

## 2021–2022: Challenges, Equal Opportunities

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As Chuck DeJohn, our outgoing President, noted in his first President's Page in June 2020, "What a Way to Start the Year!" I certainly can echo Chuck's sentiments, since the last 12 months have been a continual challenge for AsMA and all of us to keep up with the pace of unpredictable change. The biggest driver has obviously been the COVID-19 pandemic, and its effects on global travel, airlines, businesses (both large and small), and on each of us personally, from the rather mundane (in retrospect) requirements for social distancing and mask-wearing to the tragic loss of life of loved ones or members of our world community. AsMA has weathered the storm to this point, but not without significant effort and the need to be flexible and adaptive. As an organization, we owe a debt of gratitude to our previous two Presidents, Joe Ortega and Chuck DeJohn, for embracing the need to make sometimes painful changes in order to keep AsMA on track to fulfill its mission and remain fiscally stable. Frankly, it was an extremely difficult decision to first postpone and then cancel the 2020 Annual Scientific Meeting (Atlanta), due to the imposition on members and presenters and the potential financial repercussions on the organization. I also recognize the Homeric work of our Executive Director, Jeff Sventek, the entire home office staff, and our contract meeting planners (Walt Galanty and staff) to negotiate with our conference sites in Atlanta, Reno, and Denver, and rearrange our annual meeting schedule without significant adverse financial impact to AsMA.

Regarding the status of AsMA, I am writing this just prior to the meeting of the AsMA Council on May 23rd. The meeting will be virtual, and despite not being in sync with the annual scientific meeting we chose to press on for the sake of AsMA business continuity. Perhaps the biggest issues of interest to members are the fiscal and membership status of AsMA. Though AsMA could have taken a significant financial hit by cancelling the 2020 Atlanta meeting, our net income was a loss of only \$91K despite the loss of convention revenue and having to withdraw \$140K from our reserves. A significant chunk of the net loss will be offset by Payroll Protection Program grants (that will be recognized in our 2021 budget statement). Also, the performance of our reserve investments has been excellent, with our 2020 end of year reserves remaining almost even with 2019 at over \$1M (thanks to continued robust market performance). The effect of COVID is still evident in that we had slight decrease in overall membership and loss of several corporate sponsors. Though our current status for 2021 is solid, it is yet to be seen how the remainder of 2021 and our Annual Scientific Meeting in Denver in August-September play out. I also note our annual independent financial audit in April 2021 found our finances and practices are in accordance with generally accepted financial practices, which is great news.



I think the big questions are how will AsMA emerge from the COVID pandemic and what changes will we see with AsMA? Obviously, that is still to be seen. The percentage of the populace (US and world) that will be fully vaccinated, the impact of COVID variants, and the subsequent impact on global travel will be key drivers on the attendance at the 2021 Annual Scientific Meeting in Denver. This is more than just fiscal impact but will require AsMA to continue to assess how we serve members. How will we integrate virtual attendance with in-person meetings in the future? Will we need to consider alternatives to a single annual meeting? How will organizations that have traditionally funded in-person attendance at professional meetings potentially change their practices on what they will or will not fund? What will the membership prefer in terms of type of meetings? There are many other smaller issues, and how they will all affect AsMA singly or in combination is anyone's guess.

There are other factors that AsMA will need to address related to other changes affecting our aerospace medicine and human performance world. When I started with the FAA in 2006, medical fitness for duty for pilots and air traffic controllers was largely a matter of following the doctrine in the US Code of Federal Regulations, Federal Air Surgeon policy, and expert medical opinion. Challenges to FAA decisions were relatively few, including legal petitions, and there were no other options. Since then, the landscape for the FAA Office of Aerospace Medicine has changed dramatically. First was a piece of legislation called the "Pilot's Bill of Rights" that forced changes on the FAA's procedures for reviewing a pilot's qualifications for pilot and medical certification and also the legal avenues available for pilots to challenge FAA's decisions. In addition, the US Congress and stakeholder organizations representing pilots challenged the Federal Air Surgeon's proposed approach to obstructive sleep apnea, resulting in significant changes to the eventual FAA protocol for that condition. Then, US legislation was enacted requiring the FAA to implement regulations providing an alternative to medical certification for private/general aviation pilots, now known as "BasicMed." These events reflect an overall change in attitude of US pilots (and the general US populace) that more readily challenges authority and is more litigious. This is not just a US phenomenon, but global as reflected in the number of other countries that have or are evaluating options to implement a version of BasicMed.

