PATIENT HANDOVERS

TAKING TIME TO GET IT RIGHT

When a patient is passed from one medical team to another, there are many chances for errors and omissions that could be detrimental to the patient. Taissa Csáky looks at how medical transport teams optimise patient handovers to reduce risk

An American skier collapses at a resort in the Alps. She is transported by land ambulance to a local hospital, by land again to an international airport for air transport to the US, then finally by land or air to a hospital close to home. This journey could potentially see her pass through the hands of multiple different medical care teams, and while each might provide excellent care, the moment of handover is critical to her safety.

Transferring from bed to stretcher, switching equipment, and the journeys themselves all carry intrinsic risks. Above all, any confusion or failure to pass on relevant information about the patient's treatment and condition could have serious consequences. Add to this some more general challenges for the medical team. They are often under time pressure (aviation law dictates the length of their shift), dealing with hospitals they have never visited before, encountering a wide variety of injuries and illnesses, and perhaps working with hospital staff who speak an unfamiliar language. Even practical considerations, like the location of the patient's passport, could delay or even halt a mission.

In these circumstances, what can providers do to ensure the best possible outcomes? The *Air Ambulance Review* spoke to John Paladino, executive director of US-based AMR Air Ambulance, Irena Dimitrijevic, head of marketing and sales at Jet Executive in Germany, and Dr Regina Kaufmann, medical director of Malteser Assistance & Air Ambulance, also in Germany, about their views on best practice.

Planning ahead

The groundwork for a successful mission is laid long before the flight crew has sight of the patient. As much relevant information as possible on the patient's condition and treatment needs to be captured and shared as soon as the transferring organisation becomes aware of the mission.

The first round of information transfer will inform the flight plan. At AMR, the flight co-ordination centre records the essential details – the location of the sending and receiving hospitals, and contact details for the relevant medical staff.

The next round of information informs the care plan. At AMR, a medical coordinator (a flight nurse who also works shifts in despatch to ensure they know both sides of the operation) gets in direct contact with the patient's bedside nurse to find out as much as possible about their condition. This information goes to the flight crew, so they have the best possible idea of what to expect when they reach the sending hospital.

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Dr Kaufmann explained that the patient's condition will have a bearing on the transport and care plan. "If the patient is awake and alert we recommend transportation to the airport by ambulance, with a doctor as escort if necessary. Then our flight crew will meet the patient at the airport, hopefully get a report from the accompanying doctor and transfer the patient to the aircraft. In the home country, we will hand over the patient to an ambulance to take the patient to the admitting hospital. But if the patient is in ICU we'll pick him or her up from the hospital with our own equipment and bring them to the airport where our aircraft is waiting. At the patient's destination, the available infrastructure and the client's requirements determine whether we accompany them to hospital or not."

The information obtained before the mission begins also helps determine how the aircraft is configured and prepared. Paladino explained: "A lot of the work AMR does is long distance so everything from pre-calculating the oxygen to ensuring there are going to be enough meds is based on information collected by the triage nurse."

At Jet Executive, there are two channels of communication: the flight doctor contacts the patient's doctors at the sending and receiving hospitals and the flight nurse talks to the staff nurses. Dimitrijevic told the *Air Ambulance Review*: "While the doctor discusses medication, the patient's condition, and what treatments might be needed onboard the aircraft, the flight nurse or paramedic discusses details of nursing care. Our doctor

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and paramedic stay in contact with the other teams throughout."

Communication on the wing

Every mission is carried out under time constraints, as aviation law limits the time a flight crew can stay on duty. An efficient handover adds to the time available for the journey itself. AMR therefore places a strong emphasis on timekeeping and keeping hospitals informed of estimated arrival times: "When our crew lands in a city where a sending facility is located, they immediately call to let them know they've arrived, and give them an updated ETA. One of the biggest keys to the handover process is having that very clear awareness of when the medical team is arriving, so the sending facility can be prepared for the patient to leave. Otherwise you're waiting around, the family's frustrated, the paperwork's not done … and this starts to delay the flight," said Paladino.

Communication once the patient is onboard the aircraft is also important, Paladino explained: "At every tech stop we get an updated report from the crew. They call despatch to give a brief report which the dispatcher relays to the receiving facility. That includes an up-to-date ETA as well as changes in the patient's condition." A patient on a transatlantic flight could start their journey headed for a medical ward bed, but suffer complications on the flight that mean an ICU bed is now required. "It's very important to give the receiving facility the heads-up because they're going to need to clear a bed, or maybe they don't have one so they want you to go a different route for admission," added Paladino.

Keeping track

Centralised databases play a vital role in sharing information, tracking events and record-keeping. Dimitrijevic explained how systems have improved during her career: "When I started to work with Jet Executive, medical reports consisted of a Word document with general questions and free space for flight doctors to fill in their remarks and comments. Over the years, we've added a significant number of medical questions and detailed fields and developed customised software that can be filled out on iPads during the transfer. Handover paperwork can be printed on our portable printer to give to hospital staff."

