Heartfelt Thanks for Your Support!

SATHEESH KATHULA MD, FACP
FOR SECRETARY OF AAPI-2021

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Clinical Professor of Medicine
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Chair, Adopt a Village Committee, AAPI
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Past President, ATMGUSA
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Founding Member and President,
Association of Indian Physicians from Ohio
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Covid-19, the pandemic produced by Corona Virus or SARS-CoV-2 has changed our lives unexpectedly as we all know it. While we are striving to adapt to the ‘New Normal’, it’s a blessing to be able to stay connected virtually and maintain a semblance to near-normalcy. One such AAPI tradition is our AAPI Journal. I am grateful for the opportunity to serve as the Chair-woman of AAPI Publications Committee. This has been the most humbling, stimulating and inspiring experience coordinating this stupendous task.

This special edition’s focus is on ‘How the pandemic has affected our medical community—from personal stories to medical research’. The articles depict, real life stories from physicians who experienced Covid-19 firsthand, the toll it had on our healthcare system, the psychological impact stemming from isolation, and the result of ongoing relentless research and trials that enabled us to develop effective regimens and quality vaccines in record time. It is heartening to see our community stride forward with valor, grit and hope despite the challenges.

I especially want to thank our AAPI President, Dr. Sudhakar Jonnalagadda for the confidence he has shown in me. I am grateful for my editorial committee who despite their busy schedules spent innumerable hours working assiduously and meticulously checking every detail, considering every suggestion made by advisors, co-chairs and committee members. I want to extend my sincere thanks to all the authors for their contributions and sharing their experiences. I especially want to highlight the administrative support provided by Ms. Vijaya Kodali in the making of this journal. I truly appreciate and thank the advertisers and sponsors for their generosity.

We had a year filled with challenges and tragedies never seen before, yet we kept moving forward with the light of hope burning bright in our hearts and mind. It is my sincere yearning, prayer, and desire, that whenever we look back at this time, we shall remember not only the loss and pain which we endured, but the vigor and strength that we exhibited to rise above it!
Dear AAPI members, supporters, sponsors and well-wishers,

It’s with a great joy and a sense of fulfilment, I want to express my sincere gratitude and appreciation to every one of you for your continued support, collaboration, cooperation, warmth and fellowship you have shown so far, helping me and the Executive Committee in leading AAPI smoothly to newer heights.

I am excited to share with you that on January 9th, the Government of India conferred on me The Pravasi Bharatiya Samman Award (PBSA) which is the highest honor conferred on Non-Resident Indians, Persons of Indian Origin or an organization/institution established and run by the Non-Resident Indians or Persons of Indian Origin in recognition of their outstanding service and achievements both in India and abroad.

On behalf of AAPI and the selfless services we as physicians render to humanity, I was chosen for the prestigious award by the government of India in the field of Medicine and for the leadership of AAPI, the largest ethnic medical organization in the US, especially during the Pandemic. I want to thank the AAPI Legislative Committee Chair Dr. Sampat Shivangi for nominating me for the Award.

I wanted to express my sincere gratitude and appreciation to the Government of India for selecting me for the prestigious award. In recognizing me, the government has recognized all the medical professionals who have been in the forefront fighting Covid in the USA, including those who have laid their lives at the services of treating patients infected with the deadly virus. This award will strengthen the medical fraternity to recommit our efforts, skills and talents for the greater good of humanity.

The outbreak of Covid 19 has caused significant health-related social, political and economic consequences worldwide. We are deeply saddened by the passing away of Dr. Ajay Lodha, Dr. Mukul Chandra, Dr. Priya Khanna, and Dr. Satyendra Khanna, true heroes and Covid-warriors, who sacrificed their life while caring for the people diagnosed with the deadly virus during the early days of the pandemic. We mourn their deaths and pray for their souls.
When I assumed charge as the President of AAPI, I had vowed to lead the largest ethnic medical society in the United States, representing the interests of over 100,000 Indian American physicians, to the next level and “bring all the AAPI Chapters, Regions, Members of the Executive Committee and Board of Trustees to work cohesively and unitedly for the success of AAPI and the realization of its noble mission.”

I am proud of the many accomplishments under my leadership, including the regular educational seminars, workshops, obesity programs and webinars we organize every week on timely and important topics of interest to member physicians and the larger public. The launching of the AAPI Medical Journal, Share a Blanket Project, World Restart A Heart Day, and strengthening several ongoing AAPI charitable projects in India are only some of the initiatives we have been focusing on. My special thanks to Dr. Vemuri Murthy, Chair, CME webinars.

With continued support from members of AAPI family, we have been able to initiate and strengthen several programs, including the clinical observership program for international medical graduates; community outreach program through Zee TV and other media outlets; Share a blanket program, which has been highly successful involvement of over 30 AAPI Chapters; I want to thank Dr. Raghu Lalabhattu, Dr. Manoj Shah and Dr. Anil Tibrewal, Dr. Binod Sinha; Community purified water program, which has been well received this year, and we have Nine Sponsors who have come forward to donate money; and several others.

The growing clout of the physicians of Indian origin in the United States is seen everywhere as several physicians of Indian origin hold critical positions in the healthcare, academic, research and administrative positions across the nation. Indian doctors have carved a comfortable niche in the American medical community and have earned a name for themselves with their hard work, dedication, compassion, and amazing skills and talents.

I am grateful to AAPI’s Executive Committee Members, Board of Trustees, Chairs and Members, Volunteers and Sponsors for their continued dedication and visionary leadership and efforts to make AAPI a stronger and more vibrant organization. I am ever grateful to the media for its continued support all along.

I sincerely applaud and thank Dr. Udaya Shivangi and her co-editors, who have worked very hard in bringing out the AAPI Journal in a very short period of time. I am very excited to see the participation by the members of AAPI, MSRF, and YPS. AAPI Journal has given us a forum to share our experiences helping not only physicians, but students and laymen, who seek knowledge in healthcare and medicine, and thus impacting medical research, ethical principles and influence the world in a way that will bring recognition to individual contributors as well as to AAPI as an organization.

Congratulations to Dr. Udaya Shivangi and AAPI Journal Team.

Enjoy!
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MALTI MEHTA, MD
SOUTH
AAPI is a close-knit family and we have had some good times and some bad times. Recently, we lost several leaders and members who have provided invaluable service to this organization. As physicians we are used to taking care of others and when one of our own succumbs to this deadly disease it reminds us that we need to support and be kind to each other.

This year has been like no other in the lifetime of this organization. By this time in the year, we would have had various AAPI events that would have brought us together to unify and promote the mission of our beloved organization. Although we have not been able to meet in person, we have connected through many virtual CME promoting education and collaboration to our membership. Under the leadership of our President, we held a successful and healthy mini convention and governing body meeting in Chicago, it was well attended with great memories. Currently, we are actively participating in the planning and execution of the global AAPI healthcare Summit in April 2021- which will include educational as well as social sessions and we invite you all to attend. Please join us for the Japan Tour in April and AAPI Arctic family Cruise in July. We are optimistic that we will all be vaccinated and will be safely able to travel again!

AAPI conducted many CME’s including local chapter events and helped increase membership. Topics ranged from breast cancer, workplace wellness, vaccine updates to lung cancer. Early in the pandemic the BOT worked with the EC to raise money for the COVID-19 fundraiser and we continue to further raise money together with EC, CF and AAPI members. Trustees continue to actively participate in conducting educational webinars, blanket donation initiative programs, mentorship and clinical observership programs.

I am delighted to report that the BOT investment portfolio did well during this term with positive income and balance of 3.1 Million. In addition, a new AAPI-BOT endowment fund was established this year which now totals 332 K. We continue to strive towards the goal of financial stability this term but also continue to lay the foundation to build upon funds for the future years.

Never have I been more grateful for and reliant on my fellow trustees and our President than I have been this past year. The board has met several times and we have had many fruitful conversations discussing vital topics that affect the livelihood of this organization. Their judgment and dedication to doing what is right is unparalleled, as has been their willingness to put in the time and effort to properly position our organization for strength in these very difficult times. If ever there was a time for us to step up and lead, it is now. And that is exactly what we are doing. With the help of our membership and leadership, we will make AAPI stronger, better, financially more stable & will take it to further heights in the future!
Greetings and Warm wishes to beloved AAPI members!!

American Association of Physicians of Indian Origin (AAPI), nonprofit 501C3, representing the noble community of Indian American Physicians in United States, has been recognized as a vital healthcare entity providing healthcare in every rural corner of this country. Since its inception over the last 38 years, AAPI has grown and became the largest ethnic physician organization in US with more than 100,000 Indian-American Physicians and more than 30,000 2nd & 3rd generation young physicians.

We, the Physicians of Indian Origin, are making significant contributions to the healthcare sector and economic growth in United States through our compassion, dedication, hard work, excellence in patient care, academics, research, leadership roles in organized medicine and philanthropic activities as well.

Over the years, AAPI activities have grown significantly. But the financial growth of AAPI has been slow and it’s been challenging to meet the daily needs to run the office and support its ancillary staff. The basic office/operational expenses range from $250,000 to $350,000 annually. The current Patron Funds of $2.5 Million are able to support half of the operational expenses and the remaining have to be generated from sponsorships and annual convention income.

Endowment Fund of at least $5 million is needed to self-sufficiently support the daily operations and thereby the leadership can focus on the vision, mission and goals of AAPI.

For first time in the AAPI history, under the presidency of Dr. Suresh Reddy (2019-2020), the AAPI “Operations” Endowment Fund has been established with an initial investment of $300,000 with Raymond James. The goal is to generate about $2.5 million in Endowment in next 5 years.

A big thanks and congratulations to the current Premium benefactor donor members for your generosity and support.

DONOR DIRECTED ENDOWMENT FUND

Dr. Rajesh Kakani
For the first time, this year Donor directed endowment fund has been created in December 2020 by AAPI. We are proud to recognize Dr. Kakani Family Foundation who has generously donated $100,000 towards the cause to support and encourage Research in Medical Students, Residents and Fellows and recognize their achievements in the form cash prizes at the Annual Convention.

Gold Members: ($25,000)
Dr. Anupama Gotimukula (paid $25,000)
Dr. Suresh Reddy (paid $15,000)
Dr. Sudhakar Jonnalagadda (paid $10,000)

Silver Members: ($10,000)
Dr. Ravi Kolli
Dr. Saraswati Muppana
St Louis Chapter, AAPI
Dr. VK Raju (paid $5,000)
Dr. Sowmya Neravetta (paid $5,000)

Bylaws section 8.9
D. Premium Benefactor Endowment Award:
President-Elect Report

I. Most Valued Patron Plus Donor Named Awards

- **$250,000 Donor: Lifetime Achievement Award**
- **$200,000 Donor: Distinguished Physician Award**
- **$200,000 Donor: Distinguished Service Award**
- **$150,000 Donor: Distinguished Young Physician Award**
- **$150,000 Donor: Distinguished MSRF Award (MSRF: Medical Students, Residents, Fellows)**

"Donor Named Award": The donor gives the award personally to the recipient during the Annual Convention every year along with other special privileges provided to the Donor as mentioned in the Diamond Benefactor level (MVP)

**Diamond** Donor Benefactor/Most Valued Patron (MVP): $100,000 Donation

- Name on the Wall of Fame in AAPI Headquarters, Chicago
- Special Jacket engraved as “AAPI Diamond Benefactor (Most Valued Patron – MVP)”
- Name Recognition on AAPI Website, Journals/Souvenir for Life
- Complimentary Full-page Advertisement in the Convention Souvenir for Life
- Complimentary Free Registration for 2 (spouse or designated other) at the Annual Convention for Life
- Exclusive Designated Prime Seating for 2 (Spouse or designated other) at every AAPI Annual Convention at reserved MVP Table in the Front Row/President row (Stage Width)
- Name Recognition Announcement at every Annual AAPI Convention as Diamond Donor Benefactor on Friday Dinner Gala

**Platinum** Donor Benefactor (VVVIP): $50,000 Donation

- Name on the Wall of Fame at AAPI Headquarters, Chicago
- Special Rosette Badge with designation as “Platinum Donor Benefactor”
- Name Recognition on AAPI website, Journals/Souvenir for Life
- Complimentary Half Page Advertisement in the Souvenir for Life
- Exclusive designated seating for 2 (couple or designated other) at every Annual AAPI Convention at reserved VVVIP Table in 2nd row/President-Elect row (Stage Width)
- Convention Registration for 2 (spouse or designated other) at 50% discount every Annual Convention
- Name announced at every Annual AAPI convention as Platinum Donor Benefactor at Friday Lunch Event

**Gold** Donor Benefactor (VVIP): $25,000 Donation

- Name on the Wall of Fame at AAPI Headquarters, Chicago
- Special Rosette Badge with designation as “Gold Donor Benefactor”
- Name Recognition on AAPI website/Journals/Souvenir for Life
- Complimentary Quarter Page Advertisement in the Convention Souvenir for Life
- Exclusive designated seating for 2 (Spouse or designated other) at every Annual Convention at reserved VVIP Table- 3rd row/Vice-President row (Stage width)
- Convention Registration for 2 (spouse or designated other) at 25% discount at every Annual Convention for Life
- Payment may be extended over three years with first year payment above $10,000
- Name mentioned at Thursday Dinner Gala during Convention

**Silver** Donor Benefactor (VIP): $10,000 Donation

- Name on the Wall of Fame at AAPI Headquarters, Chicago
- Special Rosette Badge with designation as “Silver Donor Benefactor”
- Exclusive designated seating for 2 (Spouse or designated other) at every Annual Convention at reserved VIP Table- BOT/ RD/ Past BOT chairs/Past Presidents/4th row
- Honorable mention in the convention souvenir, website and AAPI Journal for Life
- Registration for 2 (couple or designated other) with 10% Discount for Life
- Payable over two years with first year payment of over $5,000
- Name mentioned at Thursday Dinner Gala during Convention

Donor Benefactors can be Individual members/Organizations. Donor Benefactor Level can be upgraded to higher levels anytime by paying the difference for the next level.

Looking forward to have more Premium Benefactor members to contribute towards this endowment fund and support our organization. It’s a great opportunity to work on this project and I look forward to work with every future president to reach the goal of $2.5 Million in near future!
UNCONVENTIONAL YEAR
DURING UNCONVENTIONAL TIMES

The year of 5 Ps
Petra, Punjagutta, Penguins, Pandemic, Prime Minister

SURESH REDDY, MD
36th President of AAPI 2019-20

With Corona Virus impacting every aspect of life around the world, posing several challenges in carrying out with numerous plans and programs for AAPI in 2020, Dr. Suresh Reddy, the 36th President of AAPI, has been right on task and has devoted the past one year leading AAPI to stability and greater heights.

“As the year ends, my three promises for the year of working in unison with the other arms of AAPI, long-term planning and financial stability have been achieved,” Dr. Reddy told AAPI members as he passed on the gavel to his successor, Dr. Sudhakar Jonnalagadda during a Virtual Change of Guard Ceremony on July 11th, 2020. “My term as president of AAPI will be noted as an “unconventional year during unconventional times,” Dr. Reddy said. Dr. Reddy also announced transfer of $100,000 towards the office expense for Dr. Jonnalagadda’s Presidency year 2020–21.

Never in the history of AAPI had so many educational programs been organized. Never had so many specialists shared knowledge so actively with the participation of thousands of Doctors from across the nation, during the GHS in Hyderabad in July 2019, and during the Pandemic in 2020.

Dr. Reddy recruited more than 10 Sub-Chapters into AAPI as Patron Members. He streamlined AAPI Bylaws with some historic changes. Dr. Reddy and his Team have been successful in making AAPI financially robust: He helped create ‘AAPI Endowment Fund’, by raising and donating $300,000 with a view to enable his successors to be able to focus on the mission of: Education, Mentoring, Research, Charity, and Service. Along with Dr. Anupama, the incoming President, Dr. Reddy facilitated the installation of $100,000 Kakani family endowment fund, the proceeds go to young researchers. Special thanks goes to Dr. Kakani Family.

Under Dr. Reddy’s leadership, AAPI has been actively involved in community awareness programs like Obesity prevention, sharing medical knowledge at the Global Health Summit, team building activities such as the Share a Blanket program, medical education programs such as CPR training, social networking programs including 3 trips to the continent of Antarctica, morale building programs like mentoring a future medical students, India heritage programs like Independence Day celebrations.

His foresight and leadership was appreciated as AAPI became the first major organization to call for ‘universal masking’. AAPI provided free masks to thousands of health care workers. AAPI members have honored more than 10,000 nurses in over 100 hospitals across more than 40 states by sponsoring lunches for them during the Nurses Week. AAPI has also stood against racial discrimination.

Vice President of India Sri Venkaiah Naidu, Union Minister of Health Dr. Harshvardhan addressed the highly successful GHS. It was the first time ever, a sitting Prime Minister of India addressed an AAPI event, when Shri Narendra Modi spoke at the Summer Summit organized by AAPI. Others who addressed the AAPI Summer Summit included, Dr. Susan Bailey, Dr. Patricia Harris, US Surgeon General Dr. Jerome Adams, Congressman Raja Krishnamoorthi, Soumya Swaminathan, from WHO.

AAPI joined hands with Indian Resuscitation Council to train 500,000 lay people in CPR during the month of October to celebrate the World Restart A Heart (WRAH) Day. AAPI has been in the forefront condemning Gun Violence, and has offered support to AMA’s Stance, calling upon the US and state governments to make common-sense reforms, supported by the American public to protect innocent lives. Collaborating with the Indian Embassy in DC, under his leadership more than 1000 prescriptions were written for Indian visitors who were stranded in the USA due to Covid Pandemic.

Dr. Suresh Reddy underwent medical education at Kakatiya / Osmania Medical Colleges, Telangana. He completed his Fellowship in Interventional Neuroradiology at Harvard Program in Boston. He served on the Harvard Faculty as Chief of Interventional Neuroradiology for a decade until he moved to Chicago to become Chief of Radiology at Hines Medical Center and an Associate Professor of Radiology at Loyola University.
AAPI Charitable Foundation has had a very busy time in the year 2020, taking care of disasters one after the other in the USA. This is including the COVID-19 pandemic, five disasters in California, and 3 hurricanes back to back in Louisiana.

