

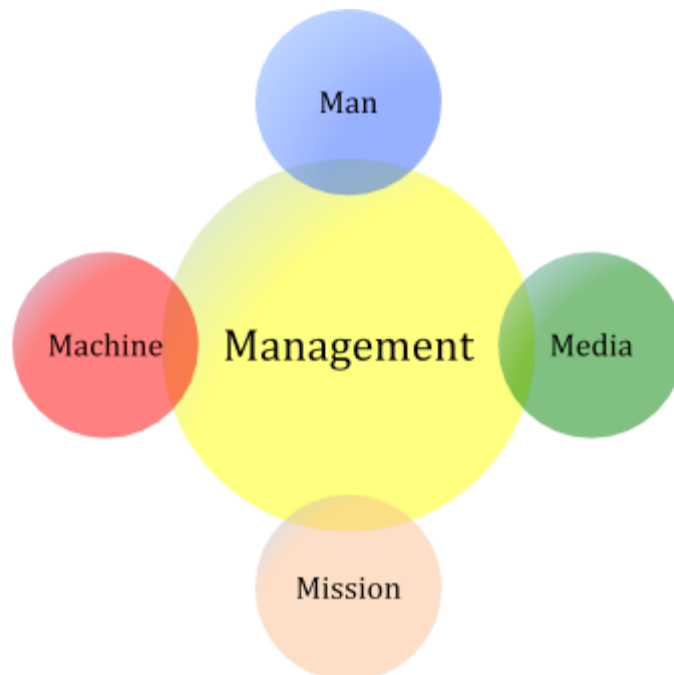
OPERATIONAL RISK MANAGEMENT FOR VOLUNTARY PILOT ORGANIZATIONS WHEN RESTARTING OPERATIONS DURING COVID-19 PANDEMIC

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The intent of this paper is to present some thoughts volunteer pilot organizations (VPOs) should consider when restarting humanitarian operations during the on-going **CO**rona**V**irus **D**isease 201**9** pandemic and to present a formalized decision matrix to use when deciding to accept particular support requests. The information presented builds on thoughts and suggestions contained in papers written by Doctors [H. Hunter Handsfield](#) and [Daniel Masys](#) that can be found on the Air Care Alliance (ACA) [website](#) as well as contributions by them and Doctors Shayma Kazmi and Daniel Slaim during the ACA's webinar "Passenger Flights in the Wake of COVID-19" on May 4, 2020.

I have extensive experience in operational risk management and aviation safety following a 20-year career in military fighter aviation and follow-on experience in professional aviation in Part 121, 125, and 135 environments. The United States Air Force (USAF) has formalized risk management via service-wide directives to include a generalized "5M" model of **Man** (generic, not gender, "man"), **Media**, **Machine**, **Management**, and **Mission** for risk management.



Though I am using the term **Mission** in this paper, I do so only to translate the USAF model into a VPO's lexicon and do agree that the less risk-inducing term "Flight" is a better way for VPO's to refer to supported GA travel.

Situational awareness is key to understanding the risk involved in any flight. Knowing, for example, the currency of the pilot (**Man**), the status of the weather (**Media**), and the readiness of the airplane (**Machine**) allows the PIC to determine if they will accept the risk of a particular flight. What PIC's face in the COVID age is an added external **Media** risk factor of COVID-19 transmission between patients, themselves, and servicing personnel (line fueling personnel, customer service agents in Fixed Base Operators, etc). The attached matrix is intended to help the PIC's **Management**, in the form of VPO leadership, help mitigate that risk.

The risk of COVID-19 transmission exists based on currently understood factors of age and underlying medical condition, mitigated by active (social distancing) and passive (personal protective equipment) measures to prevent transmission. That means if VPO's decide to restart humanitarian flights, they are de facto accepting some risk of COVID-19 transmission among pilots, patients, and servicing personnel. The risk of COVID transmission will be present simply by doing the flight. What is needed, then, is a way of assessing the risk to the patient of *not* doing the flight so that **Management** can decide if a particular flight is worth the transmission risk.

