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PERSPECTIVE: PART I

CLEAR SKIES AND "IS THERE A DOCTOR ON BOARD?"

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In the bumpy twilight of drifting between sleep and wakefulness, a frequent and frustrating feeling when traveling in uncomfortably upright seats in economy class on red-eye flights, I heard the announcement: "We are looking for a doctor on board. If there's a doctor on board, please notify a flight attendant." As the heavy cloud on my brain slowly lifted, I tapped my partner on the shoulder so I could exit towards the aisle and find a flight attendant.

Moving to action then felt disturbingly like being aroused from REM sleep during overnight call by a loudly buzzing pager in residency. Also similarly, in this case, that foggy brain feeling was swept away instantly when I was brought to the patient, unresponsive and slumped over on a foldable crew member seat. In this unfamiliar setting, it was only in retrospect that I realized how many questions or issues I had *not* previously considered in such a situation. At the time, this was only the second time I responded to such a call, and the first of such a call on an international flight. Unfortunately, it was also not my last.

Being unaware at the time of potential risks of providing in-flight assistance in a place where U.S. Good Samaritan laws might not apply or equivalents might not even exist, I responded then in the automatic ways in which I had been trained to do so given the clinical circumstances—except that we were more than 30,000 feet up, somewhere in transit from roughly the southern U.S. border and the Caribbean on a flight originating from Canada and traveling to South America.

Current knowledge of in-flight emergencies, availability of equipment and medications onboard, and expectations of the physician responding to a call for medical assistance are still often mired in confusion. The most comprehensive article to date—which discusses common in-flight emergencies, the medical kit contents for commercial U.S. flights (which haven't been updated since 2001), and recommended responses by the responding physicians—was published by the *New England Journal of Medicine* in September 2015 nearly one month *after* I experienced this international in-flight medical emergency.[1] It wouldn't have helped me for a non-U.S. air carrier and flight anyway.

Since then, additional media articles,[2] scholarly literature, blogs,[3] and podcasts[4] have emerged in an effort to provide more insight into this murky and potentially chaotic scenario. Most describe ethical and legal concerns in a domestic (U.S.) context and to a far lesser extent on international commercial flights; practical tips and considerations for physicians who find themselves assisting in an in-flight emergency (e.g., carry a pocket license, and even your own small supply of certain medications or equipment); and, less commonly, issues of discrimination against some volunteering physicians on the basis of race or gender.

Carrying a pocket license is a must. In addition to concerns about ethical and legal implications of medical response to in-flight emergencies, I would add a few more unexpected considerations that may arise on commercial flights that have at least one non-U.S. stop. These are anecdotal, based on my experiences from three in-flight medical emergencies on such international trips:

- ***Asking for help:*** Help from crew members and from other health professionals who also respond to the call for assistance are enormously useful. While requesting on-the-ground medical assistance is supposedly possible, I have never requested it, simply because I had not been aware of it at the time, nor had it been offered.
- ***Using a translator:*** If you and the patient speak different languages, can you use a crew member, a travel companion (of the patient's or your own), or another passenger as a translator? If not, then is this sufficiently considered a "situation where there were no better alternatives and to do nothing would have been harmful" so that Google translate may be usable? [5]
- ***Beware units of measurement:*** Consider the humble glucometer, which in the United States we use to measure blood glucose in mg/dL. However, most

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international commercial airlines probably carry one that uses mmol/L.[6]

- ***Handling handoffs:*** Don't be surprised if a health professional you hand off to in another country is curt. As usual, assert the highest priority information quickly in the transition of care. I did this verbally and in English during a medically necessary diversion, as well as when recommending a patient deboard before a flight departed from the gate. There is no question that written documentation has no role here; I only wrote documentation that was requested by the crew for justification of the diversion.
- ***Knowing of current public health outbreaks:*** In one in-flight response, a crew member nervously asked me if a passenger had symptoms suggestive of Middle East respiratory syndrome (MERS), in 2015, when I was on a flight in the region. Thankfully, he did not, and we could proceed with the flight without triggering any quarantine protocols.

The best rule of thumb for now is simply to practice what we know best in on-the-ground interpersonal and patient communication, as well as team dynamics and care. On that flight from Canada to South America, I was pleased to work alongside a physician from Quebec and a nurse from São Paolo, and with unquestioning support and understanding from the crew and the pilots. I recommended immediate diversion and they made it happen.

Despite subpar equipment—it's an impossible task to use a cheap stethoscope to check a manual blood pressure in a cramped galley, with the roar of jet engines in the background—the team efforts and decisive actions taken led to a diversion that took two hours from decision to landing in a different country than our departure and destination countries to redeparture.

There is an inherent and inevitable transience and discontinuity to the interactions of managing in-flight emergencies that troubles me as a primary care physician. To this day, I still wonder how that patient is doing, given her emergency treatment in a foreign land. I can only just imagine how confusing it must have been for her, how stressful for her colleagues, friends, and family that she would be hospitalized in another country so unexpectedly. I never met the pilots, and, of course, never met the crew again. I lost contact with the doctor and nurse who also assisted. I later received a kind letter of thanks from the airline, also offering a large number of award miles as compensation; I didn't end up cashing them in.

I wonder also sometimes how much it must have cost for the airline to orchestrate the diversion or how many other passengers were affected by it, as there was undoubtedly a domino of missed connections and delayed flights. Of course, I still have zero doubts that I made the right call to divert that plane given the clinical scenario.

Yet, even with clear skies and no clouds of sleepiness needing to be shrugged off as I step forward to assist during a future in-flight medical emergency on a flight involving a non-U.S. country, I will still have lingering doubts. There are still no good resources to guide physicians, whether from the United States or other countries, in these situations. Even the most diligent physician, who might try looking up applicable laws or even equipment regulations prior to taking an international flight, would probably be lucky to find information to address country-specific information to guide the decision to respond to a call for in-flight medical assistance. The lack of clarity could lead physicians to hesitate or abstain from responding to such calls, even though most are probably willing to offer their help. The next time I hear that call for in-flight medical assistance on an international flight, I'll still be mindful of these issues but also still offer what I can, on good faith, and in the absence of better alternatives to access emergency care for an unexpected patient in need.

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