    Sir Ganga Ram Hospital has a Hyperlipidaemia Prevention Clinic for those patients who are prone to heart diseases /strokes because of high lipid counts.

7. **Yoga Life Style Clinic –** Sir Ganga Ram Hospital provides a Yoga Lifestyle Clinic as yoga has been considered as the best way to prevent any disease since ages. This clinic provides the following facilities:
    a. An Expert Yoga instructor, Mr. Ramesh Chandra under the supervision of Prof. Dr. S.C Manchanda – Senior Consultant Cardiologist.
    b. Prevention of heart diseases with the help of scientific approach developed by Dr. S.C Manchanda and Adhyatam Sadhana Kendra, New Delhi.
    c. Rehabilitation services and preventive services are provided for coronary heart disease patients after their angioplasty, bypass surgeries and heart attacks.
    d. Yoga for prevention and control of hypertension, diabetes mellitus, obesity, dyslipidemia, bronchial asthma, migraine, depression and anxiety is also taught here.
    e. Additional advices on stress management by professionals are also provided along with the advices on healthy diet plans, physical exercises and tobacco cessation so that one could lead a healthy life.

# *Responsiveness of European Countries' Health System in Managing COVID-19 Pandemic*

## *(Region specific Report)*

- **<u>Research Question</u>: How responsive is the Health System of European Countries in handling and managing the COVID-19 pandemic?**

- **<u>Content</u> :**

1. **Introduction**
2. **Aim of Study**
3. **Methodology**
4. **Results**
5. **Discussion**
6. **References**

1. **Introduction:**

The World Health Organization (WHO) declared the corona-virus disease 2019 as a global pandemic. First cases were reported in the Wuhan city of the country China where a cluster of pneumonia like cases came up on December 31, 2019. The disease causing virus was identified as the 2019 Novel Corona-virus in January, 2020 and later in February, 2020 WHO named the disease as COVID-19.

Health System responsiveness of any country shows how exactly is the country prepared to prevent or protect against or how to respond to a sudden epidemic or pandemic or a natural disaster which could increase the health emergencies and demand of health facilities to a great extent.

This report evaluates the Health System responsiveness of European countries towards the global COVID-19 pandemic on the basis of some selected indicators from the World Health Organisation (WHO) framework and the Global Health Security (GHS) framework.

2. **Aim of the Study:** The main objective or aim of this study is to assess the health system responsiveness of the European countries against the COVID-19 global pandemic using the WHO and GHS health system indicators.

3. **Methodology:** This report is a secondary data analysis study of the data which are available in the public domain. For the analysis, we have collected data for all the countries of Europe. These data are collected for different indicators of WHO health system framework and also a list of GHS data has also been collected in order to analyse the responsiveness of the public health systems of the European countries. The indicators are briefly explained as follows:

**World Health Organization Indicators:**

i. <u>Health Service</u> **-** The Healthcare Delivery System of any country or region are responsible for offering and supplying the various healthcare services to all the people or the population and not just to those who are ill or are a patient. As patient centred services are generally understood as care given to an individual who is sick (the patient); people-centred services, on the other hand takes into account the attention to the community health and their most important role is to shape the health policies and services for all. Healthcare delivery system must consider the whole wide spectrum of healthcare from prevention and promotion to the diagnostics and rehabilitation and also the home care..

ii. <u>Health Workforce</u> – Healthcare system of any country or region in the world cannot function without a workforce, hence Health Workforce is one of the many important pillars which holds up the Health System. Health workforce work and try to ensure attainable availability, accessibility, acceptability and quality of healthcare services to all. The health workforce has a vital role in building the pliability of communities and health systems to respond to disasters caused naturally or by man-made hazards, as well as related biological, environmental and technological hazards and risks.

**iii.** Health Information **-** The progress towards Universal Health Coverage requires a strong Health Information System. A system which could provide a good quality data related to health like: Mortality, Morbidity, Risk factors, Coverage of health policies and services, etc.

**iv.** Essential Medicines **–** Essential Medicines are those medicines which are used to satisfy the priority healthcare needs of the population of a country or a region. These are selected on the basis of relevance of public health, evidence of efficacy and safety and according to the cost effectiveness. These medicines are intended to be available at all times and in adequate amount, in appropriate dosage with assured quality and at reasonable cost.

**v.** Health Financing **–** In order to attain the Universal Health Coverage, any and every Healthcare System needs a Financing system for: **(a)** raising funds for healthcare and healthcare services, **(b)** reducing financial barriers so that people from every financial background could get an access to the health services through pooling of funds to reduce Out Of Pocket Payments, **(c)** allocating and using funds to promote efficiency and equity.

**vi.** Governance **–** the institutions and traditions through which any authority of a country works is a part of the Governance. This includes the process through which a leader or a government is selected, the process of how effectively and efficiently a government implements policies, how the citizens react to these policies and many more. There are 6 dimensions of governance:

a) Voice and Accountability
b) Regulatory quality
c) Political stability
d) Government effectiveness
e) Rule of law
f) Control of corruption.

- Other indicators**:**
  - Female Literacy Percentage
  - Percentage of population aged 60 years or above
  - Percentage of population below poverty line

- **Global Health Security –** Global Health Protection is not just about one nation but more than one nation, one issue or just one pathogen. Several factors affect the Health Security of any nation like: Infections, diseases, disasters, human crises, growing Non Communicable Diseases. The Health Security of any country is studied through six dimensions :

**a) Prevention of emergence or release of pathogens**
**b) Early detection and reporting for epidemics of potential international concern**
**c) Rapid response to and mitigation of the spread of an epidemic**
**d) Sufficient and robust health system to treat the sick and protect health workers**
**e) Commitment to improving national capacity, financing and adherence to norms**
**f) Overall risk environment and country vulnerability to biological threats.**

- Table 1 shows the list of indicators used in the study.
- The responsiveness to COVID-19 of countries: Italy, United Kingdoms, Spain, Germany and Switzerland has also been studied and analysed in the report. This includes the timeline of the COVID-19 in these countries and their measures against the pandemic at national levels.