In regards to COVID-19, a very large number of people in the USA were affected, including healthcare workers, but also the general population, both old and young. The Charitable Foundation took the lead in fighting this battle, as we immediately donated $25,000, along with the Board of Trustees, the Executive Committee, and fellow AAPI members. We are sincerely grateful for their selfless and most generous donations that were able to take care of the sick people affected by COVID-19, and were able to provide masks to many hospitals. We were also able to provide lunch for many nurses and healthcare providers in many local hospitals to show our deep appreciation for their sacrifice and dedication in this difficult time.

Then, we were hit by Category 4 Hurricane Laura, which destroyed the whole cities of Lake Charles, Louisiana and Beaumont Texas. People who were unable to evacuate were forced from their destroyed homes, with no drinkable water, food, shelter, and electricity.

The AAPI Charitable Foundation responded and took the lead for this disaster immediately, along with local business people, religious organizations, and volunteers from all over Louisiana. AAPI members again gave tremendously in their donations. We were able to provide bottled water, food including breakfast, lunch, and dinner, and snacks until people were able to receive shelter at local hotels in nearby cities not completely destroyed by the hurricane.

We greatly appreciate the donations from the local business people as well as our AAPI members and Charitable Foundation, as it was able to save the lives of the people we supplied resources to during this dreadful disaster.

Unbeknownst to us however, it would not be the last disaster to strike these towns that so desperately needed our help before, but even more so for the second hurricane, Category 4 Hurricane Delta. Then the third Hurricane that hit close by in New Orleans, Louisiana was Category 2 Hurricane Zeta. Massive amounts of destruction was seen in the area, many people were drastically affected by power outages, undrinkable water, and food and shelter shortages due to the previous hurricanes to affect the area.

However, AAPI Charitable Foundation and members of AAPI were able to help in these difficult times, and we are so proud and gracious to have such supporting and generous members in this great organization.

AAPI Charitable Foundation has 15 clinics in India, which provide healthcare for the poorest of the poor in remote villages in India. These clinics have provided services for many years and are funded by the AAPI Charitable Foundation. They also provide education for the prevention of communicable diseases, drinking clear water, dental exams and care, eye exams and care in which a doctor has come from outside to teach the importance of eye care in every stage, diabetes management, hypertension counseling, and smoking cessation as well. Some of these clinic also provide maternity services and physical therapy. Due to the virus, some of these clinics have been very busy administering free COVID-19 care for any and all affected.

AAPI Charitable Foundation has recently donated $5,000 for warm blankets to aid in the care of the many people need during the colder weather.

Also, recently we have outlined a project for clear drinking water in all states of India, which have already begun in Andhra Pradesh, Maharashtra, and Uttar Pradesh.

We are very grateful and humbled by the generous donations that our members of AAPI, Charitable Foundation, Board of Trustees, and Executive Committee have donated. This truly is a noble and amazing organization to be a part of. On behalf of those poor people affected by these disasters and this global pandemic, I sincerely thank all of you for your much needed support and donations.

I would like to thank my Charitable Foundation Executive Committee for all of their great help with this noble cause.

Many thanks and blessing to you all.
One thing that makes the COVID-19 pandemic such a harrowing experience is that it is selective in whom it affects. Scientific evidence of the predisposing conditions is only being discovered. That is why the disease had such a profound effect on my family. COVID-19 rips through the economic and sociocultural fabric of the family, testing its strength to the very core.

On April 7, 2020, I got a frantic call from my wife’s office that she was short of breath, her oxygen saturation was very low, she felt very sick and exhausted. As I rushed down, I found that she could barely speak. I immediately drove her to the OSU medical center ER. En-route, I called my friend Dr. Sonal Pannu – a Pulmonary & Critical Care attending at the OSU Medical Center. Anjana was admitted to the critical care unit and was immediately put on ventilator.

The next few weeks were full of anxiety and tension. Would my wife make it through this crisis? What kind of residual effects she may have after recovery? Would any more of my family members come down with this horrific disease? Terror often gripped me and I became speechless. Soon after her COVID-19 diagnosis, the rest of the family tested positive for the novel coronavirus as well. Frankly speaking, Anjana’s hospitalization was devastating not just for me as her husband, but for the entire family and our friends. During the first few days of her stay, we were patiently waiting and hopeful for a complete recovery.

On April 13 Anjana became the first person in the Ohio State Medical center to receive the convalescent plasma treatment and within 48 hours Anjana’s breathing improved. However, every time I received a call from the medical center, they only had bad news to tell me: Anjana’s condition was worsening. As her breathing deteriorated, we decided to put her on ECMO. Extracorporeal Membrane Oxygenation (ECMO) is a last resort life support option that has come to the rescue of many critically ill Covid-19 patients.

Unfortunately, the surgeon, while doing the procedure, accidentally perforated Anjana’s right ventricle that precipitated a totally unexpected cardiac arrest. She was successfully resuscitated and underwent immediate open-heart surgery to repair the damage. It was indeed quite devastating, given that our family was anxiously waiting to hear some uplifting news.

Needless to say, this unexpected crisis turned my entire family life into topsy-turvy. For the sake of argument, one could say that the family is the smallest administrative unit, and for good reason. As the organization primarily in charge of facilitating societal interaction, the absence of one partner skews the balance of responsibilities. For instance, the sudden absence of a mother leaves the father in charge of all the care giving roles that would typically accrue to the mother. As if that is not enough, there is added stress of the possibility of losing your critically ill partner. Being a caregiver within the family setting does not only involve emotional support, but also involve other aspects like administration logistics, managing outcomes within the family as a functional working unit and, more.

Surviving the pandemic as a family requires reallocation of roles that typically enable functionality as every member of the family undertakes their daily duties. The worst impact this disease has on the family are the implications that it has on the individual who is ill. Eight months post COVID-19, Anjana is thankfully recovering but the stress of the experience still persists. COVID-19 shook my family and our support structure to its core. Anjana’s gradual recovery is a testament of the tenacity of the human spirit, and the strength of all our prayers.
Anjana’s gradual recovery is a testament of the tenacity of the human spirit, and the strength of all our prayers. Anjana’s COVID-19 situation has negatively affected our family. It was an abnormal moment in our life as a family because we completely had to adapt to the new measures under the prevailing circumstances to save our lives even as we protect others. Initially it was difficult for us to accept the reality before us. Socially, we were isolated by the general public and we could hardly meet our friends and extended relatives.

We really appreciate and thank those who wished our family well during these difficult and heartbreaking moments. Nevertheless, we thank God for keeping our family together and giving us another opportunity to be together.

To quote from Craig Scott, “From every wound there is a scar, and every scar tells a story. A story that says, that I survived.”
Thank you FRONTLINE WORKERS

Gautam Samadder, M.D.
Past President, AAPI (2017-2018)
I am a Survivor!
I am a Warrior!
I am Stronger!
I am an Achiever!

The Future of AAPI Leadership
Anjana Samadder, M.D.
For AAPI Vice President 2021
The patient in Resus bay 2 is crashing in respiratory distress” screams the nurse and I quickly get up from my seat and rush towards the room. I know the patient is possibly Covid-19 positive. She is a 54 yr old obese Hispanic female whose husband tested positive for Covid two days ago. As I am gearing up outside the room multiple thoughts are going through my head.

I am watching the monitor and seeing the patient’s vital signs. Her oxygen level is dropping and she is getting more lethargic and unable to breathe on her own. I will have to intubate this patient.

The major problem with COVID-19 is lack of oxygen. Patients can’t breathe deeply enough or fast enough to overcome the fluid filling their lungs. They become so ill, so fast that they often require breathing near pure oxygen to maintain effective levels in their bloodstream. The most effective way to deliver oxygen is to place a plastic tube into the patient’s throat (intubation). A ventilator can then push pure, pressurized oxygen into the lungs. I start ordering meds to sedate the patient and ask my tech to grab the intubation equipment.

Next, we gather our personal protective equipment. Intubation is a risky procedure in the era of COVID-19. Viral particles are expelled from the lungs inside droplets of water. Coughing or sneezing causes these droplets to fly across the room. A simple surgical mask and goggles will block those large droplets from entering the mouth, nose and eyes. During intubation, however, we administer pressurized oxygen into the patient’s lungs. As this pressurized air is exhaled, it causes “aerosolization,” meaning the viral particles are flying freely around the room. To protect ourselves, we need special masks called N95s. These are in short supply, so we use our new powered air-purifying respirator (PAPR). This consists of a motor connected to a hose, which fits into a plastic hood that pulls over the head. A constant flow of filtered, pressurized air pushes the viral particles away from the hood of the wearer.

As I am wearing my PAPR, I think of my family and ask myself “am I prepared to die?” There is a high risk of me getting infected as I get close to the patient to care for her.

If I do get infected, will I survive the virus or die. I think of this patient and her family. Will she survive Covid? Will she ever see her family again? Did she get a chance to say good-bye?

I remember reading a tweet from a person wondering why frontline health care providers were being lauded in their fight against COVID-19. They signed up for this, right? They’re being PAID! The truth is, nobody in medicine signed up for what was waiting for us in this patient’s room. Every health care worker understands the risk of contracting an infectious disease, but these risks are minimal with basic precautions. Most of these diseases are curable or treatable. COVID-19 is different. While most patients who die are elderly, many relatively young and healthy people become gravely ill, requiring intubation and prolonged ICU stays on ventilators. Stories abounded of young, healthy providers perishing within days of their first fever. Doctors younger and healthier than me in China and Italy were dead. We entered health care understanding the risk, but this was different.

I got over my thoughts and fears and successfully intubated the patient. As I was leaving the room, with extreme fear and diligence I removed all the contaminated PPE. I am always still wondering for the duration of my shift in the ER “is the virus still lingering on me?” I am afraid of touching my face, afraid of eating/drinking, afraid of sitting at my desk...afraid for my life.

When I ask myself how will I go on, I am reminded of this quote from Sheryl Strayed: “You go on by doing the best you can. You go on by being generous. You go on being true. You go on by offering comfort to others who can’t go on. You go on by allowing the unbearable days to pass and allowing the pleasure in other days. You go on by finding a channel for your love and another for your rage.”
PREPARED TO DIE

For this patient, the war has just begun. Even if she lives, she will face a brutal, weeks-long struggle on the ventilator as her immune system combats COVID-19. She will be uncomfortable, in pain and afraid. A tube inserted into her bladder will drain her urine; she will defecate into a diaper. If she survives, memories of this experience may plague her for the rest of her life.

There is no comparison of the fears as a patient and as a provider.

This scenario and its variations will play out tens of thousands of times in ERs and ICUs all over the world before COVID-19 has run its course. Most of the time, we will succeed, and a life will be saved. Some will die during or immediately after intubation, and those losses will haunt a generation of doctors. This war will be long, but people everywhere can take comfort knowing that thousands of dedicated men and women in emergency departments the world over stand ready to rush to their aid and fight for them. I stand with them. We are emergency medicine physicians. .. prepared to die.

THE AGE OF CORONAVIRUS

In this Corona climate of a “silent spring”,
Deafening stillness heard before bells ring,
In contrast with the surrounding gloom,
Pierced with fear and impending gloom.

Watch populations in a lockdown world,
Like cowboys corralling the cattle herd,
With uncertainty in the air, we wait until
The good scientists find the magic pill.

Neither a bomb or wealth can annihilate
The Virus as all humans become its bait,
With every person’s health in great peril,
Global economy has come to a standstill.

Wealth and power has little meaning
As Virus grabs people indiscriminate
To suffer & kill and make it demeaning
For ignoring warnings & procrastinate.

Nature sings along with no hunting Man,
And animals and birds freely roam and fly,
Trees and plants grow and bloom and fan,
As rodents openly run free, not on the sly.

The sky is blue and clear smelling fresh,
With little vehicular noise, feel the hush,
In my silent solitude I observe the Divine
Feel the Lord all around without any wine!

Wishing
AAPI FRIENDS AND FAMILIES
Happy and Healthy New Year !!

Congratulations & Best Compliments

DR. UDAYA SHIVANGI
Chair, Publications Committee

DR. SUDHAKAR JONNALAGADDA
President, AAPI

ANUPAMA GOTTIMUKULA, MD
President-Elect, AAPI

JAI KUMAR RANGAPPA, M.D.
The year 2020 will be etched in our memory for years to come because a tiny virus that came from a foreign land and inflicted so much pain and suffering on us. This pandemic, Covid-19, has affected the entire humanity far worse than any war or natural disasters did in our life time.

As President of the Association of Kerala Medical Graduates (AKMG) with over 3000 members in North America as well as a physician practicing acute care medicine, I have experienced my share of pain, anguish, panic and despair.

AKMG was planning to do a Cruise convention in July 2020 on the biggest and most luxurious cruise ship “The Symphony of the Seas.” What was meant to be a once-in-a-life-time experience for our members just didn’t materialize; the eagerly anticipated event had to be cancelled much to our disappointment. Yes, nobody can do a cruise convention in the middle of a pandemic. Finally, we ended up doing a “Virtual Convention” with 6 people in person at the past president Dr Usha Mohandas’s house in Orlando and many members joining the zoom meeting. In future, we will continue to do virtual events with education and entertainment on a regular basis. We hope to have a live AKMG convention in Atlanta on August 13 -14, 2021 at Intercontinental Hotel in Buckhead, Atlanta. Covid -19 will decide the magnitude of our planned convention.

The daily struggles started dominating my focus so much I began to wonder if I am losing my love for my profession, the main reason I became a doctor. Suddenly there was a ray of sunshine! PPP (Paycheck Protection Program) loan and HHS payment, an unexpected gift from the Government, came as a pleasant surprise.

On a personal note my younger sister and brother-in-law (both physicians in India) got Covid-19 and fortunately got well within a few days. I have been taking weekly Hydroxychloroquine prophylaxis (although I am aware that some of the recent scientific studies do not support this premise) since February, 2020, with the hope it will protect me and so far, it has worked.

Mankind has set foot on Mars and Moon. We have achieved a lot of things but Covid-19 has really made us realize how fragile our life can be! A little virus has brought us to our knees!

But with all of us working together and following the advice of the medical scientists we will survive this pandemic as well. AKMG has launched a “WhatsApp” messaging system with regular postings that are being read by all members. This helps to bring many new ideas, informational items especially about the pandemic, images and experiences of our colleagues (many of them are frontline soldiers fighting the disease and are stretched all over the world) to our attention and they are truly enlightening. Yes we do keep up with our colleagues from AKMG-England, AKMG-Emirates and from India. We also appreciate what AAPI is doing in keeping all of us up-to-date with the pandemic with frequent informational mailings, zoom educational seminars and other programs and we look forward to future guidance from AAPI.
42nd AKMG ANNUAL CONVENTION

Intercontinental Hotel, Buckhead, Atlanta

August 13-14, 2021

AKMG presents you with amazing events, Entertainment, networking opportunities, Amazing Food, 'AKMG's got talent', Galaevent, CME sessions, Spouse's sessions, City tour and much more.

Visit www.akmg.org for more details.

"Best wishes to AAPI"

- SUBRAHMANYA BHAT, MD (President AKMG) & AKMG members
LAUNCHING A STARTUP DURING THE PEAK OF COVID-19

BELLAMKONDA K. KISHORE, M.D., PH.D., MBA
Co-Founder, President, CEO & CSO
ePurines, Inc, Salt Lake City, Utah

The SARS-CoV-2 pandemic has changed our lives in many ways. We may not be able to return to our pre-pandemic lifestyle. Each one of us is affected in a different or unique way. I am sure, the change was very disruptive and stressful. For me, the change happened in an exciting, but challenging manner, although it was not directly related to the pandemic.

For almost an year I have been in discussions with the Department of Veterans Affairs Technology Transfer Program in Washington DC for the transfer of licenses of our patented intellectual property to ePurines, a startup drug development company which my long-time collaborator at Harvard University School of Medicine, and I started. But, by the time we got the exclusive license offer, it was March 2020, during the peak of the pandemic. The reaction in me was mixed – very excited to receive the license offer on one side, and on another side the unfavorable conditions of rising tide of pandemic for successfully launching a startup from scratch.

But deep in my heart, the thoughts were very different. For me, personally, it is the culmination of decades of passionate research efforts to do something that benefits the kidney patients. While doing my internship in 1976 in Kurnool Medical College, India, I decided to pursue an academic and research career instead of clinical practice. It was not an easy decision for a budding doctor from a modest family background, during the peak of National Emergency, and in a society where a medical doctor is expected to wear a stethoscope and see the patients. But by nature, I am a passionate abstract thinker, which makes it hard for others to understand my thought process. It is also difficult to convince others, as I was not yearning for success; I was pursuing my passion. But I knew that the path I have chosen is honorable in medical profession, and it will serve the patients immensely without ever touching them. So, I moved forward with determination, following my intuition as my GPS. I just needed unlimited passion, perseverance, and patience (3 Ps).

Four decades later I planted the bulbs of my passion, and performed research in India, Japan, Belgium and the USA, I could see the buds in the Spring 2020, but in the dust of the pandemic. I did research and found that launching a startup during the pandemic has actually some advantages. Then I looked up at my age. To my surprise I found that a 60-year-old startup founder is 3 times as likely to found a successful startup as a 30-year-old startup founder — and is 1.7 times as likely to found a startup that winds up in the top 0.1 percent of all companies. Bingo! That made me feel strong. And we exercised the exclusive license option.

Due to conflict of interest, I voluntarily retired from the VA Healthcare System. Now, I am a full-time entrepreneur. Now, I do not wear white coat. I wear executive attire. I needed seed money to jump start ePurines and prepare for Series A Round funding from the investors. Fortunately, number of AAPI colleagues came forward and invested. Many of them told me that even though they may not understand the technology fully, they trust my professional caliber and integrity. Those words were more valuable to me than their investments in our startup. I thank my AAPI colleagues who kindly invested in our startup and supported me to pursue my passion during the pandemic.

The next challenge was climbing up a steep learning curve – from corporate structure to legal issues to dealing with Securities and Exchange Commission to issuing common stock to preparing commercialization plans with milestones and projected revenue etc. I am actually working more now than when I was a Principal Investigator in the VA Healthcare System. But, by the time I realized this, the change occurred seamlessly without stressful effort. Despite my busy life, now I can take a break at any time I want and pursue my other passions, such as editorial work for Sushruta Medical News, and other journals, alumni affairs, writing books and composing poetry etc. Although the pandemic has restricted my physical mobility, the transition to entrepreneurship from academics, has given me more personal freedom.

