

**AMRI Hospitals: Impending Challenges for Management of COVID-19 Vaccination,
International and Government Funded Insurance Patients**

Dr. Prasanjit Dasgupta*

Professor-Faculty of Management & Commerce, ICFAI University Tripura
Kamalghat, Agartala-799210, India
E-mail: pdasgupta2015@gmail.com

Dr. Abhishek Goel

Associate Professor

Organizational Behavior Area, Indian Institute of Management Calcutta
Diamond Harbour Road, Joka, Kolkata, India

*Corresponding author

Abstract: *AMRI Hospitals has three hospitals in Kolkata and one in Bhubaneswar in the eastern part of India. With its 5000 doctors and employees, they serve 450,000 patients annually. The group incurred an operating loss in the first quarter of 2020-21 due to the Covid-19 pandemic. The pandemic continued; the subsequent quarterly financial result was not encouraging as they have merely scraped through operating losses. AMRI Hospitals are feeling challenged: It needs to expedite Covid-19 vaccination program to cover the maximum number of people; It needs to decide about continuing with its two centers in Bangladesh since these have become almost non-viable due to restrictions on international travel due to the pandemic; It needs to develop an economic model for treating the patients covered under the state government-funded insurance scheme 'Swasthya Sathi' as offered rates are not meeting the expenses.*

Keywords: Hospital Management; Government Fund; Covid-19 Management

INTRODUCTION

Morning of July-15, 2021,

Rupak Barua, Group CEO of AMRI Hospitals Ltd., headquartered at Kolkata, India, pondered upon the meeting notes from the previous evening. The senior-most officials of the State Health Department had called a meeting of the top hospitals in the state. Minister of State for Health and Secretary of Health of the Gov't of West Bengal; was present to discuss ways to deal with the rising covid cases. Public health experts have predicted a third wave of cases shortly. The only way to deal with the deadly pandemic is fast vaccinating of population. The Union Ministry Officials had already expressed "displeasure" over the slow pace of vaccines by private hospitals (Hindustan Times, 14/7/2021). The State Health Secretary had made it clear that the state has to be a leader in the vaccination drive. Though he could direct, he preferred asking for support from the best resources in ensuring the results. Barua and his friends representing the top healthcare facilities in the state admired the guile, team spirit, objectives set for his hospitals, and others.

You have to read between the lines to get a clear idea of what Mr. Secretary meant. It is a clear directive and a wake-up call for all of us. AMRI Hospitals have made good progress in vaccinating, yet more needs to be done. How; is a question that we need to figure out?

It was not the only challenge that Barua faced. The pandemic striking the Indian shores in February 2020 and subsequent lockdowns since mid-March 2020 had taken a toll on the hospitals, doctors, staff, patients, and the resource pool. Hospitals and healthcare faced a dual-edged sword. These infections severely affected the employees, doctors of hospitals, whereas they had to find a new challenge in living up to the commitment of providing healthcare facilities so that people can be in good health. On the other, the patients could not travel to hospitals for regular checkups or routine healthcare, scheduled procedures (surgeries), etc. AMRI's Kolkata units had a constant inflow of patients from its extension centers in Bangladesh and about 50 beds per day occupied by foreign patients during pre-covid days. Following the stoppage of international flights, visas, and other practical difficulties for international patients, AMRI's two centers in Bangladesh had come to a standstill. Since AMRI had already created a success story in the competitive but lucrative foreign market, it had taken a call to continue the centers for a couple of years at a bare minimum and bear the additional costs. As the second wave of cases struck, the contribution of Bangladesh facilities dried up to zero. AMRI officials felt the pinch.

From contribution to nothing and then bearing the costs, it is a double whammy for us. The potential exists, and we will make good of it, but the external situation is out of hand. If only there were some improvements.

Dried-up of existing revenue sources, operational difficulties, and desired expansion of vaccination efforts exacerbated further by the state government's insistence that private hospitals play an active role in the *Swasthya Sathi* (translation: Friend for Health) scheme. It was launched by the Gov't of West Bengal in 2016, aimed to provide a basic health cover for secondary and tertiary care up to INR 5 Lakh per annum per family. Schemes' application was optional at that time for private hospitals.