***Table 1: List of Indicators used the Study***

| Number of Countries | | Indicator | Range | Average |
|---|---|---|---|---|
| n = 47 | **A** | ***Health service*** | | |
| | **1** | Number of inpatient beds per 10000 population | 20-80 | 46.92 |
| n = 47 | | ***Health workforce*** | | |
| | **2** | Number of health workers per 10000 population | 90-150 | 124.1 |
| | **3** | Annual number of graduates (Doctors) of health professions educational institutions per 100000 population | 0-25 | 16.5 |
| | **4** | Annual number of graduates (Nurses) of health professions educational institutions per 100000 population | 10-110 | 42 |
| | **5** | Doctor population ratio (per 10000 population) | 0-100 | 36.66 |
| | **6** | Nursing and midwifery personnel (per 10000 population) | 0-100 | 87.96 |
| n = 47 | **B** | ***Health Information*** | | |
| | **7** | Civil registration coverage of births (%) | 0-100 | 99.88 |
| | **8** | Civil registration coverage of cause of death (%) | 0-100 | 96.38 |
| | **9** | Ill defined causes in cause of death registration (%) | 0-100 | 11.9 |
| n = 47 | **C** | ***Essential Medicines*** | | |
| | **10** | Median availability of selected generic medicines in public health facilities (2007-13) | | NA |
| | **11** | Median availability of selected generic medicines in private health facilities | | NA |
| n = 47 | **D** | ***Health Financing*** | | |
| | **12** | Current health expenditure (as % of GDP) (2017) | 0-100 | 7.96 |
| | **13** | Domestic general government health expenditure as % of GDP (2017)$ | 0-100 | 5.46 |
| | **14** | General government expenditure on health as a proportion of general government expenditure (2017) | 0-100 | 13.23 |
| | **15** | Out-of-pocket payments for health (% of current expenditure on health) (2017) | 0-100 | 24.14 |
| n = 47 | **E** | ***Global Health Security*** | | |
| | **16** | Prevention of emergence or release of pathogens | 0-100 | 49.77 |
| | **17** | Early detection and reporting for epidemics of potential international concern | 0-100 | 58.24 |
| | **18** | Rapid response to and mitigation of the spread of an epidemic | 0-100 | 47.15 |
| | **19** | Sufficient and robust health system to treat the sick and protect health workers | 0-100 | 42.73 |
| | **20** | Commitment to improving national capacity, financing and adherence to norms | 0-100 | 55.15 |

| | | | | |
|---|---|---|---|---|
| | **21** | Overall risk environment and country vulnerability to biological threats | 0-100 | 71.36 |
| | **22** | Overall score | 0-100 | 53.15 |
| n = 47 | **F** | ***Female literacy rate (%)*** | 0-100 | 98.33 |
| n = 47 | **G** | ***Percentage of people aged 60 years or more (%)*** | 0-100 | 16.67 |
| n = 47 | **H** | ***Percentage of people below poverty line (%)*** | 0-100 | 11.79 |
| n = 47 | **I** | ***Governance*** | | |
| | **23** | Voice and accountability | (-2.5) to (+2.5) | 0.782 |
| | **24** | Political stability | (-2.5) to (+2.5) | 0.517 |
| | **25** | Government effectiveness | (-2.5) to (+2.5) | 0.871 |
| | **26** | Regulatory quality | (-2.5) to (+2.5) | 0.902 |
| | **27** | Rule of law | (-2.5) to (+2.5) | 0.797 |
| | **28** | Control of corruption | (-2.5) to (+2.5) | 0.743 |

## 4. Results:

The findings, as deciphered through the data collected, give an insight about the Health Systems of the European Countries. The analysis shows that most of the countries across the continent has a strong health system. The GHS indicators, which give an insight of the health system preparedness for a pandemic, shows that no country was fully prepared for any pandemic, in fact the countries had an average of 53.15 score out of 100 for the overall preparedness against the pandemic. The lowest scoring country was Andorra with the overall score of 30.5 out of 100 and the highest scoring country was Liechtenstein with the score of 87.9 out of 100, but at the same time there was no other data found for Liechtenstein for any of the WHO indicators.

Countries like Liechtenstein (mentioned earlier), Kosovo and Vatican City had no data in the public domain. Also, countries like Albania, Andorra, Belarus, Bulgaria, Croatia, Cyprus, Malta, North Macedonia, Monaco, Montenegro, Romania, Ukraine, Serbia and San Marino had limited data for the respective indicators.

At the time of a pandemic like COVID-19 the responsiveness and preparedness of any country cannot be totally analysed through the Health system frameworks only. The effectiveness of any health system, during a global pandemic like COVID-19, is assessed from some other factors too like: how timely does the country implement measures like social distancing, social isolation, testing frequency, national lockdown, tracing of suspected cases and more.

The data for above mentioned factors were studied for five European countries: Italy, United Kingdoms, Spain, Switzerland and Germany. The results showed that countries like UK, Spain, Italy being having one of the best and strongest health systems were found to be the worstly affected countries in the world by COVID-19. Switzerland and Germany combated the disease in a comparatively better way and the4ese countries were not that badly affected.

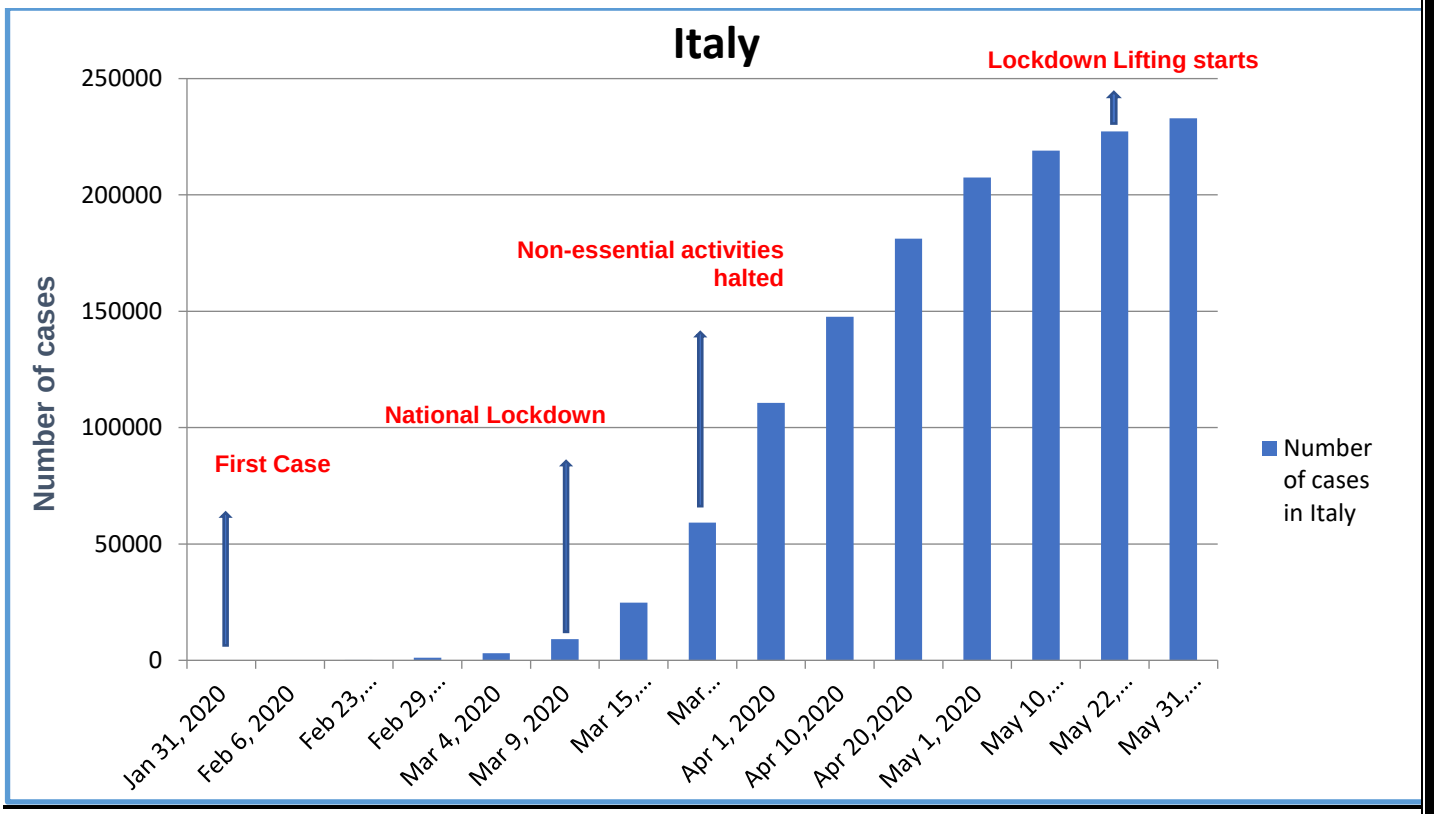
- **Table 2** shows the data collected for various WHO and GHS indicators.
- **Graph 1** shows the COVID-19 timeline of Italy.
- **Graph 2** shows COVID-19 timeline of United Kingdoms.
- **Graph 3** shows COVID-19 timeline of Spain.
- **Graph 4** shows COVID-19 timeline of Switzerland.
- **Graph 5** shows COVID-19 timeline of Germany.