Many VPO's currently lack an appreciation of the risk involved to a patient of *not* receiving scheduled treatment. Dr. Handsfield's paper, Operational Considerations for Voluntary Pilot Organizations in Response to COVID-19, aptly describes the new environment, the risks involved transporting patients in general aviation (GA) aircraft, and provides suggestions on how to limit virus transmission while transporting patients. However, as Dr. Kazmi mentioned during the May 4 webinar, VPO's do not currently have a codified methodology of understanding a particular patient's *requirement* to travel to treatment by GA due to an increased risk of mortality or morbidity if they do not travel. All most VPO's have is a form from a medical professional that states the patient is a valid candidate for GA travel. Not knowing the criticality of that patient's travel via GA does not allow **Management** to make an informed risk decision for a particular **Mission**.

A COVID-19 Go/No Go Decision Matrix can help individual VPO's decide which **Missions** to accept and post as available. Having a standardized and (hopefully) medically vetted matrix can really help VPO's prioritize their risk acceptance when deciding whether or not to schedule a flight. The matrix that follows is necessarily broad to give some flexibility in interpretation, but specific enough to enable **Management** to make a decision.

COVID-19 Go/No Go Decision Matrix	PROBABILITY OF TRANSMISSION			
		ENHANCED (small cabin / unable to wear PPE)	MODERATE (medium cabin / PPE worn)	LOW (pressurized cabin / large cabin / PPE worn)
SEVERITY OF PATIENT NEED	CRITICAL (Significant risk of mortality, worsening of disease process)	MITIGATE IF ABLE	MITIGATE IF ABLE	GO
	MODERATE (Increased risk of mortality, worsening of disease process)	No Go	MITIGATE IF ABLE	GO
	LOW (Low risk of mortality, worsening of disease process)	No Go	No Go	MITIGATE IF ABLE

The “Severity of Patient Need” rows requires an assessment by a patient’s attending physician/team and consensus of the patient about the importance of the intervention since it is beyond the purview of a VPO to make that decision. (For humanitarian organizations who do not fly patients, a similar assessment could be made by professionals other than a patient’s physician.) VPO’s should modify their existing physician approval letters to include this assessment and ask attending physicians to place a patient into one of these three broad categories. Obviously this opens physicians and/or VPO’s up to legal exposure so the letters should be vetted by organizational attorneys using a presumed pre-existing arrangement. This is the key enabler of the entire decision matrix, without that assessment the matrix is invalid.

The “Probability of Transmission” columns are based on Dr. Handsfield’s statements during the webinar that while probability of COVID-19 transmission in GA aircraft isn’t zero, it is generally low. Dr. Slaim also posited that transmission probability is likely based on cabin size. I combined those ideas with Dr. Masys’ statement that he’s found wearing portable oxygen to be a significant challenge to also wearing PPE that helps prevent aerosol transmission of COVID-19 to create the columns. PPE in

this context would consist of masking (or other nose/mouth covering) and perhaps nitrile or latex gloves if physical contact cannot be avoided, e.g. assisting passengers into the aircraft, helping fasten their seat belts, etc.

Finally, the “Mitigate if Able” boxes are necessarily vague. Mitigation can be made by a VPO deciding not to accept a flight in the Red or Orange boxes while they slowly restart operations, for example. Then, as the national medical situation changes vis-à-vis virus testing and eventually (hopefully) a vaccine, VPOs can add other boxes to flights they post as available. The bottom line is that the matrix is intended to help VPOs decide which flights they will support given the added risk of COVID-19 transmission.

It is incumbent on VPO **Management** to be transparent with their volunteer pilots and assure them that the VPO is only scheduling flights that fall into an acceptable risk category vis-à-vis COVID-19 transmission. **Management** should also be very sensitive to the possibility of an increased “Mission mindset” among their pilot group to complete a particular flight. “Well, since management is posting this flight as necessary, it MUST mean the patient really needs care since they are flying during the pandemic” is an example of thoughts your pilots WILL have. Continued emphasis on safety and risk management is even more critical from VPO **Management** to mitigate that self-imposed risk. As such, the matrix is intended for VPO **Management**, and not as another tool for PIC’s to use when deciding to accept a particular flight.

In conclusion, my intent is to provide VPO’s that do decide to restart humanitarian flights a methodology to assess the risk of each mission. The matrix is intended to be another tool in a VPO’s decision-making kit about whether or not to schedule a particular flight request. The matrix assumes the risk of COVID-19 transmission exists during humanitarian flights and makes no attempt to quantify that risk. Just as we understand and accept the attendant risk of simply leaving the ground in our airplanes, we know we are putting ourselves and others at risk of COVID-19 transmission in a GA aircraft. Having a tool that helps **Management** make a risk mitigation decision can go a long way to safely restarting humanitarian flights. Fly Safe!