Finally, I realized the lesson of my life: Be passionate. It can take you to places or heights where desires cannot even dare. I never desired to be a medical doctor. I never dreamed of becoming something in worldly sense. I just ardently followed my passion, however risky it might be.
ePurines was founded by internationally recognized experts in purinergic signaling, and exclusively focuses on the development of purinergic signaling-based therapeutics.

ePurines is developing innovative therapies for obesity, metabolic syndrome, and renal and liver diseases.

ePurines’ genesis is linked to improving the Veterans health. The core technologies were developed and patented by the US Department of Veterans Affairs.

ePurines is physically located in the University of Utah Research Park (Bionic Valley), Salt Lake City, Utah. www.epurines.com

ePurines is issuing common stock to investors and private individuals.

Contact: epurines@gmail.com  Phone: (801) 598-3389
Seemingly overnight, New York came under assault. I closed my office, my kids came home, and the future turned bleak. I feared that the pain of my patients, left untreated, would lead to emergency room visits in already over-extended and under-resourced hospitals. I feared instability and the inability to help support my family and my mother abroad in India. I feared for all aspects of medicine and health, not just those that I am specialized in: physicians working on the front lines to treat patients with coronavirus; researchers working tirelessly to characterize the virus; and the ability of the healthcare system to balance treating non-coronavirus-related illness with mitigating its spread. Deeply fearful of the unknown consequences of coronavirus on pregnant ladies and their unborn babies, my older daughter, who was expecting at the time, insisted we maintain proper social distancing.

For a few months, Doximity and telemedicine soon became the lifeline to which I, and many other physicians, clung to treat our patients. There were technical difficulties and I had to put in extra hours to relay information between my patients, office manager, and insurance companies. Nonetheless, my practice survived the havoc of state-mandated lockdown. My patients whose symptoms did not meet the criteria for emergent or acute care also were ultimately fine. Despite these silver linings, I dealt with some personal tragedies, as both my mother and father’s brother passed away, both likely from coronavirus. However, my newborn granddaughter helped to fill the gaping hole these losses created in my life.

Still, life must go on. I decided to reopen the office for urgent injections and procedures. My younger daughter helped assemble face shields for my office staff and me. I continued to conduct follow ups and less urgent appointments over live video. The Covid-19 pandemic has irrevocably cast some doubt amongst the general public towards the efficacy of Western medicine. Some question fulfillment that can be derived from a career in healthcare. However, I believe that the battle fought against this pandemic by healthcare workers is a testament to their resilience and commitment as well as a renewed source of solidarity.

Long story short, what I learned from these recent events is that life could change in a moment. One must be humble, grateful, and take nothing for granted. But even in turmoil, medicine and business can be reinvented and family can be united, even created.
Mission
To socially impact non-profit organizations by providing the funds needed to keep the focus on the mission and help lead it into the direction it was created for.

Benefits
We offer services and products for the personal household and for your business. These services and products offered through BBC will elevate your livelihood and whichever you are needing, we guarantee that you will not find it anywhere else at the discounted pricing we offer.

Vision
To give back to the community by social impacting and by being the difference we want to see.

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strives to be the difference.

We’ve all heard the saying “membership has its privileges”. Better Benefits Consulting is dedicated to making that saying a reality. We work with our partner associations to create a program of member benefits that save money for members, offer enhanced products, and create a unique value of membership.

Founders Dr. Bharat Sangani and Dr. Dalsukhbhai Madia’s main goal with BBC is to give back to the communities and be the difference they want to see all while offering incredible benefits to all of it’s members.

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Are you a non-profit wanting assistance or a partner wanting to offer your great products? Contact us today!

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tsayyad@encore.bz
Uma graduated from Andhra Medical College and did her Diploma in OB/GYN in Guntur Medical College. She married Dr. Sudhakar Jonnalagadda in 1991. Uma then came to the USA in the same year to join her husband. In December 1993, she gave birth to her only son, Veeraen. After Uma and her husband finished their medical training, they eventually settled in Douglas, GA.

“When I began my career, I had 2 driving forces in my life: my work and my family. It wasn’t until the midpoint of my life that I found a passion in leadership and community service. I, along with my husband, enjoy our involvement in GAPI and AAPI. We thoroughly enjoy our association with these organizations and, through them, have met many physicians and developed meaningful friendships. I congratulate the women leadership of AAPI who continue to inspire all. I strongly believe in the empowerment of women, not only through AAPI, but throughout the world.

I am an optimist and believe in the voice of a political action committee. This is the only way that our concerns can be taken to Washington, DC.

During these unprecedented times with the pandemic, my heart goes out to colleagues who were affected with COVID, those whose lives were lost, and others still fighting. I salute all the frontline physicians who are risking their lives and implore them to take care of themselves. We are in a time where we have the chance to grow and impact meaningful change. We should all take it upon ourselves to reflect on what we have learned and think through how we can lead and act differently to build our families, organization, and communities. Even in the dark world we can bring in light.”

As Ruth Bader Ginsburg once said “...if you want to be a true professional, you will do something outside yourself, something to repair tears in your community, something to make life a little better for people less fortunate than you.”
KRISHAN KUMAR, MD, FACEP, FAAPI
FIRST RESPONDER, MEMBER - NYC COVID-19 TASK FORCE
CORONA WARRIOR, STILL FIGHTING FOR PATIENTS
Clinical Professor of Pediatrics & Emergency Medicine, NY
College of Osteopathic Medicine, NY

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These dire straits and perilous times have redoubled my endurance and strength to deal with whatever curve balls, life throws at me from time to time. It brought me closer to the people I love the most. I am more mindful and thankful. I am savoring each moment of life with appreciation and amazement. I have prioritized self-care as well and started practicing meditation, yoga and pranayama and I found these experiences so inspiring and uplifting as they brought me a sense of peace and tranquility amid chaos and disarray.

I remain extremely optimistic and see a silver lining to this pandemic as it makes us focus on what is the true meaning and purpose of life and how we are all in it together inextricably. Now that vaccine is imminent, there is a hope that the dark storm clouds will be dispersed soon and that life as we knew before is on the horizon again. I am looking forward to good times again soon when we can all gather, celebrate, and build our lives better. I and Latha wish you and your family a promising new year. Stay safe and blessed.

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The coronavirus pandemic has caused high levels of unemployment and poverty worldwide. Many families are struggling to stay afloat. Food pantries have seen significant increases in demand, and cars are lining up for hours to procure free food.

In order to help, we launched an effort in May to distribute food to those in need without consideration for race, religion, gender or ethnicity. Our goal was to deliver $250,000 in food assistance.

The organizations created “Grab-and-Go” food distribution events. During these events, volunteers loaded grocery bags into families’ cars in a contactless manner. Volunteers wore masks and gloves as they handled groceries. We also held walk-in/home delivery events to address the needs of people without cars.

We initially distributed $25.00 worth of perishable and nonperishable food per family during these events. Later on, we learned that we could receive almost 40 pounds of prepackaged groceries for a fraction of the cost, with the packages delivered to the site on the day of each event. This approach saved us a lot of volunteer time, logistical coordination, and money.

Thanks to the collaboration of local schools, community centers, Temples, Gurudwaras, Churches, volunteers, these “Grab-and-Go” events have provided over 13,000 families with almost half a million pounds of groceries. We also partnered with various donors including Montgomery County, D.C. Dream Center and Papa Johns, which provided in-kind donations to the effort.

To date we have hosted 30 events, including an event on October 24th to celebrate Dussehra. We plan to continue the program until at least November 16th in order to coincide with Diwali.
We are thankful to all those who helped make this successful, and we hope AAPI chapters can plan similar events in their local areas.

Our ad hoc steering group includes Dr. Suresh Gupta, Mr. Prem Garg, Dr. Ram Nagula, Mr. Theo Meyyappan, Mr. Rajeev Jain, Mr. Dileep Thatte, Dr. Siva Subramanian, Dr. Narendra Tandon, Dr Vinod Prakash, Mrs. Vandana Matravadia, Mrs. Niti Duggal and Mrs. Nitu Gupta.

Volunteers have put more than 6000 hours into this effort. It has been very satisfying to see the impact we are making. It has been overwhelming to see the scope of the need; we have seen Lexus, BMW and Mercedes cars lined up for food.

For those looking to contribute to reducing food insecurity in the area, please make a tax-deductible contribution to one of the organizations listed above via their website. Please note “For Covid-19 relief DMV” in the memo.

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Did I forget to put salt in the food? That was the question I asked my family as I could not taste my food. At the same time, I noticed that I couldn't smell my perfume. These were the first symptoms I felt, in early March. At that time, there was not much talk of loss of smell and loss of taste, as a sign of COVID-19.

This was shortly followed by few episodes of diarrhea and weakness. However, what was most noticeable was severe lethargy, body ache, and weakness; that's when I knew that I had the COVID-19 infection. Immediately, I isolated myself in my bedroom, and luckily, I had a pulse oximetry with me.

I started taking hydroxychloroquine, which was mentioned as a possible treatment. I also monitored pulse, temperature and blood oxygen saturation. The weakness and fatigue are really the most debilitating symptoms. Just getting out of bed felt like a bootcamp workout. Since I was isolated, I had put in an alarm for every 4 hours, to wake myself up to measure my pulse oximetry and hydrate myself. As the disease progressed, the shortness of breath continued to get worse, the pulse oximetry measurement started to drop and reached 89-90%. I felt, at that point, what most asthmatics might be feeling like a fish out of water. Even at that time, I refused to go to the hospital, as at that point in time, except for putting on ventilators, there were no treatment guidelines. I decided to start doing deep breathing exercises, lying in prone position.

After 72 hours, I felt a little better. My pulse oximetry measurements started to improve, so I decided I would take small walks in the bedroom, making sure to stay up as much as possible. I also started researching more on COVID-19. I sought all the different protocols in different countries, and quickly realized that there was very little we knew about the new virus, aside from use of symptomatic treatment. At this time, treatment protocols did not exist.

The best options at that time, which still continues to be, is PREVENTION:

- Universal use of the face covering: The mask needs to cover the nose and mouth. Initially, face coverings were recommended only for those who had a positive Covid 19 diagnosis, as there was a concern folks would increase the risk of infecting others by touching their masks as well as their noses and mouths. Currently, the CDC recommends that everyone over the age of 2 years should wear a face covering when in public places.
- Avoiding big crowds and enclosed places: it is acceptable to conduct gatherings outdoors, with less than ten people
- Limiting close encounters to less than 30 minutes
- Maintaining six feet of distance from people in the public, especially when in areas such as outdoor parks, shopping areas, and outdoor dining areas

After six months of the pandemic, our understanding of Covid 19 and subsequent medical complications is limited. However, there are some treatments that are showing promise, such as Remdesivir, which is an antiviral; dexamethasone, a steroid medication; and antibody therapy. Evidence has not supported use of hydroxychloroquine, plasma therapy, zinc, Ivermectin, and antibiotics. Hopefully, the future will bring a vaccination that is safe and effective, so we can protect our fellow citizens and reduce the risk of mortality.
Best compliments from GAPl Executive Committee

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PAST PRESIDENT: HEMANT YAGNICK, MD
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In January 2020, during AAPI Antarctica trip, I was hosting an ice breaker game ‘Table Topics’, question for me was, ‘Do I get depressed’, it was hard to remember when I felt low, but with pandemic things changed.

As HUMAN RACE we felt privileged, felt proud of our advances, particularly in science and technology, wherein we could go to the moon and back, after my Antarctica trip, my friends teasingly asked me, ‘Where to Saras next- MARS?’ I chuckled maybe? We were considering ourselves “SUPER HUMANS”

YOU - THE CORONA KING with your soldiers (viruses) started conquering, destroying, halting our way of living and causing CHAOS all over the globe, looked like the end of human race! We stopped and asked the universe, ‘WHY US’, COVID -19: I ask you, why the most sophisticated human species? I get it, as human race, we were speeding for our own good, maybe you wanted to teach us to slow down and appreciate the little things in life, which we took for granted, or to show us that we don’t get to control everything, that nature is gargantuan, we are just a tiny speck in this universe.

While YOU were creating waves in Asia, we were in denial, until you spread across the globe and reality finally struck us, people dropping dead like flies, more people succumbed in a day than total deaths in 9/11. We witnessed upheaval in economic markets, adjustment of kids to remote technology, halting of travel plans with stranded people across countries, lost employments and adrift accessibility of healthcare industry. You displaced away many things which we took for granted, suddenly our priorities changed-our health, safety and survival took precedence. Our initial reaction was to escape to a safe place, but no place to hide, with the whole world being affected. Virus tests, experimental drugs, research articles, webinars, vaccine trials were became a fashion statement, everyday necessities became a struggle, masks to sanitizers a daily rut, lockdown of countries no longer a myth!

If someone told me in January 2020, that this is what might happen any time ever, I would have ridiculed YOU, and said “MANKIND is unbeatable, no one can touch us,” it would have been my EGO claiming, that we can as a race are unstoppable, unbeatable, what can a tiny virus do to us.

YOU put us at stop roads, forced us to choose between tough choices –who is going to get healthy and hence ventilator care or who is going to be weak and left to die! One of the toughest decisions to pass it as a Hippocratic oath by a physician! YOU took us for a spin, but we were dizzy; YOU laughed, while we made every attempt to beat you.

As human race, together we rose, felt safe at home, started to deliver healthcare online, essentials goods, and work from home. YOU taught to prioritize families to spend more time, improvise our communities by being resilient, the whole world was coming together to help us all survive this pandemic and get through the havoc YOU created. As months passed, we are bouncing back from Covid-19 shock, the damage is already done, deep scars are left, and hurt is going to be tender for a long time.

WE learnt all these at the expense of losing loved ones, (AAPI family lost many), family, friends, colleagues, patients, WE now know to guard ourselves better at the first alarm. We are fatigued physically with this marathon, challenged mentally by the virus’s wit, but spiritually we have now HEALED! We do believe there is a shower of hope for a bright future for ourselves and a new world for our forthcoming generations.

YOU, Corona has taught me that, our time and energy in this universe is limited, and to prioritize what we want to do with that, give back to community, live in minimalistic way, look more inwards than outdoors. Invasion of Corona King reminds us of our Dharma and Karma, to protect and preserve our humanity, let us join hands, wish each other well, stay safe and have a healthy and blessed 2021!
CONGRATULATIONS AND BEST WISHES for a SUCCESSFUL AND HEALTHY YEAR 2020-2021 to SUDHAKAR JONNALAGADDA, MD PRESIDENT, AAPI : 2020-2021

SARASWATHI MUPPANA, MD
Pulmonary, Critical Care, Sleep and Obesity Medicine
IMANE 2019 - Immediate Past President,
Co-Chair, AAPI Journal Committee
100 Highland Street, # 103, Milton, MA 02186
45 Resnik Road, # 305, Plymouth, MA 02360
Phone: (617) 696 9600
Fax: (617) 690 3045
HOW A PANDEMIC REMINDED ME
WHY I CHOSE TO BECOME A PHYSICIAN

MANJU SACHDEV, M.D.
Pediatrician

Apart from providing patient care as a pediatrician, my role as an assistant professor gives me the opportunity to deliver lectures, and teach the residents and witness them in action on the pediatric ward. When Covid-19 hit our little town of Victoria, initially, I felt relatively reassured in learning that the pediatric population was overall “safe” from harm’s way, and that the chances of children facing complications from Covid were far less compared to adults.

However, little did I realize that the “adults” I was referring to would include close friends and colleagues of mine. One of them was Dr. Jared Mitchell, a second year resident at A&M Family Medicine who was to be commencing his pediatric inpatient rotation with me! Allow me to share this compelling tale of his daily battle to overcome this most debilitating of all diseases in his own words.

“I’m Dr. Jared Mitchell, and I beat COVID-19!”

Immediately after the first Covid-19 positive patient was admitted to our local hospital, our residency program decided: only one resident would be involved in the management of these patients along with our Infectious Disease specialist. I immediately volunteered to take on this role. We implemented a unique protocol (CATRACHO) designed by him, which resulted in a very low mortality rate.

After a month, I finally earned a free weekend to spend with my family. I remember how excited I felt to be away from the hospital, and especially from COVID-19!

Later that week, I experienced body aches, followed by mild fever and a dry cough.

I Caught COVID-19!

I was quickly hospitalized for hypoxemia, viral pneumonia, and started on the same protocol, which I used for my patients, while also being placed on oxygen due to my persistent desaturations.

For a doctor who is used to taking charge and making crucial decisions for others, the hardest part was learning to rely on others. That was the most helpless and vulnerable I had ever felt. Although I had no doubts that I was in excellent hands, there was an innate fear about the uncertainty of this disease.

After being given a few units of convalescent plasma and several doses of Remdesivir, I was able to wean down my oxygen, and was discharged. I was advised to continue quarantining from my family, which I had repeatedly told patients without actually realizing how challenging it was. In addition to the extreme fatigue and cough, I now noticed signs of depression creeping in. I was readmitted to the hospital with ARDS and bilateral bacterial pneumonia followed by several complications. I was terrified at the prospect of never being able to hug my wife or my daughters again. I prayed hard, and by the grace of God, I was discharged but still on supplemental oxygen.

Once returning back home, intense feelings of clinical depression set in. Helplessly became a bystander. My wife took complete charge of all of the household and parenting duties while running her own busy clinic. She was a pillar for our family, while I lay in bed still on oxygen and too weak to help or take care of my own basic needs. This is when I seriously began to reflect on the vast array of patients whom I had treated over the past several years. It was the first time since becoming a physician that I genuinely understood how each patient’s individual and family life, drastically changes when something like this happens. I quickly realized what it felt like to be tethered to a machine while worrying if you would be able to switch out your oxygen bottle.

I have chosen to use my own illness to better understand and empathize with patients, and help them and their families navigate the recovery process. I now realize first-hand how frightening and frustrating becoming an actual patient can be. I hope that by sharing my story it will serve as a lifelong reminder not only to myself, but anyone reading it to stop and remember why we became physicians. Despite our current state of medicine where we are pushed to see large volumes of patients, we must make a conscious effort to “walk a mile in their shoes”, so that we may show our patients the same degree of empathy and compassion that we would desire if circumstances were reversed.
Best Wishes to AAPI

HARISH CHANDNA, MD

DAKSHESH PARIKH, MD

AJAY GALLA, MD

VICTORIA HEART & VASCULAR CENTER, PA
2104 PATTERSON DR, VICTORIA TX 77901
361-580-2200
Ultimately, this created an atmosphere of loneliness, anxiety, and fear. A coping strategy was urgently needed to deal with the feeling of loss of control and mental anguish. Being a septuagenarian with medical issues, I started “long walks” on the advice of my family. Initially, these walks were difficult but soon became a habit. I became an ardent supporter of Anti-obesity projects of AAPI including “Nobesity Revolution”.