In December 2020, the government withdrew the option for private hospitals' participation; and all hospitals must admit patients enrolled in the *Swasthya Sathi* scheme. Association of Hospitals of Eastern India (an association representing private hospitals) requested the state government to revise the rates for treatment. One anonymous member commented,

We understand the government's position given the pressures on its healthcare facilities, and we wish to support the government's initiative for its service orientation – our first responsibility. Most of our facilities are in the cities with very high fixed and operational costs. There is a standard that we have built and maintained over some time. Cross-subsidization from other patients will not be sustainable. It is a challenge in which we need to find some trick out of the box. Now, the hope is to be in business because that's the only way to serve the people.

Many private hospitals represented against the order, AMRI Hospitals accepted the challenge.

BACKGROUND OF AMRI HOSPITALS

The first AMRI Hospital started its operations in 1996 with a single building at Dhakuria in the southern part of Kolkata with the Government of West Bengal as the third partner. The other two partners were Shraichi Group and Emami Group of Kolkata. Both business houses/groups shared a long history of family association and several collaborative business ventures. It added another building to its Dhakuria facility in 2006, later acquired another hospital in the Salt Lake Area of Kolkata. They then added a third facility to the list in 2011 with the commissioning of a new hospital in Mukundapur in 2011 close to Emami Headquarters. Continuing with the expansion plan, they added another hospital in Bhubaneswar in 2014.

Considering the potential of medical tourism in the region; and its proximity to Bangladesh, AMRI took the bold initiative of setting up two number facilities in Bangladesh. It was an excellent value proposition to the patients with assistance in quality diagnostics, minimizing their international travel time and expense, and assisting with the paperwork to obtain requisite permissions facilitating their travel and stay.

As of June 2021, AMRI Group of Hospitals employed more than 5000 doctors and employees, its 1100 beds across the facility could serve 450,000 patients annually. AMRI hospitals conducted nearly 15,000 surgeries every year and carried out 150,000 diagnostics every month. The business and operations model required clockwork precision, which AMRI seemed to have achieved.

It was never a smooth ride for AMRI; AMRI had one of the worst nightmares that any healthcare facility could ever imagine. On 9/12/2011, in the early morning hours, a severe fire engulfed one of the hospital buildings of Dhakuria. Ninety people died in that incident leading to a massive embarrassment for the Owners. This event publicized in local and national media led to a hostile public opinion, the license of the building was canceled the company incurred huge losses. The media and the public wrote off AMRI hospitals. The group virtually shut down to ignominy; in 2012-2013.

Rupak Barua takes charge in 2014

Rupak Barua is a transformational leader in the healthcare industry, known primarily for running private or corporate hospitals. The AMRI Group extended the offer of leading the AMRI Group of Hospitals in 2014 when Barua was the CEO of BM Birla Heart Research Center. BM Birla itself is a reputed hospital in Kolkata and is a good brand across the country, being the first NABH Accredited Hospital in India. Barua himself was unsure of accepting the offer from AMRI. He recalled,

When the offer came at the beginning of 2014, I was in a dilemma. Many of my friends and family members advised me not to join this hospital group as its future was uncertain given what had happened there in 2011.

In the end, he accepted the challenge after a long deliberation with the promoters. He shared,

I found them sincere, well-meaning for business and other social objectives, and clear about the desire to run their hospitals with zeal and enthusiasm.

The company incurred an operating loss of INR 1,878.01 Lakh in 2012-13; INR 3,365.65 Lakh in 2013-14; and INR 3,865.63 Lakh in 2014-15. A Group CEO from a Hospital Chain

joined and left within a few months of joining. Barua, through several interventions, turned around the operating loss, and in the year 2019-20 and 2020-21 Group earned an operating surplus of INR 5,432.78 Lakh and INR 6,908.96 Lakh.