Table 2

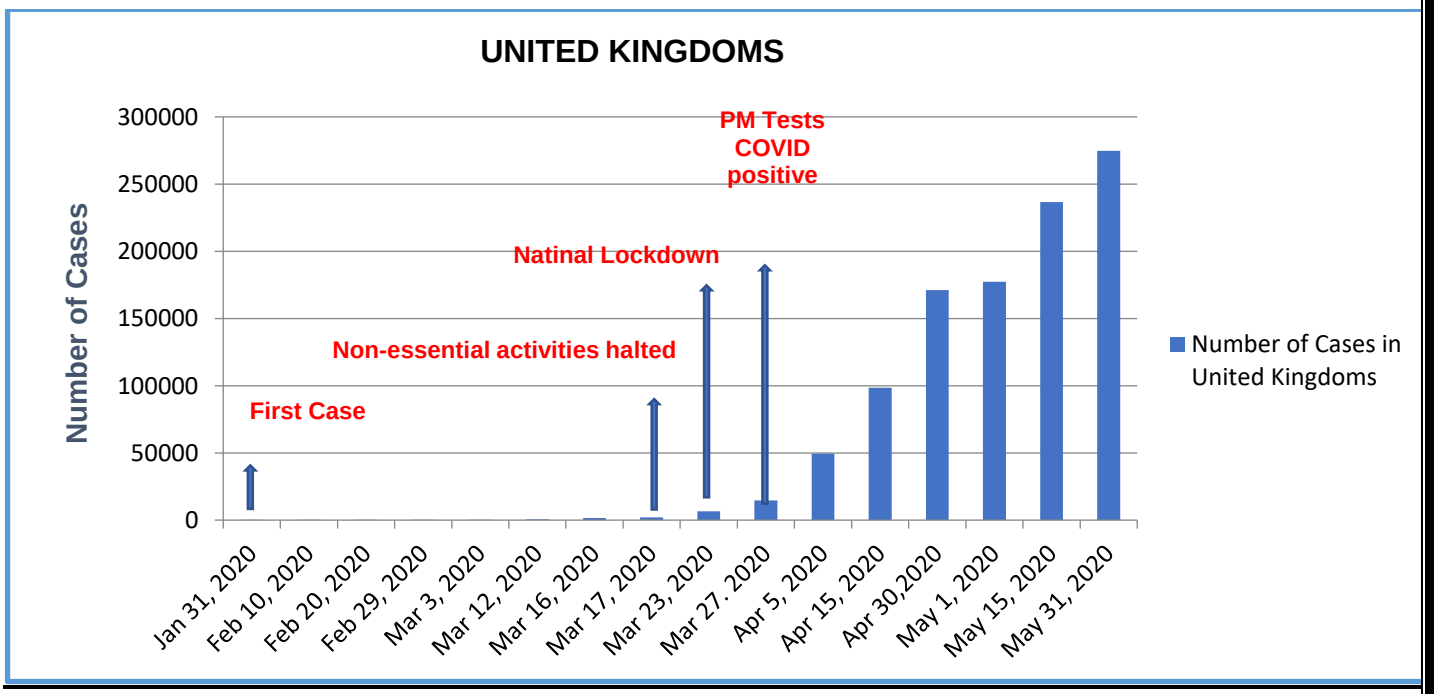
| WHO region | Country number (give any number in sequence, 1,2,,3 ... | Country name | Number of inpatient beds per 10000 population | Number of health workers per 10000 population | (Doctors) of health professions educational institutions per 100000 population | graduates (Nurses) of health professions educational institutions per 100000 population | Doctor population ratio (per 10000 population) | Nursing and midwifery personnel (per 10000 population) | Civil registration coverage of births (%) | Civil registration coverage of cause of death (%) | Ill defined causes in cause of death registration (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WHO Europian Region | 1 | United Kingdom | 25 | 123.1 | 12.9 | 31 | 27.863 | 82.245 | 100 | 100 | 5 |
| | 2 | Switzerland | 45 | NA | 11.2 | 101 | 42.957 | 175.357 | 100 | 100 | 10 |
| | 3 | Albania | NA | NA | NA | NA | 12.164 | 36.495 | 98.6 | 53 | 24 |
| | 4 | Andorra | NA | NA | NA | NA | 33.333 | 40.128 | 100 | 80 | 7 |
| | 5 | Austria | 74 | NA | 14.4 | 34 | 51.697 | 2.63 | 100 | 100 | NA |
| | 6 | Belarus | NA | NA | NA | NA | 51.905 | 110.027 | 100 | 100 | 12 |
| | 7 | Belgium | 56 | NA | 28.8 | 63 | 30.709 | 194.614 | 100 | 100 | 15 |
| | 8 | Bosnia & Herzegoina | NA | NA | NA | NA | 21.616 | 57.333 | >90 | 89 | 20 |
| | 9 | Bulgaria | NA | NA | NA | NA | 40.332 | 48.156 | 100 | 100 | 27 |
| | 10 | Croatia | NA | NA | NA | NA | 29.996 | 81.224 | >90 | 100 | NA |
| | 11 | Cyprus | NA | NA | NA | NA | 19.509 | 52.512 | 100 | 86 | 11 |
| | 12 | Czech Republic | 66 | NA | 17.1 | 14 | 41.208 | 83.955 | 100 | 100 | NA |
| | 13 | Denmark | 25 | NA | 21.5 | 44 | 40.099 | 103.195 | 100 | 98 | 13 |
| | 14 | Estonia | 47 | NA | 10.3 | 30 | 44.833 | 111.558 | 100 | 100 | 7 |
| | 15 | Finland | 33 | NA | 12 | 69 | 38.118 | 147.374 | 100 | 100 | 2 |
| | 16 | France | 60 | 126.6 | 9.5 | 41 | 32.672 | 114.707 | 100 | 100 | 15 |
| | 17 | Germany | 80 | NA | 12 | 54 | 42.488 | 132.352 | 100 | 100 | 11 |
| | 18 | Greece | 42 | NA | 10.2 | 16 | 54.789 | 36.331 | 100 | 100 | 18 |
| | 19 | Hungary | 70 | 97.7 | 14.4 | 62 | 34.075 | 69.157 | 100 | 100 | NA |
| | 20 | Iceland | 29 | NA | 14.6 | 74 | 40.778 | 162.132 | 100 | 100 | NA |
| | 21 | Ireland | 30 | NA | 24.9 | 29 | 33.125 | 160.996 | 100 | 100 | 4 |
| | 22 | Italy | 32 | NA | 13.3 | 20 | 39.774 | 57.401 | 100 | 100 | 9 |
| | 23 | Kosovo | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 24 | Latvia | 56 | NA | 56 | 27 | 31.905 | 47.517 | 100 | 100 | 4 |
| | 25 | Liechtenstein | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 26 | Lithuania | 66 | NA | 19.3 | NA | 63.528 | 98.472 | 100 | 100 | NA |
| | 27 | Luxembourg | 45 | NA | 6.9 | 18 | 30.09 | 121.744 | 100 | 100 | 12 |
| | 28 | North Macedonia | NA | NA | NA | NA | 28.736 | 37.917 | 99.7 | 100 | NA |
| | 29 | Malta | NA | NA | NA | NA | 28.598 | 94.833 | 100 | 100 | 6 |
| | 30 | Moldova | NA | NA | NA | NA | 32.066 | 49.235 | 99.6 | 91.4 | NA |
| | 31 | Monaco | NA | NA | NA | NA | 75.067 | 201.609 | 100 | 80 | NA |
| | 32 | Montenegro | NA | NA | NA | NA | 27.557 | 52.294 | 99.4 | 100 | 25 |
| | 33 | Netherlands | 33 | NA | 15.9 | 53 | 36.054 | 111.839 | 100 | 100 | NA |
| | 34 | Norway | 36 | 149 | 11.1 | 80 | 29.164 | 182.248 | 100 | 100 | 11 |
| | 35 | Poland | 66 | NA | 10.9 | 21 | 23.788 | 68.926 | 100 | 100 | 31 |
| | 36 | Portugal | 34 | NA | 16.1 | 24 | 51.24 | 69.746 | 100 | 100 | 14 |
| | 37 | Romania | NA | NA | NA | NA | 29.807 | 73.891 | >90 | 100 | NA |
| | 38 | Russia | 81 | NA | NA | NA | 37.494 | 85.429 | 100 | 100 | 8 |
| | 39 | San Marino | NA | NA | NA | NA | 61.094 | 82.067 | 100 | >80 | 6 |
| | 40 | Serbia | NA | NA | NA | NA | 31.131 | 60.855 | 99.4 | 90 | 15 |
| | 41 | Slovakia | 58 | NA | 16.9 | 31 | 34.156 | 3.187 | 100 | 100 | 7 |
| | 42 | Slovenia | 45 | NA | 17.5 | 75 | 30.861 | 99.745 | 100 | 100 | 11 |
| | 43 | Spain | 30 | NA | 14.5 | 22 | 38.723 | 57.295 | 100 | 100 | 9 |
| | 44 | Sweden | 22 | NA | NA | NA | 39.84 | 118.164 | 100 | 100 | NA |
| | 45 | Turkey | 28 | NA | 17 | 17 | 18.492 | 27.107 | 98.8 | 78 | 10 |
| | 46 | Ukraine | NA | NA | NA | NA | 29.923 | 66.61 | 99.8 | 99 | 2 |
| | 47 | Vatican City | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | **Average** | 46.92857143 | 124.1 | 16.50769231 | 42 | 36.6671364 | 87.9683864 | 99.88536585 | 96.38139535 | 11.90625 |

