
New search-and-rescue helicopter and useful activity data

EDITORIAL

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The New SAR Queen helicopter has already been in use at the Ørlandet air rescue base since May 2021. The experience gained there is valuable when the helicopter is put into operation at other bases.

As a PhD candidate, I had the following mantra inculcated into me by my wise supervisor: 'Show me your data!' To highlight a problem, win a discussion or have a budget approved, there is only one thing that works – to show the activity by presenting activity data.

The procurement project for new search-and-rescue helicopters (referred to as *Norwegian All-Weather Search and Rescue Helicopter*, NAWSARH) started in 2011, and in 2013 a contract was signed for delivery of the Leonardo AW101 helicopter, christened SAR Queen by the Norwegian Air Force. This procurement has been controversial. In particular, the strong rotor downwash below the helicopter causes problems, and many hospitals that previously received regular ambulance helicopters with no problems have been unable to receive the new search-and-rescue helicopter. The SAR Queen helicopter has already been put into operation in a number of bases, but many hospitals still need to use temporary landing sites to receive patients who arrive by this helicopter. At Oslo University Hospital, the helicopter must land at Voldsløkka

park for the patients to be loaded into an ambulance and transported to Ullevål Hospital or Rikshospitalet, located 1.4 kilometres and 3.3 kilometres away, respectively.

This lack of landing sites near hospitals has given rise to concerns, and in 2021 the county medical officer of Oslo and Viken concluded that the work on a suitable landing site in Oslo represents a risk to patient safety [\(1\)](#). In the county medical officer's report it is further presumed that 'South-Eastern Norway Regional Health Authority will monitor the viability of the temporary solution closely'. Exactly one year after this report and nine years after the procurement contract was signed, a trial landing of the SAR Queen was undertaken at Oslo University Hospital Ullevål to obtain 'an overview of the consequences and a description of the landing' [\(2\)](#).

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When new systems are introduced, it is essential to start collecting experiences at an early stage in order to be able to adjust decisions as required. It is therefore extremely useful to gather experience from bases that already have used the SAR Queen helicopter, and it is commendable that Haugland et al. have now summarised the first eight months of its operation from Ørland Air Base near Trondheim in the Journal of the Norwegian Medical Association [\(3\)](#).

'Show me your data!' is also about having data to show. Until now, pre-hospital emergency medicine has lagged far behind the hospitals in establishing robust activity registration systems. Although emergency alerts, ambulance call-outs and prioritisation of resources are handled by the emergency medical communication centres (EMCCs) with the aid of the AMIS data system, an electronic patient records system has been introduced into the regular ambulance service only over the last couple of years. The air ambulance service and the rescue service that are staffed with doctors, on the other hand, have no such electronic records system yet, but rely on hard-copy records from which key data are transferred to hard-copy logs before being manually entered into the LABAS database (Normann IT, Trondheim). Currently, no data are automatically collected between any of these data systems. Although there are plans to establish an electronic patient records system for the air ambulance service, quality assurance currently depends on each doctor dutifully entering all details from each mission into the database, including all time points, diagnoses, findings, interventions, personal data and incidents.

There are several reasons why the report from Haugland et al. should arouse interest. First and foremost because it shows that activity data are useful beyond regular quality assurance of medical practice by elucidating key elements such as building of infrastructure, for example landing sites near Norwegian hospitals. Second, the time has come to establish an electronic patient records system that can give better answers to the questions we ask ourselves. Such a system should be able to harvest data from monitors and other medical equipment and be linked to the emergency medical

communication centres and the hospitals' records systems. Only then will we be able to provide good answers regarding the health consequences of the changes to the air ambulance and rescue services.

Haugland et al. have analysed activity data from the first eight months of operating the SAR Queen helicopter and compared them to data from an equivalent period with its predecessor, the Sea King. Although the mission volume varied because of the COVID-19 pandemic, the types of missions were relatively similar. It is gratifying to see that the time spent at the site of injury during primary missions (i.e. regular missions where the patient is located outside of hospital) is unchanged, and that the frequency with which patients need to be hoisted is the same. This means that the stronger rotor downwash below the SAR Queen does not affect the ability to carry out such missions. It is more worrisome that the time at the site of injury during secondary missions (i.e. where the patient is transported between two hospitals) has decreased because the patients can less often be picked up at the hospital. These patients must more frequently be driven by ambulance to an airport or a temporary landing site, thus with a quicker reloading time, but with a much longer time in total for the patient to spend in transport. This delays the transport. Moreover, all transfers of severely ill patients are fraught with risk. It is also unfortunate because patients who need to be transported for an additional distance risk being accompanied by personnel with fewer intensive-care skills than would be the case if the helicopter could land at the hospital. Intensive-care patients who are transported between hospitals are just as ill as intensive-care patients in hospitals, but unfortunately are often assisted by personnel with fewer intensive-care skills during transport (4).

It is reassuring to see activity data from the air ambulance and rescue services being used to elucidate consequences of changes to the services. Let us hope that the baseline data and the opportunities for more detailed analyses will be reinforced with better patient records systems in the future.

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