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I also look back to my time as a Flight Surgeon and specialist in Aerospace Medicine in the US Navy. In 1982, there seemed to be a general acceptance that training for flight surgeons, Residents in Aerospace Medicine, aerospace nurses, aerospace research, etc., were carved in stone as inviolable requirements to support the operating forces. That landscape has changed dramatically as the US military struggles with providing healthcare to active duty, families and retirees, and the changes in operational aviation (e.g., UAVs). The teaching point from my combined Navy and FAA experience is that the need/requirement for aerospace medicine and human performance specialists cannot be taken for granted as immutable but can be eliminated by the stroke of a pen.

Other challenges to aerospace medicine and human performance stem from a change in perspective of who can be a pilot. The concept of "best of the best" and having "the right stuff" has been supplanted by a philosophy that "anyone can fly." This stems from the dramatic technical advances in aircraft design, safety, and performance, as well as from the advances in medicine. Numerous medical conditions that would be "permanently" disqualifying in the past are now considered and frequently approved. Examples that I am personally familiar with are heart and other solid organ transplants, hypertrophic cardiomyopathy, transcatheter aortic valve replacement, transient global amnesia, stroke, control of cardiac dysrhythmias via electrophysiology ablation techniques, disease-modifying therapies for HIV and cancers, etc. The US FAA even implemented a protocol to allow certification of pilots with insulin treated diabetes mellitus (ITDM) for commercial pilot duties in November 2019 by leveraging the availability of continuous glucose monitoring technology (noting that the UK and Canada had such policies safely in place previously utilizing different protocols). The exploding number of therapies that provide effective, safe, and durable control or "cure" of conditions has changed the playing field. And the treating physicians are willing to advocate for the pilot that she/he is "safe to fly."

Societal changes are also in play, specifically the impact of internet resources and social media. From a physician's perspective, knowledgeable patients are a good thing, but not when the patient feels she/he is now an expert on their condition based on an internet search. Also, social media has enabled pilots with like conditions to interact, exchange information and support. For

example, when the US Federal Air Surgeon signed off on the first ITDM pilot for commercial duties, I notified the pilot almost immediately, and within an hour received emails from 5 other ITDM pilots "congratulating" our decision.

Dr. DeJohn provided excellent summaries of current aerospace research in his President's Pages this last year. From the 1920s to 1990s, aerospace medicine research on human performance and tolerance in the aerospace environment was truly considered "leading edge." While there is still much to learn regarding space travel and AsMA needs to encourage existing research, the success of aerospace medicine research has resulted in safety records for flying and domestic travel that are so good that it is difficult to come by research dollars. In an ideal world, aerospace medicine and human performance specialists would like to evaluate medical disorders and the results of treatments in prospective or retrospective studies. However, there is little likelihood that government or industry would agree to fund such studies if it is unclear that the results would be meaningful or provide a positive return on investment. However, we do have an excellent alternative in a "translational approach" by adapting current evidence-based medical literature to many of our aeromedical questions. This is a low-cost strategy, and an area where AsMA may explore a facilitative role.

If this all seems a bit rambling, that would be entirely accurate. The issues of concern for AsMA are far too numerous to review here, and what I have reviewed is just top-of-mind. In all, the upcoming year is overfilled with challenges which, as the saying goes, are opportunities. I believe our approach must be to take a comprehensive view to prioritize what we can and cannot do based on resources and limitations (e.g., the limits of what a charitable organization can or cannot do under US tax law). Prior President and good friend Kris Belland oft quoted the hockey aphorism that "you have to skate to where the puck is going to be, not where it is now." For the upcoming year, I think it important to envision where ventures in aviation, space, and human performance are going to be in 10 years as part of our leadership goal. Our members, especially the newer members, want to advance their careers in ways that will be meaningful over the next 10–20+ years. We won't get everything done or have every answer, but this is my perspective on how to approach the upcoming year.