| Median availability of selected generic medicines in public health facilities (2007-13) | Median availability of selected generic medicines in private health facilities | Current health expenditure (as % of GDP) (2017) | Domestic general govern- ment health expenditure as % of GDP (2017)$ | [illegible] expenditure on health as a proportion of general government expenditure (2017) | Out-of-pocket payments for health (% of current expenditure on health) (2017) | Prevention of emergence or release of pathogens | Early detection and reporting for epidemics of potential international concern | Rapid response to and mitigation of the spread of an epidemic | Sufficient and robust health system to treat the sick and protect health workers | [illegible] to improving national capacity, financing and adherence to norms | Overall risk environment and country vulnerability to biological threats |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NA | NA | 9.6 | 7.6 | 18.7 | 16 | 68.3 | 87.3 | 91.9 | 59.8 | 81.2 | 74.7 |
| NA | NA | 12.3 | 3.8 | 11 | 28.9 | 52.7 | 59.1 | 79.3 | 62.5 | 65.6 | 86.2 |
| NA | NA | NA | 4.3 | 14.7 | NA | 43.8 | 74.3 | 52 | 35.9 | 53 | 55.7 |
| NA | NA | 10.3 | 5.1 | 14 | 41.8 | 27.9 | 14.2 | 30.5 | 9.2 | 32.4 | 83.5 |
| NA | NA | 10.4 | 7.5 | 15.3 | 19.2 | 57.4 | 73.2 | 42.3 | 46.6 | 52.8 | 84.6 |
| NA | NA | 5.9 | 4.1 | 10.6 | 27.5 | 19.4 | 28.9 | 46.6 | 40.6 | 25.8 | 53 |
| NA | NA | 10.3 | 8 | 15.3 | 17.6 | 63.5 | 62.5 | 47.3 | 60.5 | 50.7 | 78.2 |
| NA | NA | 8.9 | 6.3 | 15.5 | 29.1 | 36.7 | 41.7 | 51.8 | 38.3 | 37.8 | 50.8 |
| NA | NA | 8.1 | 4.2 | 12 | 46.6 | 37.6 | 53.3 | 21.7 | 41 | 61.5 | 66.3 |
| NA | NA | 6.8 | 5.6 | 12.4 | 11 | 55.2 | 72.3 | 32.4 | 46.5 | 49.1 | 68.2 |
| NA | NA | 6.7 | 2.8 | 7.6 | 44.6 | 46.4 | 44.9 | 33.9 | 21.9 | 49.1 | 69.6 |
| NA | NA | 7.2 | 5.9 | 15.2 | 14.8 | 51.1 | 50.7 | 46.6 | 37.4 | 58.9 | 74 |
| NA | NA | 10.1 | 8.5 | 16.6 | 13.7 | 72.9 | 86 | 58.4 | 63.8 | 62.6 | 81 |
| NA | NA | 6.4 | 4.8 | 12.2 | 23.7 | 47.6 | 77.6 | 47 | 31.6 | 67.6 | 73.3 |
| NA | NA | 9.2 | 7.1 | 13 | 20.2 | 68.5 | 61.6 | 69.2 | 60.8 | 75.4 | 81.1 |
| NA | NA | 11.3 | 8.7 | 15.5 | 9.4 | 71.2 | 75.3 | 62.9 | 60.9 | 58.6 | 83 |
| NA | NA | 11.2 | 8.7 | 19.9 | 12.7 | 66.5 | 84.6 | 54.8 | 48.2 | 61.9 | 82.3 |
| NA | NA | 8 | 4.8 | 10.2 | 34.8 | 54.2 | 78.4 | 44 | 37.6 | 49.1 | 58.2 |
| NA | NA | 6.9 | 4.7 | 10.1 | 26.59 | 56.4 | 55.5 | 52.2 | 36.6 | 58.9 | 68.2 |
| NA | NA | 8.3 | 6.8 | 15.7 | 17.48 | 35.3 | 37.2 | 44 | 46.4 | 43.2 | 81.2 |
| NA | NA | 7.2 | 5.3 | 20 | 17.66 | 57.4 | 78 | 45.1 | 40.2 | 52.8 | 84.6 |
| NA | NA | 8.8 | 6.5 | 13.4 | 21.19 | 50.9 | 78.5 | 47.5 | 48.9 | 58.9 | 67.9 |
| NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| NA | NA | 6 | 3.4 | 9 | 35.13 | 56 | 97.3 | 54.7 | 47.3 | 51.1 | 67.2 |
| NA | NA | NA | NA | NA | NA | 43.1 | 22.9 | 34.6 | 31.1 | 56.9 | 87.9 |
| NA | NA | 6.5 | 4.2 | 12.8 | 31.27 | 43.5 | 81.5 | 33.9 | 34.4 | 72.1 | 67.8 |
| NA | NA | 5.5 | 4.7 | 10.8 | 10.6 | 31 | 41.7 | 27.3 | 37.9 | 52.8 | 84.7 |
| NA | NA | 6.1 | 4.1 | 12.8 | 36.67 | 37 | 41.7 | 33.1 | 25.4 | 44.8 | 57.7 |
| NA | NA | 9.3 | 5.9 | 16.5 | 28.86 | 35 | 32.9 | 22.4 | 23.6 | 49.1 | 72.3 |
| 46 | 56 | 7 | 3.5 | 11.6 | 38.39 | 46.5 | 42.9 | 31.1 | 36.4 | 56.7 | 47.1 |
| NA | NA | 1.8 | 1.4 | 6.7 | 7 | 11.1 | 23.3 | 26 | 31 | 35.3 | 83.1 |
| NA | NA | NA | NA | NA | 42.84 | 37.6 | 77.3 | 37.8 | 30.8 | 52.6 | 60.8 |
| NA | NA | 10.1 | 6.5 | 15.3 | 5.22 | 73.7 | 86 | 79.1 | 70.2 | 61.1 | 81.7 |
| NA | NA | 10.4 | 8.9 | 17.9 | 13.61 | 68.2 | 58.6 | 58.2 | 58.5 | 64.4 | 87.1 |
| NA | NA | 6.5 | 4.5 | 10.9 | 23.46 | 50.9 | 61.7 | 47.5 | 48.9 | 58.9 | 67.9 |
| NA | NA | 9 | 5.9 | 13 | 26.84 | 52.8 | 50.5 | 67.7 | 55 | 63 | 77.3 |
| NA | NA | 5.2 | 4.1 | 12.1 | 18.87 | 48.9 | 42.8 | 35.3 | 36.7 | 52.4 | 65.7 |
| 100 | 100 | 5.3 | 3.1 | 8.8 | 45.85 | 42.9 | 34.1 | 50.1 | 37.6 | 52.6 | 51.4 |
| NA | NA | 7.4 | 6 | 12.2 | 5.82 | 22.3 | 33.9 | 20.8 | 16.2 | 25 | 80.5 |
| NA | NA | 8.4 | 4.8 | 11.9 | 36.59 | 48.8 | 46.2 | 55.1 | 56.6 | 49.7 | 59.2 |
| NA | NA | 6.7 | 5.3 | 13.3 | 22.54 | 53.5 | 46 | 34.1 | 37.9 | 52.8 | 71.5 |
| NA | NA | 8.2 | 5.9 | 13.6 | 12.07 | 67 | 73.7 | 63.3 | 54.9 | 72.1 | 73.7 |
| NA | NA | 8.9 | 6.3 | 15.3 | 24 | 52.9 | 83 | 61.9 | 59.6 | 61.1 | 77.1 |
| NA | NA | 11 | 9.2 | 18.7 | 14.06 | 81.1 | 86 | 62.8 | 49.3 | 71.3 | 84.5 |
| NA | NA | 4.2 | 3.3 | 9.7 | 17.75 | 56.9 | 45.6 | 49 | 45.7 | 64.3 | 56.5 |
| 88 | 91 | 7 | 3.1 | 7.4 | 46.22 | 38.1 | 36.5 | 34.8 | 23 | 55.1 | 43.3 |
| NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 78 | 82.33333333 | 7.961904762 | 5.469767442 | 13.2372093 | 24.14372093 | 49.77111111 | 58.24888889 | 47.1555556 | 42.73777778 | 55.1577778 | 71.36888889 |