PRIVATE HEALTHCARE SECTOR IN INDIA

Earnest & Young (2020) viewed 'private healthcare facilities as the bedrock of capacity and capability in India, particularly in higher secondary and tertiary care. More than 60% of the hospital beds, 60% of patients, and 80% of the doctors are associated with the private health care system (Ernest & Young, 2020). The private healthcare system is among the five top employers in India. Earnest and Young (2020) reported revenue of private hospitals is Rs. 2.4 lakh crores.

During independence in 1947 private healthcare system used to provide 5-10% of total patient care (Sengupta & Nundy, 2005). Even thirty-five years back, the private healthcare system was composed of private practitioners and a few charitable hospitals. Since the early nineties, several state governments started encouraging the setting up of private hospitals by providing land on subsidized or sometimes at no cost and offering tax subsidies on the import of drugs and high-tech equipment. Even a joint venture through a public-private partnership was started in several states and is prevailing.

Some of the private hospitals in India are home for treatment for foreign patients. Many Asian and African patients get treated for complex surgeries which are not available in their country; some from Europe and America come for its delivery of healthcare at a cheaper rate. Sengupta and Nundy (2005) observed a shoulder replacement in the UK would cost £ 10,000; if done privately, without waiting for several months for turn under NHS; in India, same operations are possible at £ 1700 within ten days of first e-mail. Gov't of India encouraging medical tourism in-country and has expanded its e-tourism visa in February 2019.

Like other sectors, covid 19 pandemic and subsequent locked-down brought severe financial stress on the private hospitals in India, and many incurred losses. KPMG (2021) commented private healthcare sector facing all the difficulties rose to the occasion and provided all the supports that have been sought by the Gov't, in combating covid.

VACCINATION DRIVE

Wang et al. (2021) reported on December 28, 2020, 80.724 million cases were detected globally, and there was a death of 1.764 million due to infection of covid 19. They viewed, in this grave situation, fast discovery and authentication of vaccines have come up as a great hope for humanity (Wang et al., 2021).

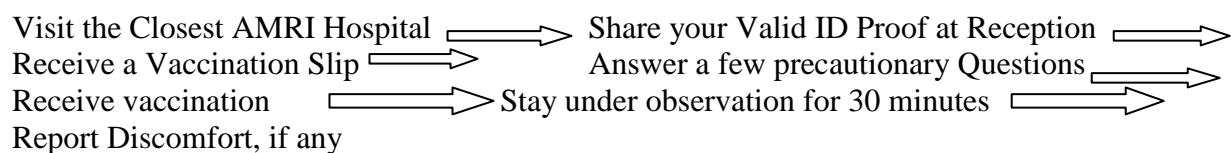
Vaccination became a huge challenge in India with a population of 138 billion; till the end of October 2021, 77.87 crores people got the first dose, and 43.1 crores people got the second dose (PIB Bulletin, Gov't of India). In the State of West Bengal, till the end of October 2021, 5.59 crores people were given the first dose, and 2.15 crores covered under the second dose (West Bengal COVID 19 Health Bulletin). Vaccination Program started in India on 16/1/2021, first to include all health workers and front-line workers like police, paramilitary forces, sanitation workers, and those engaged in disaster management. From 1/3/ 2021, citizens above 60 years and those between 45-60 years with one or more co-morbidities could register to be vaccinated. With effect from 1/4/2021, the scope extended to citizens above 45

years of age, and since 1/5/ 2021, it covered all above 18 years (Wikipedia). Mint (25/6/ 2021) reported that India's Vaccination Progress is not fast enough and may not be competent to halt the third wave of covid, and is much slower than that of West and China. If this pace of people getting vaccinated continues, it can take more than a year to cover the population (Mint).

Government Hospitals are administering vaccines free of cost. Rupak Barua explained in The Telegraph dated 29/5/2021 vaccinating people is not a profit-making venture; they are buying a dose of Covaxin at INR 1200 and are charging INR 1450, a dose of Covid-shield their charge is INR.750 against the purchase price of INR 550. The Additional amount covers transportation, cold chain, syringe, and employee cost. Charges for off-site vaccinating are INR 100/- extra. Barua says:

We are in uneven competition with government hospitals.

