At the far end of a rectangular room on the 13th floor of UPMC Presbyterian Hospital, there is a smaller, square room littered with screens. I count five in total, crammed on a desk maybe 8-feet-long. A microphone snakes upward from the middle of the collection of screens and a telephone sits on the right side of the desk.

A call comes in: “This is Sienna Airlines flight 1537 from Birmingham. We have a passenger who fell out of her wheelchair in the jetway.” The passenger, an 81-year-old woman, sustained a nickel-sized cut from her fall. “We’re putting pressure on the wound... I think it stopped bleeding,” the voice crackles over the phone. “She refused medical treatment so we have no idea what her vital signs are. We’re worried once we get up in the air, it might get worse.”

“Can we ask the passenger if she’s on a blood thinner?” the man behind the screens asks.

“Paramedics asked that, and she said, ‘No.’” Both sides confirm she’s not on blood thinner and the bleeding has seemingly stopped. Sienna Airlines is advised to call back if her condition changes.

“If there’s nothing else, that’s STAT-MD out.”

When fielding calls behind the array of screens, Ronald Roth, MD, is known as STAT-MD. An emergency medicine doctor, Dr. Roth is one of 17 rotating command physicians on the STAT-MD team at UPMC. He takes calls from ambulances, helicopters, and airplanes, advising the paramedics or nurses (or sometimes someone with little medical background) on how to proceed during inflight emergencies. The airlines phone in to a dispatch center, which relays the call to a communication specialist at UPMC, who then relays the call to Dr. Roth. This game of telephone also works in reverse, with the doctor sometimes speaking to the pilot, who relays the information to a flight attendant, who gives the information to whomever is helping the patient. And if you remember playing the game telephone, you can see why this whisper-down-the-lane relay can make things difficult.

“Sometimes, you can’t get information, or you’re concerned you aren’t getting the right information,” said Dr. Roth. It’s his responsibility to make medical decisions based on what others are telling him, from 37,000 feet in the air. “When I work in the Emergency Department, I can look people in the face, and see how they are doing. I have nurses that are all RNs, certified, top notch.” But when someone on a plane says they’re a nurse, it can mean a variety of things.

Another call comes in: “Sienna Airlines flight 1537...”

“Is this the same passenger?”

“Yes, she was wearing diabetic socks, and so the bleeding in her leg hasn’t stopped.”

“Okay then she needs to be taken off,” Dr. Roth concludes. “Sometimes we’re saving vacations, sometimes we’re ruining them.”

A 2013 study in the New England Journal of Medicine found that there were 11,920 medical emergencies which prompted calls to a physician-directed medical communication center like the one on the 13th floor of UPMC Presbyterian (there is a similar group in Arizona). That means there was one medical emergency per every 604 flights internationally. The biggest culprit is fainting, followed by respiratory issues and vomiting. About 50 percent of the time, a physician on board was able to assist the passenger in need of help. Only 7.3 percent of flights are diverted to an airport other than their intended destination. TJ Doyle, MD, director of STAT-MD, says those diversion numbers are down, and that’s largely a good thing.

Diversions are difficult for a number of reasons. The first being, if the passenger is so sick that the plane must divert, there is likely to be some anxiety running throughout the cabin. But there are real physical complications, too.

“Planes take off too heavy to land,” says Dr. Doyle. “They’re heavier because they have to store enough fuel to get to their destination.” So if someone gets sick just after the plane takes off, it becomes a sticky situation to navigate. If the patient is
critically ill, then the doctor on the ground (and usually the doctor on board) will want the plane to land, but to do that, the plane must literally dump its fuel into the sky. Besides environmental implications, this is also an extremely costly measure. “You don’t want to advise them to dump fuel so they can land, and then have the patient say, 15 minutes later, ‘Oh, I’m feeling better now!’” explains Dr. Doyle.

If a plane lands with too much fuel, what pilots call “coming in hot,” the plane will have to undergo an inspection which can delay the flight a few hours.

Another complication is the question of where to land. Over the continental United States, it’s usually not hard to find a suitable alternative, but over the Atlantic Ocean, things become more difficult.

“There are two airports in Newfoundland, which is one of the last places you can land before you go over the Atlantic,” states Dr. Doyle. Typically, STAT-MD tries to steer planes to cities that are appropriate for the patients’ needs. If it seems the patient is having a stroke, the doctor will try to select a city with a stroke center where the plane can land — but ultimately, the situation is at the whim of the weather, and the captain.

“Go ahead Munhall, that’s a good signal,” Dr. Roth says into the speaker phone. He’s fielding a call from an ambulance in Munhall, Pa., only about 6 miles from where we sit. They fax over an EKG from the ambulance, which I pull off the printer and hand to Dr. Roth. He looks at it and tells the ambulance crew to carry on with what they’ve been doing. He tells me it’s easier sometimes on the ground, because they have the technology to scan EKGs. With passengers on a plane, he must rely on a verbal description.

“There’s a push now for telemedicine on these flights, where we could FaceTime with the patients. But you figure, [a company] with 500 airplanes, and they have to upgrade each one, that gets expensive.” Although right now it may be cost-prohibitive, Dr. Roth seems hopeful that as technology gets cheaper, doctors will be able to communicate with patients on the flight directly. Although sometimes, communication can still get tangled on international flights.

“There was a Chinese female with abdominal pain, being taken care of by a Pakistani doctor, talking to a French Canadian flight attendant,” Dr. Roth recalls. Usually, he says, there is someone on board who can translate for the patient. Prescription medications, however, don’t always translate so well: “Gravol is a medicine Canadians take for everything. Got a headache? Take some Gravol. Got a stomach problem? Take some Gravol.” Gravol is actually advertised as a “multisymptom” relief tablet made from ginger and willow bark, and claims to be an “antinauseant, pain reliever, and fever reducer.” Dr. Roth hadn’t ever heard of Gravol before, despite its apparent omnipresence just north of the border. He relies mostly on Google when trying to figure out what medications people are taking.

Dr. Roth begins to pack up his black backpack at the end of his 8-hour shift, taking his MacBook from the desk and stowing it away. The desk is down to four screens. He fields one more call as he waits for the next doctor to come and take over the controls. Dr. Doyle tells me that, aside from being an emergency medicine doctor and STAT-MD, Dr. Roth is also the medical director for the City of Pittsburgh EMS, the chief of the division of EMS at UPMC, and works with the Steelers and the Penguins. Dr. Roth smiles shyly. “This is just another way to take care of people. I might see 20 to 30 people in an office, but here I see 30 people as they’re flying from Atlanta, or over the Arctic Circle.”

In a way, Dr. Roth is answering that old Hollywood trope, Is there a doctor on board? every time he takes a call. “You could be flying over Africa or Russia or the North Pole, and your doctor is from UPMC,” he says. So, the resounding answer is a yes, there is a doctor on board.