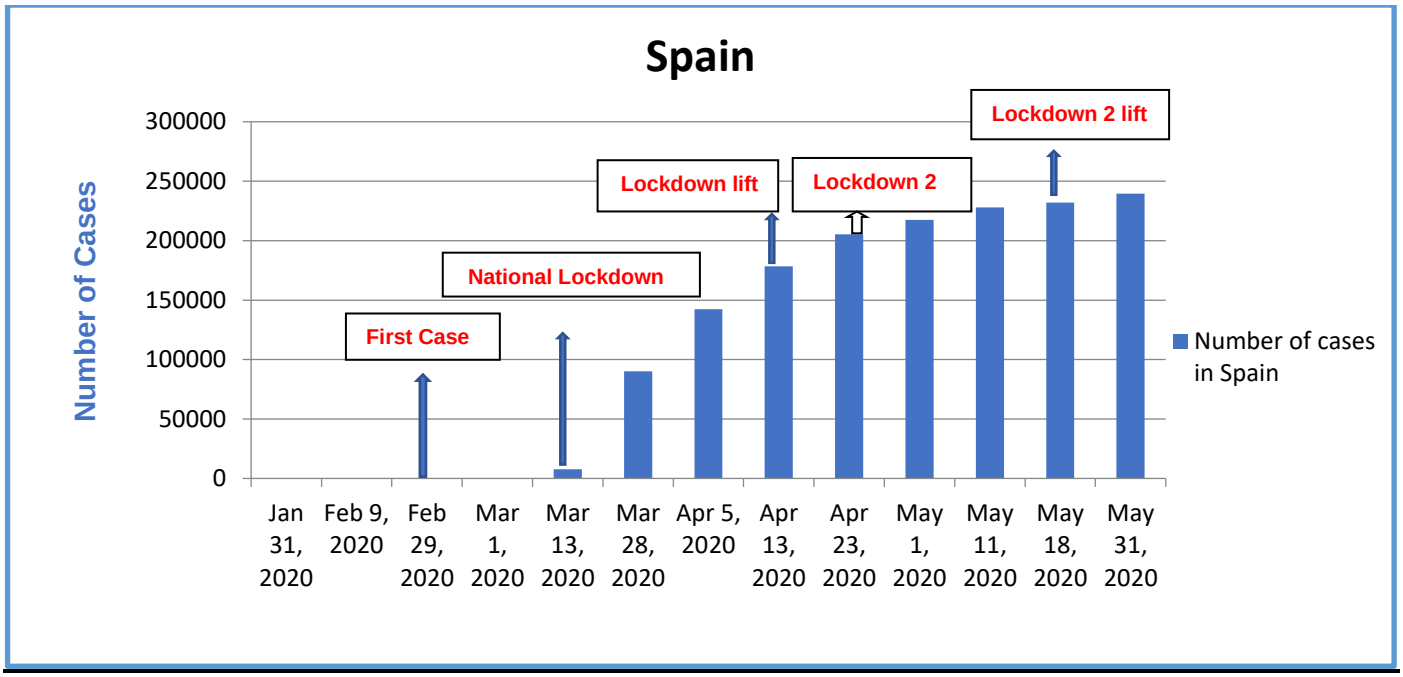
| Overall score | Female literacy rate (%) | people aged 60 years or more (%) | of people below poverty line (%) | Voice and accountability | Political stability | Government effectiveness | Regulatory quality | Rule of law | Control of corruption |
|---|---|---|---|---|---|---|---|---|---|
| 77.9 | NA | 18.19% | 15% | 1.38 | 0.05 | 1.34 | 1.76 | 1.64 | 1.83 |
| 67 | NA | 18% | 6.60% | 1.62 | 1.34 | 2.04 | 1.78 | 1.93 | 2.01 |
| 52.9 | 96.9 | 12.23 | 14.3 | 0.21 | 0.38 | 0.11 | 0.28 | -0.39 | -0.52 |
| 30.5 | 100 | 16.18 | NA | 1.07 | 1.43 | 1.94 | 1.19 | 1.61 | 1.24 |
| 58.5 | NA | 19.44 | 3 | 1.38 | 0.92 | 1.45 | 1.54 | 1.88 | 1.6 |
| 35.3 | 99.7 | 15.22 | 5.7 | -1.35 | 0.35 | 0.3 | -0.66 | -0.83 | -0.19 |
| 61 | NA | 18.78 | 15.1 | 1.4 | 0.41 | 1.17 | 1.23 | 1.37 | 1.51 |
| 42.8 | 97.5 | 15.04 | 16.9 | -0.24 | -0.39 | -0.62 | -0.21 | -0.23 | -0.57 |
| 45.6 | 98.1 | 19.54 | 23.4 | 0.32 | 0.42 | 0.27 | 0.58 | -0.03 | -0.15 |
| 53.3 | 98.9 | 19.91 | 19.5 | 0.5 | 0.77 | 0.46 | 0.45 | 0.32 | 0.13 |
| 43 | 98.7 | 12.38 | NA | 1.04 | 0.54 | 0.92 | 1.02 | 0.75 | 0.64 |
| 52 | NA | NA | NA | 0.93 | 1.04 | 0.92 | 1.26 | 1.05 | 0.5 |
| 70.4 | NA | 19.42 | 13.4 | 1.61 | 0.96 | 1.87 | 1.68 | 1.83 | 2.15 |
| 57 | 99.8 | 20.2 | 21.1 | 1.21 | 0.6 | 1.19 | 1.56 | 1.24 | 1.51 |
| 68.7 | NA | 21.51 | NA | 1.61 | 0.92 | 1.98 | 1.79 | 2.05 | 2.21 |
| 68.2 | NA | 19.82 | 14.2 | 1.18 | 0.11 | 1.48 | 1.17 | 1.44 | 1.32 |
| 66 | NA | 22.36 | NA | 1.42 | 0.6 | 1.62 | 1.75 | 1.63 | 1.95 |
| 53.8 | 96.9 | 21.14 | 36 | 0.86 | 0.09 | 0.34 | 0.3 | 0.15 | -0.07 |
| 54 | 99 | 19.5 | 14.9 | 0.32 | 0.76 | 0.49 | 0.6 | 0.56 | 0.05 |
| 46.3 | NA | 14,76 | NA | 1.41 | 1.41 | 1.47 | 1.42 | 1.72 | 1.84 |
| 58.5 | NA | 13.32 | 8.2 | 1.32 | 1.03 | 1.42 | 1.6 | 1.46 | 1.55 |
| 55.4 | 99 | 21.69 | 29.9 | 1.05 | 0.31 | 0.41 | 0.67 | 0.25 | 0.24 |