AMRI Hospitals have simplified the Vaccination Procedure in their hospitals and maintain the following flow chart:



Barua says:

We do not stop creating easy access to vaccination in our hospitals and want to reach the maximum number of people. We have set up camps in different places.

AMRI decided to go for off-site vaccination and reach:

- People such as aged ones whose children stay out-station and no one to look after;
- Those who do not want to visit a hospital for fear of infection;
- Those who do not have leave or off-time to leave their workplace and visit the hospital for vaccination;
- Those not possessing the urgent urge to be vaccinated but may avail if administered at the doorstep or in their leisure hours.

AMRI Hospitals organize camps to vaccinate in different housing societies, school complexes, and offices. They have also conducted a drive to vaccinate motorists, footballers, and police. A unique drive displayed by AMRI Hospitals is vaccinating people on-board in a car in front of their hospitals. It was a joint initiative with Kolkata Police for people who avoid visiting the hospital due to the fear of covid infection. Newspaper The Indian Express, dated 10/6/2021, reported that AMRI Hospitals conducted a vaccination drive in Kolkata Maidan in collaboration with Kolkata Police for senior citizens. Rupak Barua explained to the reporter, AMRI took the initiative for vaccination of senior citizens having no one to look after their well-being; and will organize two more camps in the city soon. They opened vaccinating counters at two shopping malls in Kolkata (The Telegraph, 16/6/2021) to vaccinate people while they do the shopping. They have also tied up with wellness clinics like VLCC Healthcare Ltd, a leading Wellness and Beauty Company, and that customers can be vaccinated when they visit these clinics, and their time can be saved (Taaza Samachar, 25/6/2021). AMRI Hospitals also use Salt Lake Stadium for vaccination purposes as the numbers of covid-infected cases have gone down (Times of India, 13/6/ 2021). Barua

informed almost 4000 doses are administered every day from their off-shore camps, and currently planning to vaccinate people from slums free of cost as there is a sufficient supply of vaccines. Barua says,

Expediting vaccinating is our prime drive, and we want to reach fast to all sections of society. I have asked all the functional heads to find means to approach the maximum number of people.

These points deserve serious exploration as more vaccinations can lead to the late emergence of the 3rd Spell of covid, and its intensity may be low.

OUTREACH CENTERS IN BANGLADESH

AMRI Group has International Business Department to facilitate foreign patients' treatment and stay. Its staffs are proficient in legal formalities and languages. For the exchange of currency and other transactions of foreign patients, they have partnered with BRAC Bank. The hospital provides ethnic cuisine, translation services, transport, and accommodation to foreign patients. Tie-ups have been made with several travel houses to promote medical tourism. They have simplified the whole process of the visit of foreign patients, Barua says

Our requirement from a foreign patient is only an e-mail from the attending registered physician; and personal details with a copy of the air ticket. We send them an invitation letter for a visa and on receipt of intimation of arrival arrange for their transport from Airport.

With proximity, common culture, and super-specialty treatment facilities, patients from Bangladesh often come to private hospitals of Kolkata to avail themselves of treatment. The Telegraph dated 3/10/ 2020 reported every day before the covid pandemic, 125 patients from Bangladesh used to visit OPD of Kolkata hospitals like Apollo Gleneagles, 60 patients in Peerless Hospital, 100 patients in Narayan Hrudayalaya, and the like. Every day about 10% of the Indoor Beds used to be occupied by them.

AMRI Hospitals have opened a separate Bangladesh counter for fast admission of the patients. Before pandemic average occupancy of Bangladeshi patients were more than 50 beds and has set up two extension centers at Dhaka and Khulna. Their center in Bangladesh performs as a super-specialty Tele-OPD clinic, apart from serving as an information center.

Due to the increase in covid cases in India, Bangladesh Gov't banned flight services between the two countries. Though flight has resumed in September 2021, due to visa restrictions, requirement of 14 (fourteen) days quarantine in India, the normal flow of patients may not happen in the short run. Some Directors question the utility of maintaining two centers in Bangladesh, upset Barua says

We have thousands of patients in Bangladesh who look at our doctors for support, but running two centers in Bangladesh is causing a financial burden on us in this critical situation.