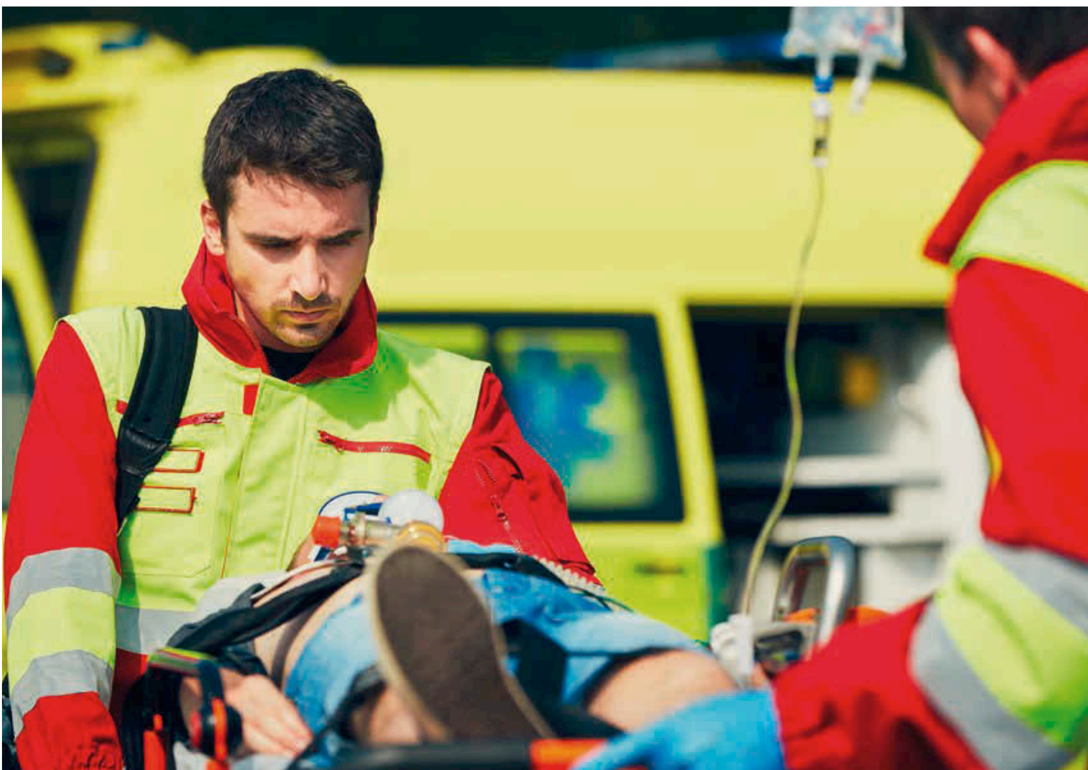
AMR uses a customised version of the Salesforce package to capture contact details and patient information and track the mission, which can be accessed by flight crew and ground staff. The company wondered whether a highly structured record-keeping system could be restrictive, however, or even lead to some information not being recorded if there was no relevant field, but Paladino is sure it works: "In some cases, Salesforce won't let you move forward until you've filled out a certain field – and that's got to be better than winging it!"

AN EFFICIENT HANDOVER ADDS TO THE TIME AVAILABLE FOR THE JOURNEY ITSELF

The critical moment

At the actual moment of handover, as throughout the process, the exchange of accurate information is key. Dimitrijevic described an optimal handover: "Our medical team discusses all points with the hospital staff before departure. All reports, the patient's current condition, medication and x-rays are recorded during the handover conversation and the documentation is signed by both the treating doctor and our flight doctor."

Practical considerations can improve a handover too. Paladino emphasises minimising movement for the patient: 'Going to an ambulance stretcher, then an aircraft stretcher, then back to an ambulance stretcher creates a lot of movement for the patient and increases risk of a stretcher failure or a drop. There's also increased risk for intubated and ECMO patients. Some of our patients have eight to 10 drips, they're being ventilated and they're also on a cardio machine. We always take our stretcher from the airplane so when the patient is moved onto our stretcher they will remain on it until they come off it at the receiving hospital. That's a big benefit because it's less movement for the patient."



The debrief

After a mission, an effective debrief is essential to improving future missions. At AMR, data from each flight contributes to wider tracking of procedures and systems: "Every crew debriefs with the pilot after the completion of a mission. They fill out a form which is sent back to the medical coordinator for the day. The medical coordinator then logs issues, complaints or concerns into the system. Anything urgent is addressed immediately. Otherwise, it's put into a bi-weekly issues report. If, say, the ground ambulances are late two or three times at the same airport, then we start a deeper dive into why they're late – is it an operator issue? Is it a failure to communicate with them on our part? We can really start to improve once we see trends."

At Jet Executive, all reports are sent to the client, the medical director and to headquarters, where internal quality audits are regularly performed by the company's quality manager. Particularly difficult missions involving ICU patients or unexpected incidents in the air are reviewed by the medical director and flight doctor. There is also a discussion forum where all medical teams can comment on a case and give their opinion on treatments and procedures and suggest improvements for future flights. "This exchange of ideas is summarised in a monthly newsletter which is sent out to all our employees," said Dimitrijevic. This, she said, adds to all staff members' sense of involvement and improves awareness of the day-to-day business of the company.

It's good to talk

The message from each of the experts the *Air Ambulance Review* spoke to is loud and clear – strong communication is paramount. As Paladino said: "Just communicate! Planning and communication will solve the majority of the problems that occur. Every commercial air escort mission is logistically intensive and planning will save you on the backside!"

Good communications will also have a wider impact. While the medical team is hard at work preparing for a mission, the patient and their family are experiencing stress and uncertainty about what will happen next. Dr Kaufmann explained that informing them of the patient's location, condition and transportation plan is central to the Malteser process, and that communication within the medical team is critical too. She summarises the key ingredients for a successful handover: "Time. Listening. Respectful working together." ■