| NA | NA | 7.43 | 17.6 | -0.12 | -0.61 | -0.43 | -0.28 | -0.37 | -0.52 |
| 62.9 | 99.9 | 19.85 | 25.5 | 0.81 | 0.42 | 1.04 | 1.19 | 0.96 | 0.33 |
| 43.5 | NA | 17.91 | NA | 1.32 | 1.48 | 1.74 | 1.53 | 1.68 | 2.01 |
| 55 | 99.8 | 19.91 | 22.2 | 0.92 | 0.75 | 1.07 | 1.11 | 0.96 | 0.5 |
| 43.8 | NA | 15.11 | NA | 1.57 | 1.37 | 1.78 | 1.76 | 1.81 | 2.09 |
| 39.1 | 98.5 | NA | 19 | -0.01 | -0.2 | 0.09 | 0.52 | -0.28 | -0.36 |
| 37.3 | 95.8 | 20.51 | 16.3 | 1.12 | 1.29 | 0.97 | 1.34 | 1.05 | 1.02 |
| 42.9 | 99.1 | 13.08 | 9.6 | -0.11 | -0.35 | -0.47 | -0.05 | -0.41 | -0.73 |
| 32.7 | NA | 33.15 | NA | 0.66 | 1.61 | NA | NA | NA | NA |
| 43.7 | 98 | 15.09 | 8.6 | 0.08 | 0.11 | 0.13 | 0.36 | 0.1 | 0.58 |
| 75.6 | NA | 19.1 | 8.8 | 1.6 | 0.87 | 1.85 | 2.02 | 1.87 | 2.01 |
| 64.6 | NA | 16.94 | NA | 1.73 | 1.15 | 1.89 | 1.76 | 1.97 | 2.09 |
| 55.4 | 99.7 | 17.47 | 17.6 | 0.72 | 0.55 | 0.66 | 0.88 | 0.43 | 0.64 |
| 60.3 | 94.4 | 20.26 | 19 | 1.2 | 1.14 | 1.21 | 0.89 | 1.14 | 0.85 |
| 45.8 | 98.5 | 16.76 | 22.4 | 0.46 | 0.06 | -0.25 | 0.45 | 0.33 | -0.12 |
| 44.3 | 99.6 | 14.66 | 13.3 | -1.06 | -0.5 | -0.06 | -0.54 | -0.82 | -0.85 |
| 31.1 | NA | 19.8 | NA | 1.15 | 0.86 | NA | NA | NA | NA |
| 52.3 | 98.2 | 18.98 | 8.9 | 0 | 0.08 | 0.11 | 0.01 | -0.15 | -0.37 |
| 47.9 | NA | 15.97 | 12.3 | 0.88 | 0.75 | 0.71 | 0.81 | 0.53 | 0.36 |
| 67.2 | 99.7 | 20.14 | 13.9 | 0.99 | 0.91 | 1.33 | 0.69 | 1.06 | 0.87 |
| 65.9 | 97.7 | 18.15 | 21.1 | 1.06 | 0.25 | 1 | 0.95 | 0.97 | 0.61 |
| 72.1 | NA | 20.37 | 15 | 1.61 | 0.91 | 1.83 | 1.8 | 1.9 | 2.14 |
| 52.4 | 93.6 | 7.79 | 21.9 | -0.83 | -1.33 | 0.01 | -0.05 | -0.32 | -0.34 |
| 38 | 99.7 | 16.49 | 3.8 | -0.01 | -1.83 | -0.42 | -0.22 | -0.72 | -0.87 |
| NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 53.15333 | 98.33462 | | 11.79 | 0.782391304 | 0.517173913 | 0.871818182 | 0.902045455 | 0.7975 | 0.743636364 |