Barua has initiated a plan to start an ambulance service from Petrapole (nearest border check-post from Kolkata) so patients from southwest Bangladesh staying near Kolkata can come through the road for treatment. It will save their costly air-fare. For the lack of demand, the

ambulance services have not yet started regular basis. However, they send an ambulance in case of such a request. Barua has asked their center-head at Khulna to popularize it in the adjacent border districts of Bangladesh.

Despite the pressure of some directors, Barua has not yet decided to close down those two units and is exploring means for their sustenance, and confusion prevails at this juncture.

PATIENTS UNDER GOVERNMENT FUNDED INSURANCE (SWASTHYA SATHI) SCHEME

In 2016, the *Swasthya Sathi* Scheme with some insurance companies, introduced by the Gov't of West Bengal. The state government announced to cover all the residents under the *Swasthya Sathi* scheme from 1/12/ 2020. Residents covered under other insurance schemes are not under its coverage. Cashless treatment up to Rs. 5 Lakh per family guaranteed under it, treatment up to Rs. 1.5 Lakh is payable through insurance mode and the rest through assurance mode. Premium is payable by State Gov't, and within 30 days serving hospital is entitled to reimbursement after treatment of the patients, failing which interest is chargeable.

The introduction of the *Swasthya Sathi* Scheme opened a new challenge to the AMRI Hospitals. Their hospital follows the highest degree of hygienic standard, good quality linen, hot case trolleys for serving warm food, air-conditioned setup, best modern devices, run the hospital with high paid doctors, nurses, technicians, and other experienced employees. These make treatment costly. Bed charge under *Swasthya Sathi* Scheme for Ward and ICU is Rs.1800/- and Rs. 3300/-; whereas those of the hospital are Rs. 4000/- and Rs. 14,000/-. There is a difference in the rate of different invasive procedures, other charges etc; Table I shows a comparison:

TABLE I: SWASTHYA SATHI RATE VS AMRI HOSPITAL RATE-COMPARISON				
Sl. No.	Specialty	Package/ Charges	Swasthya Sathi Rate (INR)	AMRI Rate (INR)
1	Cardiology	Coronary angiography [CAG]	10000	15000
2	Cardiology	Coronary Angioplasty {PTCA} (Stent Price	60000	111000
		Drug Eluting Stents (DES) including metallic DES and Bioresorbable Vascular Scaffold (BVS)/ Biodegradable Stents-Rs.30180+5% tax)		
3	CARDIO	Permanent pacing Double chamber (DDDR) [Device cost extra]	30000	63000
4	CARDIO	Permanent pacing Double chamber (DDDR) MRI Compatible [Device cost extra]	30000	63000
5	CTVS	CABG on pump	150000	205000
6	CTVS	CABG off pump	130000	205000
7	CTVS	Single Valve for small aortic root/special prosthetic Replacement	150000	231000
	CTVS	Double Prosthetic Valve Replacement	210000	231000
8	General Surgery	Cholecystectomy	22000	82500
9	General Surgery	Hernia - Hiatus - abdominal	24000	82500

	General Surgery	Adhenolysis + Appendicectomy	18000	82500
10	General Surgery	Fissurectomy +Fistulectomy	14400	66000
11	Urology /Nephrology	TURP (Trans-Urethral Resection of Bladder)Prostate	15000	88000
12	Urology /Nephrology	Ureteroscopic stone Removal And DJ Stenting	15000	64000
13	Urology /Nephrology	Nephrectomy	20000	108000
14	Obstertics and Gynaecology	Normal delivery + perineal tear repair	4500	82500
15	Obstertics and Gynaecology	Casearean Delivery+ Salpingoophrectomy	9500	104500
16	Obstertics and Gynaecology	Hysterectomy (Abdominal and Vaginal) + Salpingoophrectomy*	15000	115500
17	Orthopaedics	Arthroscopic reconstruction / repair - knee / - shoulder	55000	154000
18	Orthopaedics	Partial major joint replacement surgery	55000	165000
19	Orthopaedics	Total major joint replacement surgery	85000	302500
20	Orthopaedics	Open reduction & internal fixation - pelvis	65000	110000
	Orthopaedics	O R I F of fracture of neck femur with muscle pedicle bone grafting	55000	154000
21	Neuro-Surgery	Haematoma - Brain (hypertensive)	35000	117500
22	Neuro-Surgery	Shunt	20000 (Medium pressure shunt)	132000
23	Neuro-Surgery	Excision of Brain Tumours -Supratentorial	55000	187000
25	Radiotherapy and chemo therapy	IGRT WITH 4D CT BASED PLANNING	120000	190000
26	Radiotherapy And Chemo Therapy	Conventional Rt (Linear Accelerator)	35000	55000
27	ROOM RENT	WARD (INCLUSIVE ALL)	1800	4000 (all other services to be Billed in actuals)