Long walks are beneficial in reducing LDL cholesterol, increasing HDL cholesterol, lowering blood pressure, improving sleep, and managing weight. In addition, there is a reduction in symptoms of depression. Also, research shows that walking outside in sunlight exposes our skin to make Vitamin D, which is an immune modulator along with helping to prevent osteoporosis. A pedometer may help keep one focused and encouraged during these walks.

We began walking in Greenwood Cemetery, which is a historic landmark, in existence since 1838. As it is spread over 478 acres, we could enjoy the natural ponds and rolling hills while following proper social distancing. We were able to enjoy a 4.6 mile walk, and though it is equivalent in distance to Central Park, the tranquility far surpasses. Prospect Park also provides a beautiful venue for physical activity, along with a lake and natural meadows. The Brooklyn Botanical Garden also is a beautiful location, as it spans 52 acres and is home to 14,000 different plants. We enjoyed the CV Starr Bonsai museum, Japanese Garden, and Steinhardt’s Conservatory. The cherry blossom esplanade was a lovely treat, usually in season in April. The Brooklyn Art Museum is nearby and is home to 1.5 million precious works of art, as well as the second largest art museum in New York.
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**Quick Facts:**

The CDC reports that 60% of US adult Medicare recipients have a chronic disease and that 40% have 2 or more chronic diseases. [www.cdc.gov/chronicdisease/about/index.htm](http://www.cdc.gov/chronicdisease/about/index.htm)

InfiniHealth’s solution, coupled with the new Medicare codes for Virtual Services which include Remote Patient Monitoring (RPM), Virtual Check Ins, Interprofessional Internet Consultations, and more, are staged to drastically improve patient outcomes while making it financially feasible for both the patients and their clinicians.

Note that Medicare patients are responsible for cost sharing for these services (i.e. deductibles, 20% coinsurance and copayments).

Medicare reimbursement rates for Virtual Services at Non-Facilities — not all codes will apply:

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Contact us for more details: InfiniHealth Sciences, Inc. 1135 Shallowford Road Bldg. A, Suite 200 Marietta, GA 30066 (404) 405-7665 www.InfiniHealth.com
Best Wishes for the Health & Safety of all AAPI Members

Manmohan Katapadi, MD, FACC, FASNC, FSCAI, MBA

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I met Dr Ajay Lodha only three times in my life but he left an impression on me which is hard to shake off. Every time I saw him or talked to him, he was always glowing with warmth and enthusiasm. These qualities made him a very popular leader. A man of passion, integrity, determination and generosity, he was truly one of a kind and it was a privilege to have been his friend. After an 8 month battle with COVID-19, at the Cleveland Clinic, he departed from us on November 21, 2020, at the young age of 57. He fought till the end with great valor befitting that of a warrior.

Dr. Ajay Lodha practiced Internal Medicine, in Queens, NY, USA for many years. He was a former President of American Association of Physicians of Indian Origin, AAPI and an integral part of RAJMAAI and RANA. As the president of AAPI, he wanted to unify and expand the reach of AAPI. He also wanted AAPI to undertake projects in India which will positively impact maximum number of lives. He has many achievements to his credit including the prestigious Ellis Island Medal of Honor in 2016. His dedication and love of his family was truly remarkable.

He will always remain in our hearts as a true hero who sacrificed his life in the service of others. A lot has been written about him but a befitting tribute will be to carry his work forward. So let's all work together and help to bring his dreams come true.

RAJENDRA BANSAL, MD
875 Military Trail, Suite 200
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COVID TRIBUTES

DR. AJAY LODHA (AGE 57)
Internal Medicine
Passed away on November 21, 2020 after battling with COVID for 8 months.

DR. SUDHEER SINGH CHAUHAN (AGE 70)
Internal Medicine Physician and Associate Program Director IM Residency Program at Jamaica Hospital, New York
Passed away on May 19, 2020 after battling with COVID for two months.

DR. HARINDER KUMAR BANSAL (AGE 62)
Psychiatrist
Pottstown, Pennsylvania
Passed away on April 20, 2020 from complications of COVID-19

DR. MADVHI AYA (AGE 61)
MD in India, PA in the United States at Woodhull Medical Center in Brooklyn
Passed away on March 29, 2020

DR. PRIYA KHANNA (AGE 43)
Nephrologist, New Jersey
Passed away on April 13, 2020
COVID TRIBUTES

DR. SATYENDRA KHANNA (AGE 78)
Glen Ridge, New Jersey
Passed away on April 21, 2020

DR. RAM SETIA (AGE 80)
Orthopedic Surgeon
Hackensack University Hospital
Passed away on April 16, 2020

DR. NAVNITRAI KANTILAL DAVE (AGE 82)
Neonatologist, Corpus Christi, TX
Passed away on July 18, 2020 from Covid-19 after a week-long hospitalization.
He is described by a NICU colleague, "he had the sweetest bedside manner, always smiling, very cautious and so gentle with his little patients."

DR. MUKUL CHANDRA, MD FACC (AGE 57)
Director of Preventive Cardiology
Miami Valley Hospital, Dayton, Ohio
19 time marathon runner
Passed away on October 18, 2020

DR. SATYAVARDHANA RAO YERUBANDI (AGE 73)
Huntsville, Alabama
General Surgeon who practiced for over 50 years, including 32 years in Huntsville
Passed away on March 30, 2020 at Vanderbilt University Medical Center in Nashville, TN
Covid-19 infection can have wide range of clinical manifestations including fever (~80%), dry cough (~76%), shortness of breath (~65%), fatigue (38%), myalgias (~25%), nausea/vomiting/diarrhea (~25%), headache (13%), weakness (25%), rhinorrhea (7%) and new loss of taste or smell. Fever or chills can be absent in 50% of infected individuals and anosmia/dysgeusia was the first and only symptom reported in 3% patients. The gold standard for diagnosis of COVID-19 is performing nasopharyngeal reverse-transcriptase polymerase chain reaction (RT-PCR) to detect presence of SARS-CoV-2 virus. The virus is detectable two days prior to symptom onset and can remain positive up to six weeks after. COVID-19 reinfections have been reported, but incidence is unknown.

Risk factors and ethnic distribution are in the following figures.

Around 80% have mild-moderate disease and recover with supportive care. Severe disease occurs in 20%, of which 25% require ICU, with 10% receiving mechanical ventilation. Mortality is 15%-20% in high-risk individuals and is up to 40% in ICU patients. Majority of pediatric population have mild disease with lower risk for mortality (<5%).

The surface spike (S) glycoprotein is identified as the virulence factor composed of two functional subunits, S1 responsible for binding to the host cell receptor and S2 for fusion of viral and host cellular membranes. It binds via the angiotensin-converting enzyme 2 (ACE2) receptor located on host type II alveolar cells. Upon entering, the single-strand positive RNA undergoes transcription and formation of a new viral genome with proteins. It is released from the infected cell to attack susceptible surrounding epithelial cells, leading to infection. The whole genome sequencing of coronavirus identified SARS CoV-2 in the Orthocoronavirinae subfamily. SARS CoV-2 is suggested to have originated from bats, with pangolins as intermediate host before infecting humans. In SARS CoV-2, respiratory droplets are the primary mode of transmission. Droplets generate and replicate on mucosa of unmasked individuals within 6 feet, results in transmission following 15 minutes of exposure. These droplets stay on surfaces up to 48-72 hrs. A susceptible individual touches contaminated surfaces, then their mucosa, resulting in viral entry. Exposure to infected individuals in a poorly ventilated room results in airborne particles to linger in air, infecting others. The incubation period for Covid-19 is 2-14 days, as symptoms develop in 2-7 days.

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Past Treatments: Hydroxychloroquine (HCQ), widely used, were initially reported to be effective against SARS CoV-2, but not associated with reduction in mortality and produced cardiac arrhythmias. Azithromycin (AZ) was thought to have antiviral activity but failed to show improvement when given in combination with HCQ.
COVID-19: A GENERAL REVIEW AND NEW PROGRESS

Current practice: Remdesivir, an antiviral drug with potent in vitro activity against MERS-CoV, SARS-CoV 1 & 2, acts by causing premature termination of viral RNA transcription. A few RCT showed Remdesivir was associated with clinical recovery in 10 days compared to 15 days with placebo, but had no effect on reducing mortality. It is the first drug approved for use by FDA for treatment of patients hospitalized with Covid-19. For severe Covid-19, the IDSA panel suggests Remdesivir with no antiviral treatment. In patients on supplemental oxygen but not on mechanical ventilation or ECMO, the IDSA panel suggests treatment with five days of Remdesivir otherwise 10 days if on ventilator. Despite the lack of benefit, Remdesivir continues to be utilized to treat hospitalized patients. FDA recently approved two monoclonal antibodies, Eli Lilly’s Bamlanivimab and Regeneron’s Casirivimab and Imdevimab. FDA recently approved two monoclonal antibodies, Eli Lilly’s Bamlanivimab and Regeneron’s Casirivimab and Imdevimab.

The hope is to improve immunity. These antibodies are contraindicated in hospitalized patients and those requiring oxygen. Patients who are mildly affected but at risk for worsening disease, are approved to receive these antibodies in outpatient settings within ten days of onset.

Even with ongoing management strategies, the most effective strategy remains primary prevention of the disease with masking, social distancing, hand hygiene, and environmental disinfection. Wide-spread vaccination will help to establish herd immunity, reducing the risk for severe infections, hospitalizations and deaths, bringing a safe end to this pandemic.

SHARE-A-BLANKET PROGRAM

Distributed Blankets to over 3,000 people during the Holiday Season through AAPI Chapters.

Great Appreciation to all State Chapters

Hearty Congratulations to AAPI President Dr Sudhakar Jonnalagadda

RAGHU LOLABHATTU, MD
AAPI Board of Trustee
GASTROINTESTINAL MANIFESTATIONS OF COVID-19

SUDHAKAR JONNALAGADDA, M.D., AGAF
AAPI President
Board Certified Gastroenterologist and
Transplant Hepatologist

Gastrointestinal symptoms may be seen in patients with CoVid-19. Most studies show prevalence rates ranging from 16-33%. As many as 50% patients with CoVid-19 may have detectable virus in stool samples. Gastrointestinal symptoms typically are seen in patients with more severe disease. Management of the gastrointestinal symptomatology is vastly supportive.

CoVid-19 enters the cells of the digestive tract via an angiotensin converting enzyme 2 receptor (ACE2), using the transmembrane serine protease 2 for spike protein priming. ACE2 receptors are widely expressed on intestinal cells. CoVid-19 entering the intestinal cell is believed to account for the development of GI symptoms. A study in Austria found higher concentrations of fecal calprotectin in patients with diarrhea due to CoVid-19.

Viral RNA can be detected in stool weeks after symptom onset. Respiratory samples typically remain positive for 16.7 days after respiratory symptom onset, fecal samples may be positive for 27.9 days after symptom onset. Patients with digestive and concomitant respiratory symptoms have a 70% increased risk for testing positive with CoVid-19.

The most commonly reported GI manifestation is loss of appetite with a 28% prevalence. Diarrhea is the second most common complaint with a 12.5% prevalence. Typically, the diarrhea associated with CoVid-19 is mild, but severe and hemorrhagic cases have been reported. The pathophysiology of the more severe presentation is likely ischemia due to the thrombotic complication of CoVid-19.

Nausea and vomiting, and abdominal pain have been reported as well. Of course, one of the hallmarks of CoVid-19 is loss of sense of taste and smell, which is reported in 64% of patients.

In conclusion, we need to remain cognizant of the GI manifestations of CoVid-19, and perform viral testing in our patients especially in those with concomitant respiratory symptoms.
Congratulations

SUDHAKAR JONNALAGADDA
PRESIDENT, AAPI

FOR HIS ACHIEVEMENTS,
WITH THE RECENT HONOR
PRAVASI BHARATIYA SAMMAN AWARD

UMAMAHESWARI JONNALAGADDA, MD
Incidence

Covid-19 has been spreading rapidly since December 2019 with almost 50,000,000 confirmed cases reported by WHO and over 1,608,666 deaths. Individuals positive for COVID-19 may be asymptomatic or present with multiple symptoms ranging from mild to severe, including pneumonia, acute respiratory distress syndrome, and multiple organ dysfunction syndrome (MODS).

When exposed to Covid-19, there may be a rapid production of pro-inflammatory cytokines and chemokines, known as cytokine storm syndrome (CRS), initiated by massive epithelial and endothelial cell death and vascular leakage. This presence of CRS among Covid-19 patients is strongly associated with disease severity and mortality.

In addition, acute kidney injury (AKI) may occur subsequent to intrarenal inflammation, increased vascular permeability, volume depletion, and cardiomyopathy. AKI is quite common (20–40%) in severe COVID-19 requiring ventilatory support. In a recent systematic review of Covid-19 patients, they had an overall mortality rate of 17% while Covid-19 patients with AKI had a mortality rate of 54%. This demonstrated that Covid-19 patients with AKI face mortality more significantly, approximately 18 times higher than Covid-19 patients without AKI.

Pathophysiology of AKI in COVID-19-Doomscrolling

Understanding the pathology of AKI in Covid-19 may follow a biphasic pattern, where pre-renal AKI occurs in the early stages of the disease while intrinsic AKI occurs in the later stages. Additionally, acute lung injury (ALI) in Covid-19 patients can effect gas exchange, release of pro-inflammatory mediators, and cardiopulmonary interactions leading to impairment of kidney function. The cascade of irreversible inflammatory mediator release can cause the lung-kidney crosstalk to be bidirectionally detrimental.

Similar to the MERS CoV infection, a temporary febrile or illness-related proteinuria may be present. The cellular entry of the Covid-19 virus is regulated by angiotensin-converting enzyme II (ACE2). ACE 2 is upregulated in Covid-19 patients and highly expressed in the podocytes and proximal tubules (100 times more in comparison to the lungs).

Furthermore, Covid-19 is further complicated via macrophage activation syndrome and microthrombi formation due to hypercoagulability and endothelitis. These mechanisms may not completely be present in children. In children, according to a recent study by the Royal College of Pediatrics and Child Health, Covid-19 may present as a multisystem inflammatory syndrome (MIS-C) accompanied with fever, inflammation, and possibility of MODs. However, there is still limited information regarding COVID-19’s symptoms and whether they are only specific to the pediatric population.

Management of ALI in COVID 19- A crossroad

Management of Covid-19 patients with AKI should include supportive care. Further recommendations by the Kidney Disease: Improving Global Outcomes (KDIGO) group include sustentation of oxygenation saturation, nutritional and fluid support, avoidance of nephrotoxins, and hemodynamic stability for the management of AKI. Fluid management should be achieved based on fluid receptiveness and proper assessment of response, as personalizing fluid therapy effectively prevents the circumstances of fluid deficit/overload. Additionally, hemodynamic instability and cytokine release syndrome can be averted via the use of lung-protective ventilation.

If conservative and previously mentioned supportive management modalities do not improve the situation, the use of extracorporeal modalities such as kidney replacement therapy (KRT) must be incorporated to manage associated complications such as hyperkalemia, metabolic acidosis, fluid overload, and uremic complications, such as encephalopathy and pericarditis.

In our recent systematic review, we found that 9% of all Covid-19 patients and 39% of those with AKI required KRT. In addition, a study by Ghani et al. found that KRT significantly reduced the burden of inflammatory mediators and cytokines. Various other studies have also indicated that cytokine removal via continuous kidney replacement therapy (CKRT) is mainly due to adsorption (removed almost 100% of cytokines in ultrafiltrate) rather than convection.
It is also suggested that KRT be initiated as early as appropriately possible as it may enhance cytokine clearance, improve PaO2/FiO2 ratios, and stabilize control of hemodynamic parameters. Various KRT modalities, such as peritoneal dialysis (PD), hemodialysis (HD), CKRT, and sustained low-efficiency dialysis (SLED), can be utilized to provide AKI care. CRRT remains to be the preferred modality in most ICU settings, however, the choice of modality for each patient should be determined by their hemodynamic status, characteristics and needs, available resources, and the available healthcare expertise.

Lastly, there are novel modalities including CytoSorb (an extracorporeal filter specifically for cytokine removal) and oXiris (a cytokine specific clearance device) have been approved by the FDA for use in adult Covid-19 patients with AKI. However, it is pertinent that clinicians are extra cautious with use as there is inadequate evidence for widespread use of these devices.

**Conclusion**

Acute kidney injury is increasingly being recognized as a negative prognostic factor in patients with Covid-19. Its high incidence and mortality rate warrant routine monitoring of kidney function of hospitalized patients. Supportive treatment including fluid management and maintenance of immune regulation are needed to improve outcomes. In specific cases where supportive care is not effective, have multiorgan failure, or require concomitant mechanical ventilation, KRT should be utilized. Lastly, it is crucial for healthcare providers to have heightened awareness and to provide proactive prevention measures and management of AKI to improve the high mortality rates seen in this patient population.
Arterial thrombosis resulting in stroke, myocardial infarction, and multi-organ failure are well known in these patients. An autopsy report from China showed that 7 out of 10 patients who died of COVID-19 had small blood clots throughout the bloodstream, compared to fewer than 1 in 100 people who survived.

The root cause of thrombosis seems to be endothelial injury by SARS CoV-2 virus which enters the blood vessels via ACE receptors, leading to vascular inflammation. This results in release of cytokines such as IL-6, elevated factor VIII and fibrinogen, activation of platelets, circulating prothrombotic microparticles, and hyperviscosity which further adds to the prothrombotic state. Prolonged immobilization of critically ill patients and the use of intravenous lines are other contributing factors.

Laboratory abnormalities may include one or more of the following- elevated D-dimer, increased fibrinogen levels, normal or mildly prolonged prothrombin time (PT) and activated partial thromboplastin time (aPTT), normal or mildly decreased platelet count. The degree of elevation in D-dimer has been correlated with the severity of illness and mortality in multiple studies. CAC differs from disseminated intravascular coagulation (DIC) in that fibrinogen is often elevated, platelet count is usually normal, and bleeding is far less common than thrombosis.