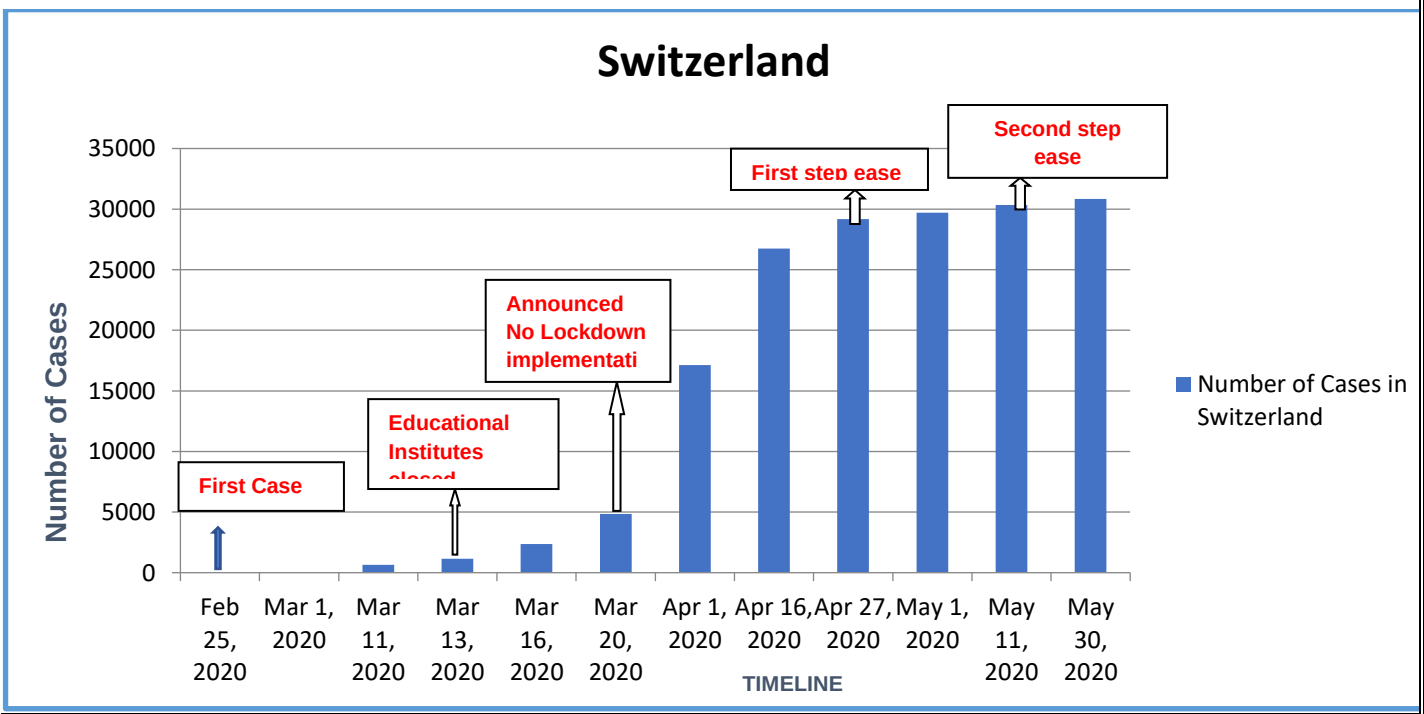

**Graph 1**



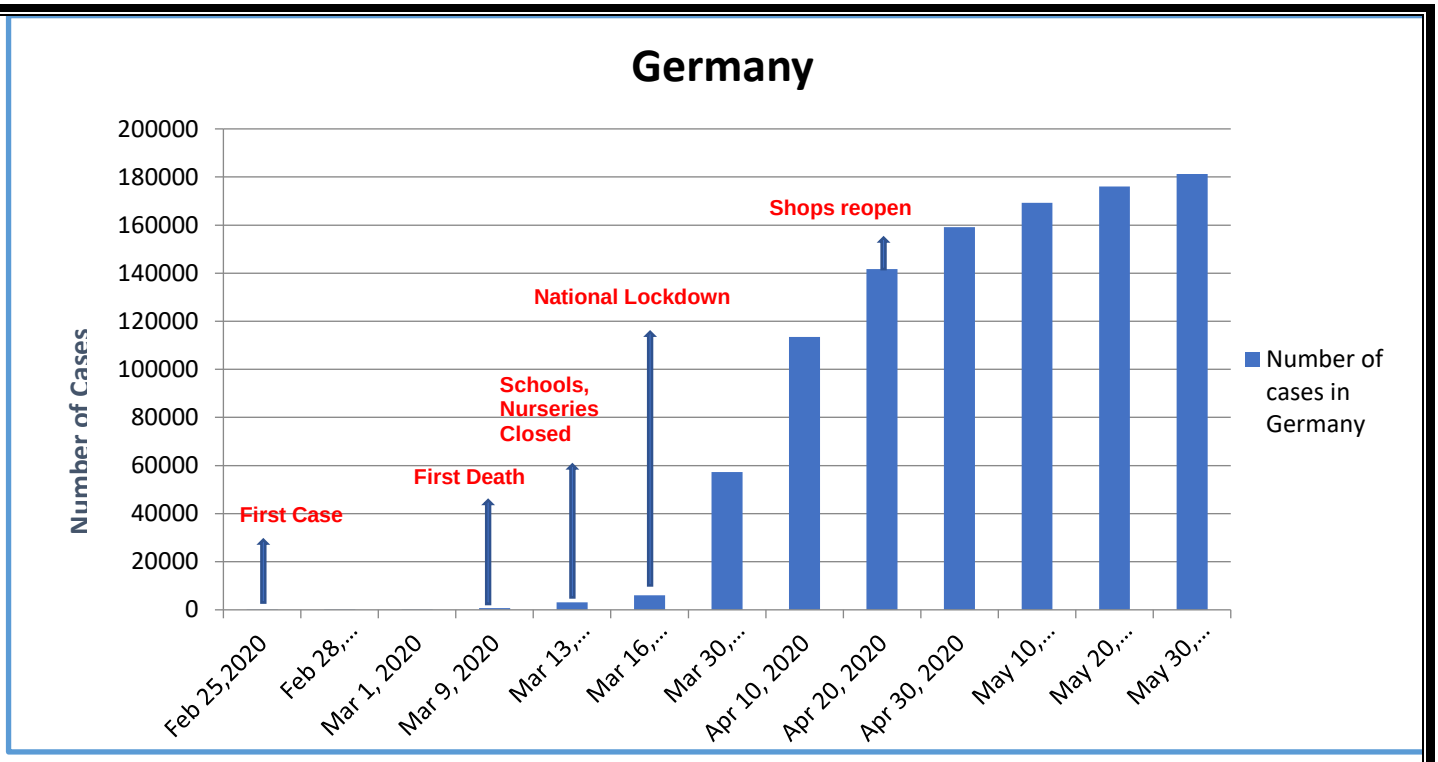

**Graph 2**




**Graph 3**




**Graph 4**




**Graph 5**

## 5. Discussion:

The analysis of data collected for this report shows that any country with a good and strong Health System framework does not necessarily counter against a global pandemic like COVID-19 if small measures like social distancing and isolation, lockdown, effective testing and tracing could not be timely implemented on a national level.

Countries like UK, Spain and Italy had a common factor which led these countries to get into the top ten countries with the highest number of COVID-19 cases. The factor was late or delayed implementation of a national lockdown and measures of social distancing. These countries did not get the hang of what the Asian countries did wrong while combating the disease and hence became one of the worstly affected COVID-19 countries.

Spain and Italy have a certain kind of lifestyle that people follow where friends and families tend to constantly hug and kiss each other; also a large number of families in these countries live together and hence the younger members of the family meet and have physical contact with elder ones more often and therefore most of the disease spread was due community transmission.

UK was considered to be one of the best prepared countries but as the disease went on bringing new surprises, the country started facing more and more challenges. The British government's whole focus was on stocking up medicines from the existing flues for the nation and not on how the Asian countries were responding to the COVID-19 situations and where they went wrong.

Switzerland, on the other hand, combated against the pandemic in a different manner. The country did not implement any Lockdown in any region but just advised and requested the citizens to follow social distancing with certain laws and rules to follow. The country fought against the pandemic solely on the public accountability.

The way Germany handled the COVID-19 situation had earned the country almost an all-round approval. The country's medical preparedness was comparatively better, as they developed a test for virus in their mid-January and by February the German laboratories had necessary stocks for the test kits. Therefore, the country was able to test and trace the suspected cases much timely. Also, the country had a high ICU capacity in comparison with the other European countries.

## ❖ REFERENCES (A)


- Organogram, Sir Ganga Ram Hospital, available at http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S000023MA/P001194/M022380/ET/1504594078quadrant1-module3.pdf , accessed on April 10, 2020.
- Leadership, Sir Ganga Ram Hospital, available at https://sgrh.com/administration , accessed on April 10, 2020.
- Communication Channels and Strategies, Sir Ganga Ram Hospital, available at, https://sgrh.com/chairmans-message, https://sgrh.com/future-plans, accessed on April 11, 2020.
- Roles and Responsibilities, Sir Ganga Ram Hospital, available at https://sgrh.com/quality-policy, accessed on April 12, 2020.