28	ROOM RENT	ICCU	3300	14000(all other services to be billed in actuals)
----	-----------	------	------	---

(Source: AMRI Hospitals)

Recently government has raised the charges by 20%; even a wide gap in the rates prevails. Many private hospitals have represented for its revision of rates, AMRI accepted it.

Barua says:

Being a responsible healthcare provider, we accepted this decision of the government and implemented Swasthya Sathi Scheme. We know government-funded health insurance will cover the maximum number of people of the nation; hospitals need to adjust to it, cross-subsidization from the income of paying patients to those under these schemes cannot be a solution.

They have created an economic model without compromising the quality of treatment. Expenses like doctors' fees, surgery charges, medicine costs, costs towards sutures and consumables, and food comprises a good share of a hospital bill. Young qualified doctors provided options to serve patients at lesser fees; hospital pharmacies needed to deliver generic drugs; purchase department advised to buy sutures and consumables after thorough scrutiny about quality and price. They also tried to optimize the utilization of equipment and reagents in diagnostics and surgery. It brought down the cost to some extent, and a committee comprised of doctors and managers of different disciplines has been formed to keep track of these cases. Some officials have suggested taking houses on rent in the vicinity and opening ward exclusively for these patients. Barua says

Another aspect that we are continuously focusing on is reducing the number of days required for creating a bill of the patients admitted from different schemes like the Swasthya Sathi Scheme.

Preparation of bills of the patients under medical schemes of different corporate houses and the Swasthya Sathi Scheme is time-taking, as a lot of manual work is required. Delay in the generation of bills amounts to blockage in working capital as hospitals have already spent for discharged patients sent by impanelled organizations. AMRI has already reduced it from 7 days in 2014 to 3 days in 2021 and is working further for these Swasthya Sathi patients as they constitute a large segment of patients.

Despite these measures, hospitals are yet to get a surplus from the treatment of these patients. Barua feels the mode of operation of this scheme to be explored to create a sustainable model for private hospitals.

REFERENCES

AMRI Hospitals Website: <https://www.amrihospitals.in/>

AMRI Information Center, Khulna, Bangladesh <https://allevents.in/org/amri-information-center-bangladesh/16219153>

Anoo Bhuyan (2020, September 23) COVID19 Impact: Private hospitals running losses, despite high prices. *Business Standard*. https://www.business-standard.com/article/current-affairs/covid-19-impact-private-hospitals-running-losses-despite-high-prices-120092300233_1.html

Bloomberg (2021, June 25) Fast but not fast enough? Why India's vaccination speed may not stop third wave, *Mint*. <https://www.livemint.com/news/india/fast-but-not-fast-enough-why-india-s-vaccination-speed-may-not-stop-third-wave-11624589671226.html>

Express News Service (2021, June 10). Drive by vaccination camp opens at Maidan, two more on the anvil, *The Indian Express*. <https://indianexpress.com/article/cities/kolkata/drive-by-vaccination-camp-opens-at-maidan-two-more-on-the-anvil-7351864/>

Government of West Bengal: Department of Health & Family Welfare (2021, October 31). *West Bengal COVID 19 Health Bulletin*, [Press Release] https://www.wbhealth.gov.in/uploaded_files/corona/WB_DHFW_Bulletin_31ST_OC_T_REPORT_FINAL.pdf