Prophylaxis, preferably with either low molecular weight heparin or unfractionated heparin must be considered for all hospitalized patients. Therapeutic dose of anticoagulation maybe necessary for patients admitted to intensive care unit (ICU) unless there is a contraindication. A study has shown that up to 43% of COVID-19 patients admitted to ICU may have pulmonary embolism despite prophylactic anticoagulation. Some centers are adapting an ‘intermediate dose’ prophylaxis, 0.5 mg/kg of enoxaparin twice a day. Heparin resistance is quite common as well in COVID-19 patients and monitoring aPTT or anti factor X a level is highly recommended.

There is a risk of thrombosis even after discharge from the hospital for up to 90 days. However, routine post discharge prophylaxis is not recommended unless there are other risk factors for hypercoagulability, or the D-dimer is elevated. There is no data regarding routine thromboprophylaxis of patients who are not admitted to hospital. If someone has elevated D-dimers or prolonged immobilization, prophylaxis with an oral agent such as Rivaroxaban 10 mg daily for 30 days may be a reasonable approach. It is very important to recognize and treat CAC, a potentially lethal complication early on to prevent the morbidity and mortality in patients affected by COVID-19.

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Since then, a myriad of articles on chest CT findings in COVID-19 have been published at a rapid pace. The appropriate use of chest CT in patients with COVID-19 should be based on experience and, above all, the scientific evidence that has emerged since the outbreak of this disease. In this brief review, I provide an overview of chest radiology and CT imaging including chest CT findings in COVID-19 and its complications, the diagnostic accuracy of chest CT and its role in diagnostic decision making and prognostication, and reporting and communicating chest CT findings.

Imaging can be abnormal in 85% of patients, and may resemble SARS-CoV and MERS-CoV. At this time, though imaging findings may be abnormal before initial lab results, the Centers for Disease Control (CDC) does not recommend Chest X-ray or CT as a diagnostic assessment. Viral testing remains the only specific test for diagnosis, and is required to confirm the presence of Covid-19.

Problems with imaging include findings that are non-specific and overlap with many other infections limiting specificity. Also, scanning patients with COVID-19 can increase the risk of transmission to subsequent patients. The American College of Radiology recommends: CT should not be used to screen for or as a first-line test to diagnose COVID-19. It should be used sparingly and reserved for hospitalized, symptomatic patients with specific clinical indications for CT. Appropriate infection control procedures should be followed before scanning subsequent patients. Chest radiographs show patchy or diffuse asymmetric airspace opacities, which are peripheral. They are present in bilateral lobes. COVID-19 is not associated with pleural effusion, cavitation, pulmonary nodules, and lymphadenopathy.

Chest CT image findings include bilateral multi-lobar GGO with a peripheral or posterior distribution, mainly in the lower lobes and less frequently within the right middle lobe. Septal thickening, bronchiectasis, pleural thickening, and subpleural involvement are some of the less common findings, mainly in the later stages of the disease.

Follow-up CT in the intermediate stage of disease shows an increase in the number and size of GGOs and progressive transformation of GGO into multifocal consolidative opacities, septal thickening, and progress to ARDS. The most severe findings are typically after an initial ten days of infection. Essentially, imaging findings are non-specific and can overlap with many other respiratory infections.

Furthermore, chest CT may be valuable to evaluate patients with clinical deterioration for Covid-19 progression or secondary cardiopulmonary complications such as ARDS, PE, superimposed pneumonia, or heart failure.

We should be familiar with the radiographic features, although recommendations evolve daily.
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<table>
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<th>FUND 1</th>
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<tr>
<td><strong>Rent Yield:</strong> 9.8%</td>
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<td><strong>Avg. Portfolio Age:</strong> 23 Years</td>
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<td><strong>Equity Commitment:</strong> $7.5M</td>
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<td><strong>Assets Under Management:</strong> $9.5M</td>
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<td><strong>FY20:</strong> 47 homes</td>
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<td><strong>Debt:</strong> $6.8M</td>
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<td><strong>Price Per Home:</strong> $187k</td>
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ILE HOMES IS SEEKING INVESTMENTS FOR THE FUND-2 PORTFOLIO

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<tr>
<td><strong>Target Price Per Home:</strong> $200k</td>
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<td><strong>Equity Commitment till Date:</strong> $5M</td>
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<td><strong>Target Debt:</strong> $75M</td>
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<td><strong>FY21 Target:</strong> 225</td>
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<td><strong>FY20:</strong> 21 homes</td>
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<td><strong>Target Yield:</strong> 10%</td>
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- Over the last 125 years, single-family homes have performed better than the stock market with significantly less volatility.

FUND HIGHLIGHTS
<table>
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<tr>
<th>Fund Size: $25 million</th>
<th>Minimum Investment: $175,000</th>
<th>Fund Term: Ten Years</th>
<th>Total Assets: $100 million</th>
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<tr>
<td>Number of Homes: 400-600</td>
<td>Average Home Price: 100k-350k</td>
<td>Estimated Return to Investors: 14%-16%</td>
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These manifestations of Covid-19 can be roughly divided, based on their severity into, Mild—such as anosmia and ageusia; Moderate such as twitching and seizures; and, Severe such as encephalopathy and stroke. The risk factors as to who would develop these manifestations are not very clear, but seems to be smoking, advanced age, genetic susceptibility, and individuals with prevailing neural ailments.

The mechanisms of these manifestations are primarily four-fold:

Firstly, via direct invasion of the SarsCov-2 virus into the nervous tissue leading to vasculitis (stroke, encephalitis, muscular damage and anosmia),

Secondly, via hyperinflammation (encephalitis and multiorgan failure),

Thirdly, via hypercoagulable states (causing stroke and encephalopathy) and

Fourthly, via post infectious immune mediated complications.

The rise in procoagulant factors such as fibrinogen, platelet, IL-6 and D-dimer contributes to thromboembolic events and the rise in inflammatory markers such as CRP, IL-6, and IL-7, all contributes to endothelial inflammation, and on occasion even causes rupture of existing atherosclerotic plaque, leading to cardiac manifestations and arrhythmic complications, paving a path to thromboembolic events!

Neurological symptoms can be either related to central nervous system (CNS) or peripheral nervous system (PNS). CNS symptomatology can be dizziness, headache, impaired consciousness, inflammatory brain disease and acute stroke whereas PNS symptomatology can be related to impaired ability to taste, smell or vision, as well as nerve and skeletal muscle pain.

Two of the most common neurological presentation are headache and dizziness. Headaches are generally tension-like headache, often present bilaterally and exacerbated by bending over. The mechanism of headache can be postulated via three paths—direct invasions of the virus to trigeminal nerve endings in nasal cavity, activation of trigeminal endothelial cells and release of pro-inflammatory mediators and cytokines. Cranial nerve abnormalities like anosmia (loss of smell) and ageusia (loss of taste) are seen in 5% of patients and sometimes, even in the absence of respiratory illness! These are seen more common in younger females, non-hospitalized patients. Most of the time anosmia went away within 3 weeks or so.

For patients with altered level of consciousness or agitation, all causes of encephalopathy must be considered, including hypoxia, drugs, toxins, and metabolic derangement. Furthermore, encephalitis should be diagnosed only if clinical evidence exists of brain inflammation, such as a CSF pleocytosis, imaging changes, focal seizures, or histological changes as evident in autopsy.

In summary, during these extraordinary times, Neurologist and Neurocritical care Intensivist will need to be involved as well with the frontline healthcare workers and should be vigilant for the neurological complications of Covid-19. Patients with neurological disorders, especially those on immunomodulating therapies, will require close monitoring as well.
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As the second wave of the global pandemic COVID-19 hits, there is a considerable amount of evidence that those who were initially infected with “mild COVID-19 symptoms” (primarily defined as a loss of taste and smell) may exhibit additional symptoms up to 3 months beyond the onset of infection. These additional symptoms include fatigue, fever, shortness of breath, chest tightness, tachycardia, headaches and anxiety. In a study done by various hospital networks in Paris, France, PCR testing in patients identified with mild COVID-19 infection during the first wave that are presently experiencing additional symptoms such as those listed above, do not support reinfection of the virus. Instead, the current testing demonstrates the possibility of a “postviral syndrome,” which includes additional symptoms that were not present in the initial infection. The study does, however, acknowledge the possibility that these symptoms may be unrelated to the virus and may instead be due to other underlying causes such as undetected autoimmune disorders or neurological disorders in patients.

There is also anecdotal evidence suggesting that those who were initially suspected to have COVID-19 without formal testing, treatment, or hospitalization, may also be presently experiencing these symptoms. A comprehensive survey was sent to over 2,000 volunteer participants in The Netherlands and Belgium who self-reported themselves on Facebook and registered themselves on The Lung Foundation Netherlands to have had COVID-19. Many of those participants reported that they are presently experiencing symptoms as well. The survey asked participants to report demographics, pre-existing comorbidities, health status, and generally report on their COVID-19 experience, including detailing onset and provide a thorough description of symptoms, severity, diagnosis and sought-after treatment. The results of this survey support the hypothesis that there is only a partial recovery 3 months after the onset of initial symptoms and suspected infection of COVID-19.

There is also preliminary evidence that the cytokine storm observed in COVID-19 is characterized by an overactivity of immune cells including T-cells, macrophages, natural killer cells and other inflammatory cytokines, specifically mast cells. Research shows that mast cells may play an important role in viral recognition of COVID-19 in a variety of ways, many of which are presently unknown. Data shows that mast cell activation syndrome (MCAS) is responsible for more severe clinical manifestations of the COVID-19 virus, but intensity of the infection seen in many patients is correlated to the degree of activation in mast cells. This demonstrates that drugs that target and inhibit mast cells and mediators show potential of being useful and effective in treating COVID-19.

Several studies have documented that there is a possibility of a “post-covid syndrome” that exists months after initial diagnosis, however there is still uncertainty within the medical community. With the promising development of a vaccine, the medical community is racing to research and learn more about the virus that has had an unprecedented impact on the world and our understanding of the disease.

References are available upon request.
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What can we learn from the other great pandemic of the Spanish flu that swept the earth nearly 100 years ago? Between 1918 and 1920 the H1N1 flu virus infected about one-third of the planet’s population and killed 20 to 50 million, including 675,000 Americans, mostly healthy young adults and more than the World War I that just preceded it, thereby lowering the average life expectancy in the USA by twelve years. Unlike today, there were no antivirals, mechanical ventilation techniques or effective vaccines, and the virus itself was not identified until much later—a story of magnificent viral sleuthing—in the permafrost of the Arctic. Over time, those who contracted the virus developed immunity to the novel strand and life returned to normal in the 1920s and interestingly gave way to the roaring twenties with improvements in sanitation and delivery of health care. The virus became less lethal as the pandemic carried on in waves, but the strand of virus did not disappear; it continuously mutated and transformed into seasonal flu. Descendants of the 1918 H1N1 virus make up the influenza virus that we are vaccinated against every year.

So, what we know today is only that we do not know enough and cannot entirely extrapolate the events of the flu pandemic to the very different novel coronavirus pandemic of 2020. The SARS-CoV-2 virus, its genome quickly decoded, is a relatively stable RNA virus as opposed to the flu RNA virus which mutates rapidly. Therefore, the future of the current pandemic is unlikely to be driven by natural mutations to a less lethal form. As we loosen non-pharmaceutical barriers the virus could be with us indefinitely joining the ranks of endemic persistent virus that we have acquired from animals. Spikes in Covid-19 and deaths may continue until we acquire herd immunity or have immunity bestowed by vaccination. The successful discovery and desirable outcome of the vaccine is a frenzied international goal.

Given man’s superior adaptability and intelligence can we learn anything from small creatures who have survived eons of time? Ants are possibly nature’s most successful species and are effective at preventing epidemics within their colonies. A sick colony is rarely seen in the wild. When exposed to a pathogen, they modify their behavior where they interact less with other groups whilst foraging outside. They groom themselves before returning to their nest, increasing their own antimicrobial poison production and reduce physical contact with their nest mates. Many ants produce formic acid in their glands, and they use it to fight off predators and disinfect and sanitize their nests and nest mates. They also mix formic acid with tree resin and place it near their brood. The cocoons containing pupae are resistant to this substance. Ants with low levels of pathogens on their body develop higher immunity. They protect the queen and younger worker ants but when infected young are identified they are either destroyed or removed from the nest—a ferocious act of nature.

Humans have adopted to various stressors with biological or cultural adaptations. Biological and genetic adaptations may take place over many generations. We may even develop a protective gene such as the sickle cell allele in malarial areas. Analyzing inconsistent and unpredictable response to the virus may hold a key to identifying genetic variants.

However, the predominant adaptation will be cultural driven by social intelligence and technology. Effective vaccines are soon becoming a reality. Social distancing, hygiene and sanitization, telemedicine, virtual schooling and remote workplace are now part of our lexicon and becoming the new normal. Innovative technologies in healthcare, education, finance, manufacturing, travel will shape our existence. We may have to rethink and rebuilt our attitude towards life itself. Let us not forget that a threat of another pandemic and zoonotic disease is omnipresent in animal and avian farming.
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Louisville, KY
Welcome to the ‘Life in the time of Corona.’ A diabolical virus, Sars-Cov-2, comes from China and upends our peaceful life. Initially many thought it would go away soon but the virus had other plans. Now the U.S. along with the entire world is reeling from the pandemic caused by the virus.

While watching the U.S. Open tennis 2020, I thought something was amiss here. The best players are in action but how come the stadium is empty, no fans, no applause after great shots? Except for the players on the court, a few masked officials and linesmen the entire arena looked deserted. So, this is the pandemic edition of the famous tournament!

A trip to Wal-Mart the other day for my grocery was an adventure. After spending so much time on the computer ordering the groceries online, I went to collect my items only to see long line of cars, all waiting at the pick-up line.

My son, who has two young daughters, calls from Chicago. “They decided not to open the school and give virtual learning classes,” he says with a touch of sadness in his voice. This ‘online education’ is failing our students, in my opinion. How can we expect any teacher to corral over a couple of dozen distracted students in different locations through a zoom talk? One physician couple said: “This pandemic is wreaking havoc on our routines. Both children are stuck at home, we are having a difficult time to get babysitters who also can supervise their virtual classes.” Depriving the students out of precious school time is a grave injustice.

So many changes in a few short months! Wearing masks when you step out of the house, keeping social distancing, avoiding crowds especially indoor gatherings, attention to personal hygiene ... well, we have to live with the pandemic protocol now. Instead of a bottle of water, I carry a bottle of sanitizer. Before you enter any institution, even the temple, your temperature will be taken with a special gun - a touchless thermometer, pointed at your forehead-the litmus test to detect infection? Greeting people now is through folded hands - namaste, I like that. Requiem for the handshake?

Another wrinkle. The pandemic is putting many careers on hold. One aspiring medical student who finished his BS and was admitted to medical school said: “I postponed going to med school; will do my MBA next 2 years.” More heartbreaking is the situation of those who have completed their courses in Law, Engineering, Social Work etc. but their licensing exams have been postponed because of the pandemic, so now they have to wait before they can get their license and start working.

The economy has taken a downturn, many small businesses have closed. And it has wreaked havoc on middleclass households. Travel industry has taken a big hit too. "Working from home," has become the common refrain. “That’s truly depressing, I miss the interaction with my colleagues,” said one office worker. Looks like office practices have come to an end as well. It’s all tele-medicine now. And after the lock-down, there is an obesity crisis nationwide! Not to talk about the anxiety and depression that goes with it.
Life has changed for sure; ‘how long for,’ nobody knows. And with the arrival of winter, the second surge of corona is here along with seasonal influenza. Somehow we have to avoid another mandatory lock down while adhering to strict pandemic protocol. It is indeed a tight rope to walk but is there any alternative? And this virus is going to be with us for a while.

“Change is the only constant in life,” we are told but who expected this radical change after a pesky virus came to visit us!

Unfortunately, “It’s not possible to stop the virus,” said Emmanuel André, a leading virologist in Belgium. “It’s about maintaining equilibrium. And we only have a few tools available to do that.”

So, let us learn to live with the virus for a while. The Japanese, a very sensible bunch, has already started doing that. We are resilient and with solidarity we will overcome this pandemic eventually.

NEW Book Published

Second Chance: A Sister’s Act of Love

Dr. M. P. Ravindra Nathan (Author of ‘Stories from My Heart”) has just published his new book: ‘Second Chance: A Sister’s Act of Love.’

The book describes in detail the author’s long saga of his complicated kidney transplant surgery and highlights some of the issues involved in organ donation and transplantation. Dr. Nathan shares his unique perspective regarding the role of kidneys in your body, what happens when they fail, what are the options for treatment, what is involved in getting a kidney transplant and how to adjust to a life after transplant.

This book takes you through the intricate details of how kidney failure could happen to anybody, even to someone who is apparently in good health. But “dis-ease” can happen to anyone—even doctors could become seriously ill, necessitating an organ transplant.

Ultimately, Dr. Nathan recommends, that we need to trust our own body—the beauty, resiliency and ability for its recovery, no matter how ravaged it is with disease processes. He hopes the readers will enjoy this book and find inspiration from his story. This book is very useful for patients with kidney diseases, prospective donors and recipients, physicians dealing with kidney diseases as well as the general public.

UNPRECEDENTED TIMES AND THE RISE OF TELEHEALTH

ARAVIND PILLAI MD, FACP
Past AAPI BOT Chair

In mid-February 2020, after returning from a two week nostalgic tour to Argentina with my wife and classmates, I felt relaxed and rejuvenated to return back to our bustling Internal medicine practice when none of us complained about long hours or added patient load.

We were aware of Coronavirus Disease 2019 (Covid-19) and closely monitored the progress of the virus in China, then Italy, and finally, Spain. Nonetheless, we still felt removed far from it on the sunny shores of Florida.

However, all of this changed on March 11th, when our president also announced suspension of flights from Europe to US and encouraged all Americans to return home. I distinctly remember a young man who arrived at our office to report a two week illness of runny nose, chest congestion, headaches, followed by fever. Suddenly, the possibility of Covid-19 was all too real and looming in front of me. I encouraged him to get tested for Covid-19 and practice social distancing. I must admit, I had turned into a germaphobe that day and washed my hands and face innumerable times.