- Services & Programme Innovation and Path breaking Initiatives, available at https://sgrh.com/achievements, https://sgrh.com/welfare-activities, https://sgrh.com/news-details/sir-ganga-ram-hospitals-virtual-opd, accessed on April 12, 2020.
- Local & Global reach, Sir Ganga Ram Hospital, available at https://sgrh.com/corporate-tpa-empanelled, https://sgrh.com/medical-visa, accessed on April 13, 2020.


## ❖ REFERENCES (B)


- Tobacco Cessation Clinic, Sir Ganga Ram Hospital, available at https://sgrh.com/tobacco-cessation-clinic, accessed on April 15, 2020.
- ENT Cancer Clinic, Sir Ganga Ram Hospital, available at https://sgrh.com/ent-cancer-clinic , accessed on April 15, 2020.
- Gynae-oncology Clinic, Sir Ganga Ram Hospital, available at https://sgrh.com/gynae-oncology-clinic , accessed on April 16, 2020.
- Diabetic Foot Centre, Sir Ganga Ram Hospital, available at https://sgrh.com/diabetic-foot-care-centre , accessed on April 16, 2020.
- Paediatrics Endocrinology Clinic, Sir Ganga Ram Hospital, available at https://sgrh.com/paediatrics-pulmonology-clinic , accessed on April 16, 2020.
- Hyperlipidaemia Prevention Clinic, Sir Ganga Ram Hospital, available at https://sgrh.com/hyperlipidaemia-prevention-clinic , accessed on April 17, 2020.
- Yoga Lifestyle Clinic, Sir Ganga Ram Hospital, available at https://sgrh.com/yoga-life-style , accessed on April 18, 2020.

## ❖ REFERENCES (C)


- WHO. The Global Health Observatory: Explore the World of Health, Data. Geneva: World Health Organization, (last accessed on May23, 2020) Available from -
- https://www.who.int/workforcealliance/knowledge/resources/GHWA-a_universal_truth_report.pdf
- OECD library https://data.oecd.org/healthres/medical-graduates.htm
- https://apps.who.int/gho/data/node.main.HWFGRP_0020?lang=en
- https://apps.who.int/gho/data/node.main.HWFGRP_0040?lang=en
- https://apps.who.int/gho/data/node.main.HWFGRP_0040?lang=en
- https://apps.who.int/gho/data/node.main.GHEDGGHEDGDPSHA2011?lang=en
- https://apps.who.int/gho/data/node.main.GHEDGGHEDGGESHA2011?lang=en
- https://apps.who.int/gho/data/node.main.GHEDOOPSCHESHA2011?lang=en
- https://apps.who.int/gho/data/node.main.488?lang=en

- GHS Index. The Global Health Security Index, available from - https://www.ghsindex.org/, last accessed on May 12, 2020.

- Article, *COVID-19: Did the UK Government prepare for the wrong kind of pandemic?*, Available from -https://www.theguardian.com/world/2020/may/21/did-the-uk-government-prepare-for-the-wrong-kind-of-pandemic, Last accessed on June 6, 2020.

- Article, *Why has Spain been hit so hard by the corona-virus pandemic? (April 25, 2020)* , Available from - https://economictimes.indiatimes.com/news/international/world-news/why-has-spain-been-hit-so-hard-by-the-coronavirus-pandemic/articleshow/75373535.cms, Last accessed on June 8, 2020.

- JACC: Case Report, *The outbreak of COVID-19 in Italy* (April 12, 2020), Available from - https://casereports.onlinejacc.org/content/early/2020/04/22/j.jaccas.2020.03.012, Last accessed on June 6, 2020.

- Paper, *The Good, the Bad and the Ugly Germany's response to the COVID-19 Pandemic – Amrita Narlikar (May 21, 2020),* Available from - https://www.orfonline.org/research/the-good-the-bad-and-the-ugly-germanys-response-to-the-covid-19-pandemic-66487/ , Last accessed on June 8, 2020.