International Patients: <https://www.amrihospitals.in/international-patient>

Ministry of Health and Family Welfare, Gov't of India (2021, July 7): *Vaccine Registration* [PressRelease] https://www.mohfw.gov.in/covid_vaccination/vaccination/faqs.html#a-bout-the-vaccine

Mistry, L (2021). *India' healthcare sector transformation in the post-covid 19 era*, KPMG India, <https://home.kpmg/in/en/home/insights/2021/02/india-healthcare-sector-transformation-in-the-post-covid-19-era.html>

Mukherji, U.P. (2021, June 13) Hotel Satellite Units being shut after Case Dips in Kolkata, *The Times of India* <https://timesofindia.indiatimes.com/city/kolkata/hotel-satellite-units-being-shut-after-case-dip/articleshow/83468803.cms>

PIB Headquarters, Gov't of India (2021, October 31- 19 IST): PIB's Bulletin on COVID-19 [Press Release ID 227093] <https://pib.gov.in/newsite/pmreleases.aspx?mincode=31>

Sanjay Mandal (2020, October 3). Options for Covid hit healthcare economy- Bangla patients back in city. *The Telegraph*, <https://epaper.telegraphindia.com/calcutta/2020-10-03/71/Page-7.html>

Sanjay Mandal (2021, May 29). Covid vaccine rates vary at private health units in Calcutta. *The Telegraph*, [https:// www.telegraphindia.com/ west-bengal/calcutta/ covid-vaccine- rates-vary-at-kolkata-private- units/cid/1817077](https://www.telegraphindia.com/ west-bengal/calcutta/ covid-vaccine- rates-vary-at-kolkata-private- units/cid/1817077)

Saptarshi Biswas (2021, June 25). VLCC joins hands with AMRI Hospital for COVID-19 Vaccination drive in Kolkata. *Taaza Samachar.Com*.

<http://24x7taazasamachar.com/State/details/3311/VLCC-joins-hands-with-AMRI-Hospital-for-COVID-Vaccination-drive-in-Kolkata>

Sengupta, A, & Nundy, S (2005). The private health sector in India: Is burgeoning but at the cost of public healthcare. *BMJ*, 331(7526), 1157-1158. doi:[10.1136/bmj.331.7526.1157](https://doi.org/10.1136/bmj.331.7526.1157)

Singh, S.S.(2011, December9). 90 killed in Kolkata hospital fire, *The Hindu*. <https://www.thehindu.com/news/national/other-states/90-killed-in-kolkata-hospital-fire/article2700650.ece>

Staff Reporter (2021, July 14). Slow pace of COVID 19 vaccination by private centers' cause of serious worry: center tells some states, *The Hindustan Times*. <https://www.hindustantimes.com/india-news/slow-pace-of-covid-19-vaccination-by-private-centres-cause-of-serious-worry-centre-tells-some-states-101626258432749>.

Subhajoy Roy (2021, June 16). Covid: Two Calcutta shopping malls to offer jabs from Wednesday. *The Telegraph*, [https:// www.telegraphindia.com/ west-bengal/calcutta/covid-two-calcutta-shopping-malls-to-offer-jabs-from-today/cid/1818945](https://www.telegraphindia.com/ west-bengal/calcutta/covid-two-calcutta-shopping-malls-to-offer-jabs-from-today/cid/1818945)

Wikipedia-AMRI Hospitals: https://en.wikipedia.org/wiki/AMRI_Hospitals

Wikipedia- COVID 19 Lock down in India: [https:// en.wikipedia.org/ wiki/ COVID-19 lockdown in India](https://en.wikipedia.org/wiki/COVID-19_lockdown_in_India)

Wikipedia-COVID 19 Pandemic in India: [https:// en.wikipedia.org/ wiki/ COVID-19 pandemic in India](https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India)

Wikipedia- COVID 19 Vaccination in India: [https:// en.wikipedia.org/ wiki/ COVID-19 vaccination in India](https://en.wikipedia.org/wiki/COVID-19_vaccination_in_India)