I spoke with my daughters that night, both of whom are physicians. We determined that it is best for me to close my office and plan to transition to telemedicine, for we had to consider the safety of our office staff, patients, my own safety (being in a vulnerable age group), and that of my wife. The next day, we had a staff meeting and decided to temporarily halt seeing all patients in the office until we learned more about Covid-19. We advised our patients to stay home, practice social distancing and to call our health department help line if concerned. Of course, there was a parallel lockdown of businesses and schools nationwide.

While we rescheduled all our patients for the next two weeks, I mastered all I could about Tele-Health, a practice about which I knew nothing of, and did not ever think I would have to learn at this stage in my career. I was fortunate enough to get much needed help from EClinicalWorks, our EHR system. We were able to install the Tele-Health software on our computers at home, transform our home office into a work office and consulted with our insurance companies for guidelines on modifying notes and billing.

I was also able to apply for privileges to electronically prescribe controlled substances. Our office made the inevitable transition to Tele-Health, called all our scheduled patients and educated them on how to log in using a smart device or computer. For patients who lacked internet access, we conducted a telephone conference call visit. Soon billing guidelines changed, video and telephone calls were reimbursed at nearly equivalent office visit rates.

The initial transition was not easy as the first weeks were a bit of a struggle for all of us as we acclimatized to a new system and the world was learning about a new pandemic and adjusting to the changes to our lives.

Looking back, this transition has served us liberally! Foremost, we have noticed an increase in patient satisfaction who had issues with transportation, improved compliance in our elderly vulnerable group who worried about unnecessary exposure to a novel virus about which they had little information. Secondly, office visits were more efficient, now with a decrease in show rates with less travel time, parking effort, and driving stress. Few fallbacks however, like low income group patients or older patients with less know how of the internet, had to depend on the telephonic visits for now. There was also inability to perform a physical exam which cannot be substituted. Nevertheless, the benefits of telemedicine continue to outweigh the risks of exposure to the virus in an office setting.

As this pandemic evolves and as we unfurl ourselves to get ahead of it next year, I hope that the prospect of Tele-medicine will continue to remain an option for clinical visits except for few essential ones. Nonetheless, I will always remain vigilant for the health of the people I serve and gratitude for this country that has provided us with so much!
The Very Best Wishes to our
AAPI Leaders & Members

PRASAD FAMILY
SIVA, SRIDEVI, HARI, MINI & KRISHNA

Best Wishes to

AAPI PRESIDENT DR. SUDHAKAR JONALAGADDA &
JOURNAL CHAIR DR. UDAYA SHIVANGI

FROM ARAVIND PILLAI, MD & FAMILY
She skied and snowboarded avidly, was a seasoned salsa dancer, volunteered at a home for elderly, and maintained close relationships with family and friends. Dr. Breen suffered the consequence of serving on the frontline as Covid-19 ravaged through hospitals and nursing homes in the New York area. Jennifer Senior wrote in an opinion piece in The New York Times, “Physicians are perfectionists who suffer in silence.” Dr. Breen exemplifies the dedication and devotion physicians display daily, as many now risk their lives to save those who are suffering. Covid-19 caused us to fear the unthinkable and witness a level of despair only present in works of cinematic and literary art, while foregoing the usual support networks.

Prior to the arrival of Covid-19, between 35-54% of the physicians in the United States experienced one symptom of burnout, according to the National Academy of Sciences (2019). Symptoms of burnout include emotional exhaustion, depersonalization, and lack of personal accomplishment (National Academy of Sciences, 2019), and occurs in 45-60% of medical students and residents. The practice of medicine’s transition from a service to a business model, where productivity and RVU’s are calculated and rewarded. Physicians have lost autonomy and are regarded as employees in a system where administrators acquire income at the expense of quality healthcare and physician wellness. This pandemic has only amplified the flaws in the current system. A recent report from Dr. Restauri and Dr. Sheridan (2020) identifies the additional sources of anxiety that rose from the pandemic include lack of access to personal protective equipment and proper testing; potentially contracting the virus and infecting loved ones; and inadequate support from physician organizations for those who are infected. Images of physicians, weary from battle, with imprints of face masks, haunted us as much as those of the bodies piled upon each other.

As the pandemic raged, the need for wellness and self-care in the physician community became evident. Medical education does not teach us how to care for ourselves. We are thrust into hours of studying, rounding, and battling with our classmates for opportunities to do procedures and diagnose a zebra. It is vital for us to make our own well-being a priority. Physicians with hectic schedules find work-life balance to be challenging. However, we can begin to implement some simple strategies, known as the “Six B’s”:

- **Boundaries:** Physicians struggle with feeling obligated to be available at all times to all people. However, trying to maintain a patient quota leads to long hours at work, resulting in extra hours spend at home completing notes and responding to patient messages. Systems must change and allot adequate for patient care and documentation.
- **Breathing:** Meditation has been shown to reduce anxiety, blood pressure, and improve outlooks for those who are feeling the symptoms of burnout. Simple meditation practices include consciously focusing on inhalation and exhalation.
- **Buddies:** Spending time with loved ones, family members and friends, is vital to our wellbeing. In the time of social distancing, virtual gatherings over platforms such as Zoom have proven to be very successful and gratifying.
- **Brunch:** Maintaining a proper diet can be challenging for physicians who have limited opportunities to actually eat and drink meals, especially when shifts are busy. There is no designated time during the day for physicians, who frequently miss meals and compensate later by seeking less healthy and more calorie-dense foods. Unfortunately, hospital cafeterias also contribute, as their limited selection is typically unhealthy. It is up to us to choose foods high in nutrients, such as fruits and vegetables, and drink water.
As we learn how to better prioritize our well-being, we are able to consider these suggestions and make our day be more productive and know when it is best to set limits. Physicians must make wellness a priority to be able to thrive during, as well as after, this Covid-19 pandemic.

**Bicycle:** Daily physical activity is a luxury but, should actually be a priority. A simple 20-30 minute walk can help break the monotony of a busy work day. It is important to find the activity that resonates so we can easily make it a regular part of our day.

**Beauty:** Being outdoors is always good for health, physical and emotional. Spending time around trees and flowers under the sunshine feeds our souls.

As we learn how to better prioritize our well-being, we are able to consider these suggestions and make our day be more productive and know when it is best to set limits. Physicians must make wellness a priority to be able to thrive during, as well as after, this Covid-19 pandemic.
We chose the latter and COVID-19 Tamil Task Team was born from the American Tamil Medical Association (ATMA) NY/NJ chapter.

A group of like-minded medical and non-medical volunteers came together marking the start of this impactful journey driven by a common goal to support and help individuals and communities impacted by COVID-19 in whatever ways we could. The team grew from just three people to more than one hundred volunteers from diverse backgrounds. The imminent needs of the community were analyzed, interim goals were set and teams were organically formed all in a matter of a few days.

With the inflow of new medical information every day and the community actively looking for a reliable source, the task team played this pivotal role in providing key information in an accessible manner. Weekly webinars were conducted to both the physician community for knowledge sharing and to general public to address questions and concerns. Every week a panel of experts including Board certified physicians across various fields—Infectious Diseases, Pediatrics, Obstetrics and Gynecology, Psychiatry, Immigration, and CEOs of Biotech/Pharma companies in COVID-19 vaccine development participated to address questions on evolving medical knowledge and how the community could protect itself.

The task team set up a hotline number for the general public to address any non-life-threatening needs like access to food, general health questions, immigration or even as a routine check-up on people who felt lonely in quarantine. Upon the request of Indian Consulate in NY, the task team formed a network of several non-medical and medical volunteers to help with prescription refill requests for parents or family members who were in need of prescription refills and couldn’t return to their country with the nation-wide lockdown. A total of 1200 tickets for prescription refills were met during this short time.

The team created a website with updated resources and our volunteers distributed Personal Protective Equipment (PPE) to health care workers and families in need. Whenever we received requests on plasma donation, we referred them to the American Association of Physicians of Indian Origin (AAPI). The team collaborated with Indian Medical Association of New England (IMANE) and AAPI to organize webinars, partnered with Team Aid and Reaction teams to help with requests ranging from cremation services for Indians who passed away in the US to Indians who had to travel for emergency purposes.

The ongoing third wave of the pandemic in October is harsher than the second wave in July, and the numbers are surpassing far greater than the expected life cycle of the vaccine trial. So, we continue to help support the community during this continued difficult phase. We have an ongoing GoFundMe page with some generous donors. These donations have helped donate ten laptops to an organization in Delaware through a local community church to kids from challenging socio-economic backgrounds to attend online classes for the rest of the academic year without any interruption. A high school student was provided with funds to secure necessary raw materials to provide PPE to 100 residents of a local nursing home. A non-profit organization from India reached out to us to support their one-meal a day plan for farmers impacted by the pandemic. In addition to this, our volunteers have also run completely self-supported projects like the laptop drive program, where high school kids under the guidance of task team volunteers collected used laptops, fixed them and donated them to needy students in the Delaware area.

Although the team was formed by native Tamil origin people, most of our beneficiaries were non-Tamil Indian and American community. The goal of the team is to continue to serve our community with available resources and to get through this Pandemic together.
I am an American Board of Emergency Medicine (ABEM) residency trained and board certified Emergency Medicine/Trauma physician practicing full time at a Trauma Center since the completion of my EM residency in 1994 at the Medical College of Wisconsin.

I have to confess that throughout our post graduate studies although we were trained to deal with mass casualties including plane crashes, train/bus accidents, “gun and knife club” activities with multiple victims arriving simultaneously; we were never prepared for dealing with a pandemic lasting several months and beyond.

Covid-19 came as an uninvited, unpleasant guest from China and its invisible phalanges gradually strangled lives, destroyed economies, caused several hundred millions across the continents to lose jobs and businesses, causing extreme poverty and homelessness.

As it pertains to the Emergency Department operations, we were subjected to multiple stressors. Front line professionals like myself and my MD/PA/NP/RN colleagues have had to don PPEs, not revealing our comforting smiles to the patients and their family members in times of extreme distress. We look like aliens to these folks in distress. Some of my colleagues caught Covid-19 at work, including some who spent days and weeks in the ICU. Primary care providers and other medical specialists sent patients to the ER as they could not provide these patients basic care because of extreme limitations on in-person visits. This added huge patient volume loads to the already stressed ED staff.

Personally, I have encountered over the past few months diagnoses and clinical presentations ranging in a broad range – Acute Pneumonia, Respiratory Failure, Stroke/CVA, Sepsis/Severe Sepsis/Septic Shock, Acute Pulmonary Embolism, Gastroenteritis, Guillain Barre syndrome, Acute Psychosis, Anxiety and Stress, Suicidal ideation/Suicide attempts. No other infectious agent that we know of has ever caused such a broad range of multisystem devastation, apart from the impact on social, emotional and financial well-being, across the world.
This is not the first patient for whom Mary had cared for over several weeks, unaware of the hidden symptoms of Covid-19 since the virus appeared in the beginning of 2020. Asymptomatic patients who unknowingly expose others to the potentially debilitating virus strike fear in nurses, who fight daily battles with life and death.

Mary’s usually assigned to a regular medical unit, where there is no concern for positive covid-19 results. However, she enters uncertain territory every day, as her risk increases of caring for patients who are infected with covid-19 without the tell-tale cough, fever, and shortness of breath. Nurses from all hospital floors were recruited to work on the units amassed with patients who had Covid. Patients with the virus occupied the entire hospital, including the intensive care units and emergency department.

The lack of adequate testing for covid-19 has resulted in healthcare professions, who are the heart and soul of the healthcare delivery system, to be exposed to Covid-19. Subsequently, many have been infected with the virus thus, endangering the safety of their loved ones. “It was a nightmare going to work,” Mary recalled. “Seeing my colleagues one by one falling victim to this virus made me nervous about going to the hospital every morning.”

Mary, then, continued with trepidation: “A vast majority of the nurses who work with me have tested positive for Covid-19. One of my colleagues is struggling for her life in the ICU.” (sic). Mary also mentioned, “We have worked together for the past ten years.” She described a colleague who, along with the entire family, was infected. She also recollected how some of her other colleagues recovered, but were never at 100%. Mary eventually contracted symptoms of Covid-19 and maintained isolation from her family members for six weeks.

Nurses who serve patients on the frontline of this war on Covid-19 have suffered consequences similar to soldiers fighting in a war. Sumana Gaddam, President of IANA-North Carolina said, “Nurses are the life and soul of the healthcare profession. They provide comfort and care to patients every day.” She continued, “It’s indeed a challenging job that requires hard work, dedication, and a very thick skin.” Gaddam added, “Nurses are vigilant observers and problem solvers, poised to take action regardless of the challenge. Our mindset is of preserving unique attributes of our roles while embracing the progress that helps us excel.” Nurses who tragically lost their lives to the Covid-19 while caring for patients will be remembered and honored. Aleyamma John, 65, a registered nurse at Queens Hospital Center in New York City passed away on Tuesday, April 7. She was honored by her colleagues at the National Association of Indian Nurses of America (NAINA). Others recovered, such as Jaya, along with her husband who also works in healthcare.

Nurses play a critical role in patient care, particularly during this pandemic. Despite being isolated in their homes, away from their loved ones, overwhelmed by the fear of bringing the virus home. As beautifully described by Smitha, “It was very stressful in the beginning, and now, we have come around to accept reality.” Her faith in God has been a grounding force for her, as she believes, “When I help and do the services for the most vulnerable people during this pandemic, God will protect my family and me.” Liji, who is proud to be a nurse during this very unprecedented time, concluded “Nursing is my calling. When my duty calls I can’t fail. There is a light at the end of the tunnel. I wish and pray for this situation to get better so that the people can be safe and I can be with my family.”
The year 2020 started uneventfully except for the unusually long winter months. Life at work was typical, a mediocre academic clinical practice with a lack of autonomy overschedules and inadequate time spent with the patient in the exam room.

What was taught in medical school was reduced to a short chit chat about medical issues without enough time to understand the patient as a human being, after effects of corporate medicine, even in an academic setting! However, we all tried our best to bring humanism to our physician-patient interactions.

Practicing in America brought in new dimensions with how I connected to my patients. Unlike in Kerala, I learned to shake hands with every patient at the beginning of the visit to greet and at the end of the visit as a good-bye. In between, I would sometimes give a comforting touch on the shoulder, hold a hand, or give a therapeutic hug that made the day rewarding and gave me the energy to continue my work as a physician.

It brought meaning to the day-to-day mundane work. I always followed what I learned in medical school about the physical exam. Like a religious ceremony, I went through my sacred medical ritual with every patient I need to examine after completing the history. As the patients moved from their comfortable chair to the not-so-comfortable exam table, I turned around to the sink and washed my hands with soap and warm water. Even though there was hand sanitizer in the room, I found comfort in washing my hands in warm water, similar to a priest in this sacred ceremony of physical exam.

As I washed my hands, I would contemplate on the patient’s history, and what I would need to focus on as I perform the physical exam. By the time I dried my hands, I felt confident that I was ready to do a sacred ritual! I started my routine in a systematic order, starting from the head to toe, inspecting carefully, palpating with a therapeutic touch, and even auscultating gently with an element of mindfulness. Finally, by the time I finished, it felt as if I have touched the heart and soul of this patient to know them as a person. What a miracle a therapeutic touch can bring!

Once I finished, I told my patient that they might step down from the table and sit on the chair, if they liked. I would turn around and wash my hands again, slowly dry them, and talk to the patient. Whether I gathered any finding or not, I felt that by the time I finished my physical exam ritual, the patient was ready to hear what I had to say about my impression and management. Many times, my thought processing happens during that small window between the two hand washings.

I always felt that our doctor-patient relationship changed for the better as my hands touched their skin, and I heard their heartbeat. It was as if I got closer to their “heart and mind”!

Around the end of January, I started reading about the novel coronavirus from China. By February, widespread news started coming about the pandemic, described as the dragon that may swallow the world! Initially, it was unclear what was coming and what it meant. The knee-jerk reaction was to suspend all patient visits for a short period of time. However, it was not sustainable not to see patients. Patients need doctors to take care of their illnesses. We began seeing patients again, mostly either on video or telephone calls. Initially, it felt great and the work seemed easy. I found that I had more free time. Slowly, some patients started coming in for face-to-face visits. However, the visits were significantly different than before as the patients came in wearing masks! All the staff and doctors were wearing masks and sometimes face-shields. Before, I used to sit near the patient as I talked, but now, I sit as far away from the patient as possible and talk loudly through my mask!

Most importantly, it was one thing to wear gloves as I did procedures but also a must to protect me and to have a clean sterile field. However, wearing gloves for an exam has a different dimension. After a few months, I felt that there was something missing, and I contemplated about what was different beyond the social distancing and masks. Finally, it dawned on me; it is the therapeutic touch that was missing. A few days without shaking hands, hugging my patients, and performing a physical exam with gloved hands were not issues. As it continued, it became clear the importance of a healthy therapeutic touch. Moreover, it is not the lack of touch, but the thought that we are prohibited to touch, makes it significantly harder.

We always knew that babies need comforting touch for their wellbeing. I think it is the same for all human relationships. And patients. We meet them when they are vulnerable. In that situation, a healing touch has a tremendous role in the patient’s healing and physician’s own wellbeing. The coronavirus epidemic gave me a chance to realize the truth about therapeutic healing touch. I pray that we will be given another chance to restore our therapeutic touch and to have the freedom to hold the hand of our patient to comfort them.
COTTON MASKS PRODUCTION TO ALLEVIATE POVERTY DURING COVID-19 PANDEMIC – A HUMANITARIAN EFFORT

ALOK AGRAWAL, MD, FASN, FNKF
Founder, Global Pragathi
www.globalpragathi.com

Over 600,000 re-usable fabric masks have been produced in ten villages of India. More than 500,000 masks have been distributed for free in several hundred villages across India to protect the indigent from the virus. At the same time, our non-profit organization, Global Pragathi is providing livelihood to 140 families currently. All these have been accomplished in challenging conditions so far.

At the current rate, in one year, the total masks production will amount to 2 million. The cost to produce each mask is a mere 10 cents or Rs. 8. To support the villagers with employment and protect millions from contracting the virus, the total expenditure incurred in a year will be $216,000 or Rs.16 million (Rs. 1.6 crores).

Unemployment, lack of information, fear, panic, frustration and food insecurity in rural areas have soared to levels not witnessed in our lifetime. During the lockdown, under unimaginable adverse conditions, the Pragathi team courageously, under the leadership of Mr. Praveen Agarwal at the grass root level, stepped in to support the hard-hit underprivileged villagers in every possible way.

The Conception and Implementation of the Project
After a lot of brainstorming, we came up with the idea of producing inexpensive, re-usable cotton masks, needed for prevention world-wide. It would be an ideal employment generating, economy boosting, preventive health project promoting self-reliance and sustainability in the villagers, with several short- and long-term implications.

We overcame the challenges associated with procuring raw material, production of masks and their distribution safely during the period of lockdown. The 300 women, who received sewing machines after training were counselled and brought on to a common platform. The villagers were extremely happy to make the masks at home as per their convenience, safely. They understood that stitching masks would improve their skill level, allowing them to take on more complicated tailoring projects, independently in future. We also decided to empower these grateful women with knowledge so they become ‘Champions of Sustainable Rural Development’. There is a smooth, safe, efficient flow of work with the women coming to the Pragathi Rural Development Centre to collect the raw material and returning back the finished products within a few days.

A Model Project of Prevention and Poverty Alleviation
We have succeeded in creating a replicable and sustainable model of poverty reduction. The project also falls in line with the vision of Atmanirbhar Bharat given the production of this invaluable indigenous product.

Kids wearing re-usable, inexpensive, locally made cotton masks
Fear was pervasive in India when COVID-19 infections began popping up in stray corners in January-March, the early cases having been brought in by medical students returning from Wuhan, China and by tourists returning from Italy: fear among city-dwellers, who stared at a possible Armageddon in the making amidst them. Fear within hospitals among the staff, who were facing the unknown conveyed through an unseen enemy.

Municipal health workers doing contact tracing in the initial weeks of the pandemic were violently chased out of localities by residents who shunned civic staff, as if they were carriers of some dreaded plague of yore. Doctors and nurses were served notice by landlords to vacate their rented accommodations only because they were treating COVID-19 patients.

Property owners stopped leasing out their rooms and apartments to medical professionals for fear that such tenants would bring Coronavirus into these communities. Even in upmarket localities in a city like New Delhi, with residents who are presumed to be enlightened, nurses were assaulted and prevented from engaging in routine daily chores like buying vegetables from neighborhood street vendors.

Safety risks in day-to-day life, combined with rising infections of COVID-19 among medical doctors, nurses and health workers prompted the central and state governments to announce steps to protect them and guarantee their welfare in the course of duty. By April, India had mobilized 2.2 million medical professionals all across the country to care for COVID-19 patients. Odisha’s Naveen Patnaik, one of the more enlightened Chief Ministers, began giving state funerals to healthcare workers who succumbed to COVID-19. Some states added their own additional coverage of five million rupees to the national stimulus.

On April 22, India’s cabinet amended the Epidemic Diseases Act of 1897 to increase protection for healthcare workers who are engaged in COVID-19-related duty.

Under the amendment, anyone causing injuries to health workers can be sentenced up to seven years in jail and fined up to half a million rupees. If any damage is done to vehicles or clinics of healthcare workers, the amendment provides for compensation amounting to twice the value of the damaged property from the accused perpetrators. Ironically, violence against healthcare workers, particularly doctors and hospital staff, has been endemic in India for decades. Many experienced doctors say that such violence has increased recently. This pandemic was an impetus for change in a positive direction.

Dr. Sumit Ray is Head of the Department of Critical Care Medicine at New Delhi’s Holy Family Hospital, where 80% of 345 beds are reserved for COVID-19 patients. Dr. Ray is a US-trained intensive care specialist with 22 years of experience of working in ICUs. He sees a link between the endemic violence against hospital staff and the sad reality that about 63 million Indians are pushed below the poverty line every year because of healthcare debts.

“In the US, violence against doctors and hospitals is not physical, but, litigational,” Dr. Ray reasons philosophically. He argues that in an increasingly transactional model of healthcare delivery in India, “laws alone might not succeed in changing the increasingly confrontational relationship between healthcare providers and the people.” Many other medical professionals agree. Although violence against healthcare professionals has drastically come down with strong deterrent actions by governments, a lingering problem is delayed salaries to hospital workers. In many hospitals, doctors and nurses on COVID-19 duty have been forced to protest against non-payment of wages or strike. COVID-19 has caused a serious reevaluation of how healthcare is delivered internationally. The well-being of healthcare professionals has finally become a priority.
I would attribute this drastic difference to three factors; 1. Innate resilience of the Japanese society, 2. Inherent discipline and 3. Incidents in the recent past that taught them adaptability.

Innate resilience to overcome natural calamities
Japan is a nation of hundreds of islands, well known for frequent natural calamities of all kinds: Tsunamis, Earthquakes, Typhoons, Volcanic eruptions, Landslides and Avalanches. Two of the five most expensive natural disasters in recent history affected Japan in 1995 and 2011, costing $181 billion in damages and Japan has experienced 10 of the worst natural disasters of the 21st century. Disruption of normal life before and after these natural calamities for varying periods are common and this includes disruption of traffic, water supply, electricity, availability of essential commodities, especially food and healthcare services and more. But the Japanese are able to live amicably in temporary shelters with fellow human beings and this has made the Japanese society resilient that they have innately developed an adaptability to overcome such difficulties.

Inherent discipline in forming a mutually courteous society
Japan is a country with the utmost convenient and punctual public transport systems and extremely courteous behavior of the people with concern for their fellow human beings. To give you some examples, speaking on mobile phones in buses or trains, though not illegal, is a not a routine practice as a courtesy to fellow passengers and it is also considered bad manners. On the other hand, in contrary to several developed nations where eating and drinking in public trains are prohibited, Japan permits you to eat or drink in trains because they don’t litter and always clean up before leaving. When they get a common cold or flu, they will routinely wear a mask so as not to spread the germs to others that prompts some foreign tourists to ask if there are many kidney transplant recipients in Japan!

Incidents that taught adaptability prior to Covid-19 pandemic
In 1996, the E.Coli O-157 strain affected Japan during which washing hands, utensils and vegetables, although was practiced even earlier, gained more importance and acceptance. When the SARS epidemic in eastern part of Asia in 2012~13 started spreading to nearby nations hand sanitizing became a common practice and sanitizers were placed at the entrance of office buildings and places of public gathering.

In February 2020, the Diamond Princess cruiseship with several Covid-19 positive guests was allowed to dock in Yokohama port which made the Covid-19 positive numbers in Japan jump up suddenly. This was widely covered in global media. The Japanese health authority took the help of Fujita University, whose Okazaki Medical Centre in Aichi was set to open in April 2020, and the latter was immediately converted to admit exclusively the Covid-19 patients from cruise ship. In that facility they made two different tiers of areas for holding people: one for Covid-19 positive and the other for Covid-19 negative patients. And this protocol helped other hospitals also to tackle the Covid-19 patients or for screening the symptomatic ones.

A lockdown request was placed by Tokyo and Hokkaido governments along with travel restrictions between prefectures which was adhered to by all relevant stakeholders. Work from home or rescheduling of time slots eased traffic and made social distancing possible. Almost everyone started wearing masks and practiced hand-sanitizing to bring down the daily Covid-19 positive numbers to less than 100 in Tokyo.

With reports about several clinical trials on Covid-19 vaccine candidates around, we have also started a study using a unique beta glucan food supplement made in Japan to see its immune enhancing and immune balancing capability in healthy male volunteers based on a concept paper recently published (https://www.frontiersin.org/articles/10.3389/fimmu.2020.01548/). Until any proven preventive measures in place, let communication systems unite us as we all keep ourselves safe by social distancing, wearing protective masks and preventive hand sanitizing.
BEST WISHES AND COMPLIMENTS TO AAPI MEMBERS

DR RAJ BHAYANI
President, AAPIQLI

DR V. CHAKOTE
Chair, AAPIQLI BOT

&

EXECUTIVE COMMITTEE OF AAPIQLI
Within the concept and contexts of a ‘Multiverse’, Mother Nature demands periodic, mandatory manipulations. Like geological adaptations and ecological assimilations, microbial invasions may be elemental impositions that She dictates to keep the ‘balance’, and for the ‘Act’ to continue.

The Covid-19 could be one such ‘obligatory adjustment’.

India is ‘an equal opportunity’ participant in the ongoing saga of the Covid-19 pandemic, a global calamity of the century, mercilessly muddling human lives from a multitude of established foundations.

The first patient in India, a medical student from Wuhan, China, came to Kerala, tested positive on January 30, 2020, admitted, and discharged on February 19. The first death was of a 76-year old Karnataka man on March 12. The initial hotspots were cities like Mumbai, New Delhi, and Chennai, reporting crowded hospitals, mounting death-toll, shortage of healthcare workers, and a dark cloud of terror cast over the nation.

From July, the cases began spreading exponentially from metropolitan to rural areas, states like Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu, and UP, leading the pack. From dignitaries to politicians, entertainers to sports personalities, rich or poor, irrespective of age or sex, the indiscriminate tsunami has been gobbling up our essential existence.

Professor Ashish Jha, from Harvard Global Health Institute, in an interview with Karan Thapar in June, referring to the Gu Model (YYG), implied the counts to be erroneous due to faulty data and may far exceed the projections, eventually, half of India getting the Covid, with death-toll into several millions.

A more considerate SEIR model, though, predicts the decline as early as mid-October. Currently, per the Covid-tracking app Arogya Setu, used by 160 million Indians, about 7 million are infected, almost a million active with around 80,000 daily new cases and the lives lost, exceeding 100,000.

While PCR (Polymerase Chain Reaction) is the gold standard diagnostic test, the Health Ministry has introduced faster and cheaper tests, including, antibody, rapid antigen, and others, doing about 1.2 million tests per day. Different states resorting to their own choice of testing, add to statistical inconsistencies.

Kerala, reporting three of the first 6 cases in India, made global headlines containing the spread, in spite of its highest population density and individuals over 65. Health Minister, Shailaja Teacher, and her remarkable team, initiated the ‘disaster management’ policies, implementing the ‘break the chain’ campaign. But by October, Kerala again had maximum active cases per million, alleging irresponsible crowding from many, unruly events reversing all the early accomplishments.

The government of India ordered its first 21-day-lockdown on March 24, extending it often, and unlocking in stages based on improved statistics. The National Disaster Management Authority restricted the movement of people across states and districts, limiting large assemblies. The shopping complexes, cinema halls, religious institutions, and public transportation ceased. The lockdowns slowed down the spread, buying time to study the disease and getting closer to vaccine availability.
COVID-19: CONTEMPLATIONS FROM INDIA

The Covid-19 has painfully hurt the Indian economy. GDP suffered a 24% drop in the April/June quarter, with domino effects infiltrating every segment of life. The worst recession since Independence is predicted. The government has liberally pumped in billions of dollars as financial aid.

What lies ahead? Almost all the expert projections have been mirages in the mist. Each country has its own script, even India. The virus is reaching into the vast and varied masses, our populous nation is still fighting its initial wave and struggling to downgrade the infection.

Following restrictions and the arrival of the vaccine would hopefully contain the pandemic. Nonetheless, lives compromised and damages inflicted before normalcy returns, remains a mystery.

But the lessons we learned would hopefully jolt our conscience and commonsense, waking us up to a ‘new beginning’. May we respect Mother Nature and adapt a harmonious, universally sustainable existence.

AAPI UPCOMING EVENTS

Feb. 19-21, 2021
YPS/MSRF Winter Medical Conference

April 30 to May 3, 2021
Global Healthcare Summit, Vizag, India

May 19, 2021
Legislative Day on Capitol Hill

June 30 to July 3, 2021
AAPI Annual Convention

July 11-23, 2021
AAPI Arctic Tour

Dec 29, 2021 to Jan 2, 2022
Global Indo-US Healthcare Summit, Bengaluru, India
One year into the pandemic, there is as yet no safe and effective management protocol against SARS-CoV-2. Many agents were used based on their in vitro activity or their known efficacy in other corona viral diseases. To date, only the RECOVERY study, provided the first rational approach to addressing the major cause of death in Covid-19 infections. Similar benefits were reported as case reports and observational studies. There is urgent need to extend these observations for defining the optimum dosage and disease stage specific treatment windows. This gains urgency in the context of constrained therapeutic choices, and thereby survival in large sections of the population, all over the world.

The RECOVERY study is the first randomized clinical trial that showed the benefit of corticosteroids, in reducing mortality from SARS CoV-2 induced inflammatory response, even at low doses (6 mg Dexamethasone for 10 days).

Most of the viral load is highest in the first week after infection and starts to decline after the 5th day. The inflammatory phase generally starts after the first week (any time between 7th and 14th day). A fraction of these subject’s progress to cytokine storm.

We therefore reasoned that anti-inflammatory drugs must be started during this inflammatory phase before the storm sets in. Inflammation, which is solely responsible for hypoxemia is reduced by corticosteroids. Undoubtedly, the RECOVERY study has shown that dexamethasone suppresses inflammation and improves survival.

While corticosteroid use is reported to slow the clearing of viral RNA, we don’t yet know what the after effects could be in this situation. In a study looking into the prolonged use of methylprednisolone in Covid-19 treatment, showed that there is no significant delay in the clearance of viral particles among the groups treated with corticosteroids and placebo, which is in agreement with international literature.

However, we presume that the rate of viral clearance is not related to uncontrolled inflammatory reaction going into cytokine storm.

Our group has been treating patients who presented with hypoxemia and/or early signs of inflammation with rising trends of inflammatory markers, with 1 – 2mg of methyl prednisolone per kg in two divided doses; this was continued until all the inflammatory markers returned to normal extending if necessary, to more than three weeks. Our group has been treating patients in the outpatient setting prevented the hospitalizations in more than 99% of these patients. We observed that treating patients in the hospital who required high flow supplemental oxygen with higher doses of corticosteroids avoided the need for the invasive ventilation. Some of these patients received pulse doses of 500-1000 mg methyl prednisolone per day for three days and then deescalated the dose over a period of 4-6 weeks with extremely low mortality. Properly designed trials meant to demonstrate this benefit are under way. This approach is being brought forward with urgency for broader discussion in view of the gravity of the present situation even as we await data to validate and support this approach.

After struggling to control the spread of the virus nearly for a year, we are now facing many post Covid-19 syndromes due to damage of nearly all the organs in the body by the hyperinflammation. In a recent study from University of Michigan revealed that majority of hospitalized patients either succumbed to the disease or became debilitated and was not able to attain their pre CoViD-19 infection status of health. We are recognizing more patients developing pulmonary fibrosis, tachy and brady arrhythmias, multiple cerebrovascular and cardiovascular events, thromboembolic events, Kawasaki like syndrome and nonspecific myopathies. There is evidence mounting that micro vascular thrombosis due to uncontrolled endothelial inflammatory response is one of the important pathophysiological features responsible for these chronic conditions.
Given the global spread of the infection without any specific, safe and effective drug to halt it, we believe that corticosteroids, begun early and continued for a sufficient time at an effective dose, are beneficial and reduce mortality significantly and prevent the development of post CoViD-19 complications—until more effective preventive vaccines or therapies are available. This is particularly important in low- and middle-income groups in countries such as India health care facilities that are already stretched to the limit. Until better options are available, early administration and longer duration of corticosteroids can help tide over the immediate crisis.

On the basis of our experience, we believe that large scale studies need to be done and meanwhile corticosteroids can or even must be used to control Covid inflammation until better alternatives are available.

References available upon request.
CONVALESCENT PLASMA AND MONOCLONAL ANTIBODIES FOR TREATING COVID-19

SATHEESH KATHULA, MD, FACP
Hematologist and Oncologist
Treasurer, AAPI

Convalescent plasma (CP) refers to the plasma collected from patients who recovered from an infection which may provide neutralizing antibodies to fight a similar infection in the recipient. The following is the data currently available on CP for treatment of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2):

**WUHAN STUDY:**
It was an open-label, randomized trial of CP versus Standard of care for patients with severe or life-threatening Covid-19. There was no significant difference between the two groups in time to clinical improvement within 28 days or mortality. However, in non-life-threatening Covid-19 patients, 91% of CP recipients and 68% of control patients improved by Day 28 (P = 0.07).

**Limitations:** The trial was small, not blinded and terminated early. CP was administered a month after the diagnosis. Antibody titers were not tested.

**PLACID trial:**
A multi-center, randomized, open label trial using CP versus SOC for hospitalized patients with Covid-19 was done in India with exclusions of Critical patients. 235 patients receive CP and 229 received SOC only. There was no difference in time to disease worsening and 28-day mortality.

**Limitations:** It was not blinded, and SARS-CoV-2 antibody testing was not used to select donors.

**Plasm AR Study Group:**
Plasma AR study was a randomized, double-blinded, placebo controlled, multi-center study in which 228 received CP and 105 received placebo. There was no significant difference in clinical outcomes including mortality at 50 days between the two groups.

**Limitations:** CP was given to severe patients and median time to CP administration was 8 days.

**Mayo Clinic Expanded Access Program (EAP):**
More than 100K Covid-19 patients received CP through EAP across US so far. An exploratory analysis revealed that it was relatively safe and no difference in 7-day mortality between patients who received high-titer or low-titer plasma or who were intubated. However, in patients younger than 80 years, non-intubated or receiving plasma within 72 hours, the 7-day mortality was lower with high-titer than low-titer plasma (6.3% vs. 11.3% P = 0.0008).

**Limitations:** There was no control arm or accepted test for measuring neutralizing antibodies. The analysis looked at 7-day mortality, which may not be clinically meaningful since COVID-19 can have a prolonged course. There was also no control over other therapies received.

**Monoclonal Antibodies:**
A phase 2 trial of outpatients with mild or moderate Covid-19, at high risk of progression to severe disease, randomly assigned to receive a single infusion of neutralizing antibody, B-mab Bamlanivimab in one of three doses - 700, 2800, or 7000 mg or placebo. Patients treated with B-mab showed reduced viral load, symptom rates and hospitalization. There were no adverse events in the treatment arm compared to placebo. This led to EUA (emergency use authorization) of a single dose of B-mab by FDA-700 mg intravenously. B-mab combined with another monoclonal antibody called Etesevimab is also in clinical trials.

Regeneron’s REGN-COV2 is a combination of two monoclonal antibodies (Casirivimab and Imdevimab) which was designed to specifically block SARS-CoV-2. In a phase 1/2/3 trial of non-hospitalized patients, REGN-COV2 rapidly reduced viral load through Day 7 in sero-negative patients. No significant side effects were reported. FDA issued EUA to use this combination in mild to moderate Covid-19 adult and patients older than 12 years.

**CONCLUSIONS:**
Most studies using CP in Covid-19 patients are flawed and no firm conclusions drawn with the currently available data. Clinical trials are looking at hyperimmune globulin, a product derived from CP from thousands of donors which can neutralize the virus. The treatment of Covid-19 is evolving rather rapidly. Several clinical trials are ongoing with CP, monoclonal antibodies and hyperimmune globulin. Hopefully, the final results will be available soon to combat this life threatening infection.
The AAPI Leadership led by the President Dr. Sudhakar Jonnalagadda thanks the following for their outstanding contributions leading to the success of Webinar CME programs during 2020-21:

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The partnership of AAPI and CMS has resulted in high quality CME programs offered by the distinguished US and International (Indian) Speakers on diverse topics with AMA Category 1 CME credits. The participants included AAPI members, non-members, Members of CMS and Indian Physician guests. The service from the CMS is complimentary. AAPI members are receiving complimentary CME credits as a membership benefit.

This year’s Webinar CME Programs also recognize esteemed Speakers by inducting them into the “AAPI Distinguished Speakers’ Club”.

Thanks
According to CDC, at the time of writing this article, there is an estimated nine million cases of COVID-19 with approximately 225,000 deaths in the United States. COVID-19 pandemic continues to impact every aspect of American life without an end in sight. Initially, the northeast, specifically the States New York and New Jersey were the hardest hit areas at the peak of this pandemic. The health care systems were overwhelmed and there were no proven treatment modalities available. The latter only amplified the problems. Those, especially with comorbidities like diabetes mellitus, heart disease, chronic kidney disease and underlying chronic pulmonary disease, especially had a difficult disease course. In the early stages of the pandemic, the exact mode of disease transmission was unclear which further added to growing concerns. At this time, we can help prevent the spread of the novel SARS-CoV-2 by social distancing, wearing face coverings, and limiting large gatherings. For those who become infected with this virus, we manage the clinical symptoms with different strategies, including antiviral therapy, steroids, device support with HiFlow, lung protective ventilation strategies, and extracorporeal life support.

Lung transplantation is a well-established last resort therapy in end stage lung disease refractory to maximal medical therapy. This discipline was and continues to be challenged during this ongoing COVID-19 pandemic. The northeast lung transplant activity came to a standstill at the peak of the pandemic. Multiple factors, such as: inability to test for COVID-19; no proven treatment; and the overwhelming burden of disease, were the primary drivers for temporary hiatus from lung transplantation. Lung transplant recipients were impacted in a similar manner to the non-transplant population. Mortality in lung transplant recipients is estimated to be approximately 22-30% from published and unpublished data. This was especially true of the New York City, New Jersey and Philadelphia area patients. Lymphopenia, very high inflammatory markers, and endotracheal intubation have been reported to be associated with increased disease severity and worse outcomes. Intubation invariably was associated with very high mortality. The clinical presentation of fever, cough, dyspnea, along with multiple organ system involvement was similar in both the transplant and non-transplant population.

Most transplant programs focused on prevention and leveraging technology to provide the best possible care for lung transplant recipient and those awaiting organs alike. Initially, outpatient clinics were closed. However, they have resumed operations and essentially have returned to normal patient numbers. During the peak of the pandemic, patients monitored their own lung function with portable spirometers. These were either linked directly to the hospital electronic medical record (EMR) system, or to an application (App) platform. Patients also could provide updates to the respective care providers via telemedicine. Follow up care focused on mobility via virtual physical therapy which had a major impact on recovery. These strategies allowed social distancing and isolation while keeping both patients and care providers connected and safe. Lung transplant patients often are educated about infection complications in the pre-transplant phase and this education is further re-enforced in the post-transplant phase. Naturally, these patients understand the need for self-isolation and prevention.

Our understanding of COVID-19 has improved, and with emerging guidelines and evidence-based strategies, the management has become more successful. Hospital systems are better able to manage patients. With the help of proper preventative strategies (social distancing, isolation, and wearing masks) lung transplant activity has also slowly started to resume. In the management of the lung transplant recipients stricken with COVID-19, strategies remain similar to the non-transplant population. Some programs are altering immune suppression during the acute phase of COVID-19. There are a handful of attempted lung transplants in those with irreversible damage from COVID-19. At this time, long term outcomes remain unknown in those who have recovered from disease and those who were transplanted for this indication. It remains unclear if patients who develop chronic end stage rejection from COVID-19 should be re-transplanted, as the risk rejection is not known. For now, national and international efforts remain focused on prevention and safety, as well as the development of vaccinations and medications for management of those infected with COVID-19.

Disclosure: Some of this is unpublished data obtained by calling each center.

References available upon request
Statement of the Problem:

Voltaire, a French philosopher, said “The art of medicine consists in amusing the patient while nature cures the disease.” He went on to quote “Doctors put drugs of which they know little, into bodies of which they know less for diseases of which they know nothing at all.”

Polypharmacy: This is what happened in the recent treatment of the most important VIP in USA for Covid-19. And it is just the tip of the iceberg. At a global level (1) there are over 530 treatments and vaccines that will be undergoing clinical trials. As shown in oncology and HIV clinical trials, the end result of this “Demand-Supply” game is polypharmacy. In the modern time, this disease of polypharmacy is the entertainment game when the underlying immune pathogenesis of disease is not clear. Such efforts of polypharmacy will contribute to the emergence of resistance, mutation and more rapid spread in future. Covid-19 is spreading globally at the speed of ‘doubling time of 3-9 weeks.’ As of 10/26/2020 (2), there are over 43,399,252 global cases of Covid-19 with total global death count reaching 1,157,802. In USA the total number of cases is 8,697,710 with total deaths of 8,697,710. While in India there are over 7,909,959 cases with 1,190,141 deaths.

Operation warp speed: This is a major innovative solution to cut time line and to expediently develop vaccines. Warp is a term derived from the science fiction TV series of Star Trek in early days. The speed of light in a vacuum is about 186,282 miles per second (299,792 kilometers per second). In Star Trek, “Warp factor 1” is light speed and a warp factor of 9.9 is more than 2,000 times faster than the speed of light. Current speed of drug and vaccine development, for example in USA, has cut the traditional timeline of drug development from 10 years to 2 years. However, considering the speed at which Covid-19 is spreading globally, this is still very slow. The underlying reasons are:

- Over 500 companies globally developing vaccines and drug therapies are competing and not cooperating, thus duplicating wasteful resources of multi-trillion dollars.
- There is collateral damage to the economy amounting to multi trillion dollars.
- The entertainment game of “Polypharmacy” and game of “Demand and Supply” will lead to resistance, mutation and, greater spread of Covid-19 globally in future.
- They are failing to innovate based on “The Fundamentals of Immunology” that historically contributed most cost-effective vaccines and therapies.
- They are also failing to innovate based on “Data science and its Analytics” to speed up drug development and vaccine process.

Covid-19 is the gravest crisis affecting people around the world. There is no solution in sight in spite of 530 vaccines and drug therapies. This means, the future of this world - our life style, the future life style of our children, parents and grandparents - is doomed to “Quarantine, social measures and lock down measures at global level.” The greatest danger is to the future of democracy and to the front line health care workers.

The Proposed Solution: The proposed solution to above crisis is compression of scientific data of last twenty years and its analysis to better understand how microbes and viruses interact with host and its immune system. This was the solution proposed by Dr Anthony Fauci in the year 2002 when he defined “Biodefense Strategy for USA” shortly after Anthrax attack on US soil in 2001. A similar project was also initiated by Vice President Mr. Joe Bidden in October 2016 and was named as “Cancer moon shot project” that involved data compression and analysis to speed drug discovery and its clinical applications.

Advances in Covid-19 from ‘Endocrine Technology LLC’: In keeping with above proposed solution, Endocrine Technology, L.L.C. have analyzed scientific data base of PubMed Central. We have manually combed data of the last twenty or more years covering a total of 11536 scientific articles. Our innovative approach was focused on Factor H and its role in immune-pathogenesis in major life threatening diseases. (3) Our data analytics allowed us to develop a predictive model of drug and vaccine therapies in “Major life threatening diseases” with better predictive capacity of at least 30% or more for safety and efficacies. Factor H is a key advance in Genomics and Fundamentals of immunology that act as a night vision goggle or Google satellite or artificial intelligence that will impact the lives on planet earth in near future (4).

References are available upon request.
A virus one can’t see  
Virus you can’t feel  
Started in Wuhan, China end of 2019  
Spread like wildfire all over the globe  
23 million worldwide infected  
819,000 succumbed to the virus  
America, 3rd in the world, had 5.9 million infected  
9,400 left for worlds unknown  
Not all infected will show symptoms of being sick  
101 out of 10,000 will be symptomatic  
Fever, tiredness, dry cough, runny nose  
Shortness of breath, pneumonia to name a few  
Some so sick, they go to the ICU  
Ventilators those cannot breathe  
Diabetes, heart disease, liver and kidney failure  
Preexisting conditions, can threaten your existence  
Prevention is better than cure  
Get tested, a nose and throat swab  
Quarantine, stay away from your job  
Wear a mask, covering nose and throat  
Social distance – six feet between you  
Rest of the world  
No parties, no churches, and no congregations  
Stay alone in a room and watch CNN  
Keep hands in antiseptic soap  
No face-to-face talking, only cell phone  
CDC, AMA working hard to find a cure  
Vaccine that can kill the virus  
Patient’s antibody laden plasma as treatment option  
Antibiotics that can attack the virus with vengeance  
Scientists and medical personnel  
Promise the cure will be on the horizon  
How long will Coronavirus is going to live with us  
Is it a hoax as President called it?  
When are we going to live our normal lives  
God only knows.

ASK NOT WHAT COVID CAN DO FOR YOU; BUT WHAT YOU CAN DO FOR COVID?

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Urologist, NorthWest Clinic, Poplar Bluff, MO  
Frequent contributor to AAPI Journal and his articles have appeared in Medical Economics

FOREVER REMEMBER, HER GOOD OLD DEATH

KULDEEP N. YADAV
PhD student in Epidemiology, Palliative and Advanced Illness Research Center, Perelman School of Medicine, University of Pennsylvania

This poem is dedicated to the loving memories of the remarkable women, wives, mothers, and grand-mothers that we have lost. May their passion for living with resolve and purpose inspire us to live our lives to the fullest.

Devilish death would faintly cold call her  
Sending shivers down our spines twice over.  
Remember how we’d awake, just to pray  
Ourselves to sleep, mumbling please not today.

Every time her health took a sudden dive  
We’d fight; She’d resurface, barely alive.  
Remember fifteen years, only one lung  
Continued breathing, our hero unsung.

Now confined to her bedroom, she adored  
Her whole new world, one of her own accord.  
Remember her infectious smile those days  
Her laughter, her resolve, we all still praise.

Tragedy struck, while she lay in our arms  
Warmly resting in peace. Hold the alarms!  
Remember her very last dying breath  
Living means one day accepting my death.

Her body, though permanently perished  
Her soul persists, as her wish was cherished.  
Forever remember, her good old death  
Fulfilling her very last dying breath.

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COVID-19 is covered with spike proteins that help it invade human cells. Vaccines help our immune systems to make antibodies that would attach to the spike proteins and prevent it from invading the human cells.

Different companies are using different techniques in developing vaccine.

- Inactivated and live attenuated virus: Sinovac is in phase 3 trial.
- DNA Vaccines: Inovio. Per website, FDA has put a hold on its trials since they did not report on levels of immune response.
- mRNA Vaccines: Moderna reported levels of immunity, Pfizer and BioTech has reported 90% effectiveness in their press release, CureVac is trying to match the benchmark set by Pfizer.
- Vaccines using vectors like Adenovirus: Johnson and Johnson has paused its trial. CanSino a Chinese company with trial in Mexico and University of Oxford from UK are working on their vaccines.
- Vaccines using Corona virus proteins: Medicago from Canada and Doherty Institute
- Recombinant Vaccine using yeast cells to produce proteins: Novavax

Will the immunity be different for different age, ethnic and racial groups?

Will the vaccine be licensed under Emergency Use Authorization (EUA)?

EUAs only require FDA to determine a product “may” be effective and that benefits are likely to outweigh risks. This determination carries some risk with it.

FDA guidance requires that vaccines will be evaluated by independent panel of experts. Most experts have some relation with pharmaceutical industry. Exclusion based on strict conflict of interest criteria will exclude qualified experts. However, it will be very important that the process of approval is transparent and trustworthy.

It is exciting to have several vaccines against COVID-19. Some may work better for certain age groups or ethnic groups. Data collection and reporting for each vaccine, its effectiveness and safety based on age, ethnic and racial groups could be challenging if the vaccine is administered at different places like physician’s offices, public health clinics, retail pharmacies and other places where influenza vaccines are given.

The development of vaccines for COVID-19 is progressing at an unprecedented pace. Hopefully we will have this tool to combat the COVID-19 pandemic soon.
Four of the HCoVs (HCoV 229E, NL63, OC43, and HKU1) are endemic globally and are responsible for causing infections in the upper respiratory tract. Two other coronaviruses, SARS-CoV (in 2002) and MERS-CoV in 2012, are responsible for causing lower respiratory tract infections. Zoonotic infections are known to transmit from animals to humans, but SARS-CoV was the first time when human to human transmission was also reported. The novel coronavirus, SARS-CoV-2, is the third coronavirus to emerge in the human population in the past two decades posing a public health threat, which has brought about the record breaking advances in therapeutics, prevention and vaccine development.

The word Coronavirus is derived from the word corona which in Latin means “crown”, referring to the crown-like spikes on it’s surface. Spike protein is a trimeric fusion protein which undergoes structural rearrangement to fuse the viral membrane with the host cell membrane. This process is triggered when S1 subunit binds to the host cell receptor and S2 engages with fusion peptide. Post fusion conformation is the most stable conformation. A protein in the correct conformation is crucial to generating antibody mediated immunity. The S1 subunit has receptor binding domain which undergoes hinge-like conformational movements that temporarily hides or exposes important determinants of immunogenicity.

Researchers at NIH inserted two stabilizing proline mutations which were effective for vaccines for other beta-coronaviruses to make a conformationally correct protein, so that RBD is in the up position for optimal antibody generation. This prototype pathogen approach to pandemic preparedness allowed researchers to fast track vaccine development for SARS-CoV2.

Key players in vaccine development:

- Operation Warp Speed: US Government Body planning strategic approach and research allocation.
- Accelerating COVID19 Therapeutic Interventions and Vaccines (ACTIV): Public and private partnership for consultation and consensus building.
- COVID19 Prevention Network: NIH funded trial network for trial design and execution.

Overview of SARS-CoV-2 Vaccine pipeline:

Numerous vaccines are being tested worldwide and some of them are in phase 3 studies already. Major Vaccine candidates are:

- Moderna TX, Inc: mRNA-1273. Prefusion-stabilized Spike mRNA X Lipid Nanoparticle. In phase III clinical trials. ~30,000 participants enrolled in the US. Enrollment complete. **Trial characteristics:** 2 doses, 28 days apart. Ages: 18-55, 56+ years. Interim data analysis from phase III clinical trials reporting the vaccine appears to be 94.5% effective as there were 95 instances of COVID-19 illness among the study participants of which only 5 were in the vaccinated group and 90 were in the placebo group.

- Pfizer, Inc/BioNTech: mRNA-BNT162. Prefusion-stabilized Spike mRNA X Lipid Nanoparticle. 43,000 participants in US, Brazil, etc. 2 doses, 21 days apart. Ages 18-85 years. Expansion to >12 yo children. Phase III clinical trial interim data reporting 90% efficacy.
SARS-COV-2 VACCINES: THE PAST, THE PRESENT, AND THE NEAR FUTURE

- AstraZeneca: Viral vector – Spike chAdOx1 nCoV-19 vector (Chimpanzee adenovirus). ~40,000 participants in US. Phase III clinical trials. 2 doses, 28 days apart. Above 18 years of age. Large trials in other countries.
- Johnson&Johnson: Viral vector. Prefusion-stabilized Spike Ad26 Vector (human adenovirus 26). Up to 60,000 participants includes one-dose regimens.
- Novavax: Protein sub-unit – Perfusion-stabilized Spike Nanoparticle + Matrix-M. ~15,000 participants in UK. US phase 3 to begin soon. 2 doses, 21 days apart. Ages 18-84 years.
- Merck: Replication competent viral vector vaccine. rSVdeltaG-SARS-COV-2 (recombinant vesicular stomatitis virus).

Given the diversity of platforms and varying advantages amongst the vaccine candidates, it is likely that there will not be a single winner, but rather multiple vaccines to cover the differences in the population.

Moreover, vaccine manufacturing, storage, and distribution challenges will continue despite the early promising results. Few of the anticipated challenges include appropriate storage as some of the candidates require freezing temperatures, and strategically prioritized vaccine distribution as cases in the United States break record high by the day.

A thoughtul and fun-loving people person, she’s seeking a partner who shares her desire to build a family together.

Her interests include working out, global travel, non-profits, water sports, hikes, food & wine, spending time with friends & family.
CONCLUSION

The horrific Covid-19 pandemic has shaken the entire world and made 2020 an infamous year indeed. This special edition of the AAPI Journal has tried to capture the many aspects of the pandemic and the seismic effects it has had on our lives. The articles are written by the members of AAPI, a diverse, scholarly and very talented group, and we hope you enjoy reading them. We also hope that this journal will be a useful guide and reference volume not only for our generation but also for posterity.

Fortunately, the rapid development of the mRNA based COVID-19 vaccines have brought light at the end of a long and dark tunnel, an enviable triumph for science! What seemed impossible just a few months ago has now become a reality. Now we can hope to see a lessening of the SARS-CoV-2 related morbidity and mortality. However, the vaccine is not a magic bullet either. It will take some time before the majority of the public get vaccinated and herd immunity is developed.

At the present time, it remains uncertain as to when the sense of "normalcy" will be reestablished. Most of the European and North American population will have received the vaccine over the next few months but it will be considerably longer before people in less well developed countries receive the vaccines. We all need to continue to live with this virus and be vigilant and exercise the necessary pandemic precautions.

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